

2017 SUSTAINABILITY REPORT

Making lives brighter



Contents

4	Home	
11	About This Report	
17	Chairman and CEO Message	
19	Our Business	
23	Key Sustainability Ratings	
25	Awards and Recognition	
27	Trends and Drivers	
32	Sustainability at CLP	
36	Our Sustainability Governance	
40	Compliance and Beyond	
43	Financial Capital	
46	Sharing the Economic Value Generated	
49	Financing Climate Transition	
52	Strengthening Our Hong Kong Market	
54	Growing Our Business	
57	Manufactured Capital	
60	Serving Our Customers	
63	Powering Our Communities	
69	Optimising Operational Efficiency	
73	Planning for Emergencies	
74	Procuring Responsibly	
77	Natural Capital	
80	Transitioning to a low Carbon Future	
84	Lowering GHG Emissions	
87	Using Our Resources Efficiently	
92	Minimising Impact on the Environment	
95	Monitoring Emerging Regulations	
97	Human Capital	
100	Ensuring Health and Safety	
103	Managing Our Workforce	
107	Promoting Diversity and Equal Opportunity	
112	Respecting Human Rights	
114	Maintaining Labour Relations	
115	Building Capability	
117	Social and Relationship Capital	
120	A New Brand	
123	Supporting Our Customers	
129	Nurturing Our Young People	
131	Empowering Communities	
139	Facilitating Informed Engagement	
141	Intellectual Capital	
144	Being the Change	
147	Safeguarding Cyber Security	
149	Building Research and Development Capability	

151 Our Management Approach

- 153 Corporate Governance
- 156 Risk Management
- 158 Materiality Assessment
- 160 Managing Financial Capital
- 162 Managing Manufactured Capital HSSE
- 167 Managing Manufactured Capital
- 172 Managing Natural Capital
- 177 Managing Human Capital
- 180 Managing Social and Relationship Capital
- 187 Managing Intellectual Capital

188 Data and Downloads

- 189 Key Performance Data
- 193 Human Capital
- 201 Manufactured Capital
- 203 Natural Capital
- 205 Social and Relationship Capital

Appendix

- 208 Selected Group Level Data Assurance Statement
- 215 Impacts Along Our Value Chain
- 216 Stakeholders Key Concerns or Interests Table
- 225 GRI Content Index
- 248 Hong Kong Stock Exchange ESG Guide Content Index
- 252 Climate Action Finance Report
- 256 Assurance Statement on the Climate Action Finance Report
- 260 Safety Management Systems of Our Assets
- 261 Environmental Management Systems of Our Assets
- 262 Generation Performance of Our Assets
- 263 Industry and Organisations Table

Making lives brighter

- > Our Commitment
SDGs and Climate Vision 2050
- > Our Value Creation
Six Capitals
- > Our Performance
Data and Downloads

Welcome to CLP's 2017 Sustainability Report! As part of our commitment to being transparent and accountable for our performance, we are moving our 16th report online to communicate with you better. We hope you like this change and would appreciate any feedback so we can continue to improve.

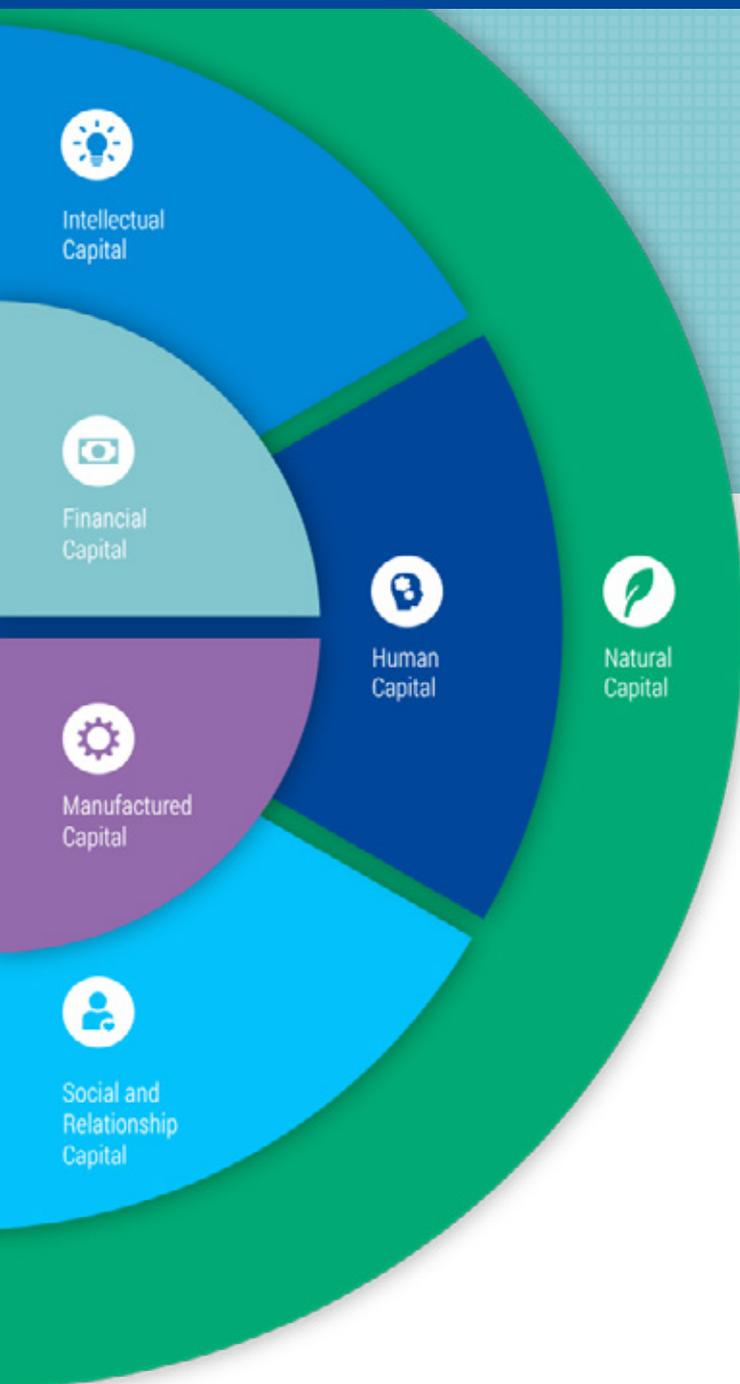
> [About this report](#)



Chairman & CEO Message

“We developed a new set of Clean Energy Targets, namely a 30% renewable and 40% non-carbon emitting capacity targets for 2030, both of which contribute to SDG 7.”

> [Read message](#)



Our Capitals

We rely on a range of capitals as input to create value for our stakeholders who define our success. These capitals include social and relationship, financial, human, manufactured, natural, and intellectual capitals.

Financial Capital

Can be in the form of equity, bonds, bank loans and perpetual capital securities. These funds are from investors, shareholders and lenders and allow us to invest and procure the goods and services we need to deliver what we sell.

[Read More](#)

Manufactured Capital

The man-made physical objects used in the production and delivery of what we sell. Distinct from natural resources, they include equipment, infrastructure and buildings.

[Read More](#)

Intellectual Capital

The knowledge-based intangibles, including intellectual property, subject knowledge and expertise, and experience in developing and implementing standards, systems and processes, needed to deliver what we sell.

[Read More](#)

Social and Relationship Capital

Refer to how we engage with stakeholders to build mutual trust and understanding. The relationships established with our suppliers, customers, regulators and communities ensure we have the necessary legal and social licenses to operate in all our geographies.

[Read More](#)

Natural Capital

The natural resources such as fossil fuels and renewable resources that we use to produce the energy or services we sell, and the short-term and long-term impacts we have on air, water, land, biodiversity and the broader environment, throughout the lifecycle of our projects.

[Read more](#)

Human Capital

Our people's competencies, capabilities and experience, their motivation to innovate, as well as their support for our values, vision and mission. We attract and retain talent that together build a CLP culture that is based on a strong heritage but is also agile and innovative.

[Read more](#)

Our Value Creation Journey

At the heart of our success is our value creation process, which draws on various inputs and through our business activities converts them to outputs that create positive value for our stakeholders.

1. Capital Inputs



Financial

Shareholder funds

108,697
HK\$ million

Total borrowings

57,341
HK\$ million

Net assets

121,507
HK\$ million

Climate action bonds raised

500
US\$ million



Manufactured

Generation capacity

19,395
equity MW

Capacity purchased

5,159
MW

Renewable energy assets capacity

2,751
equity MW

In Hong Kong,

15,678 km
of transmission and high voltage
distribution lines

14,715
substations

Supplier spend

30.9
HK\$ billion



Natural

Fuel costs

15,473
HK\$ million

Fuel use | **Coal**

471,976
TJ

Fuel use | **Coal**

91,426
TJ

Fuel use | **Oil**

5,069
TJ



Social Relationship

Taxes

2,094
HK\$ million

Community spending

41% Environment

23% Community Wellbeing

14% Community Engagement

13% Education and Development

9% Arts and Culture

Donations

14
HK\$ million

Volunteering hours by CLP staff and family members

19,945
hours



Human

Total remuneration

5,573
HK\$ million

including retirement benefits costs of \$561 million

Employees

7,542

Training hours per employee

46.9
on average

Females in leadership positions across the Group

23.4%



Intellectual

Companies covered by our Innovation Pipeline

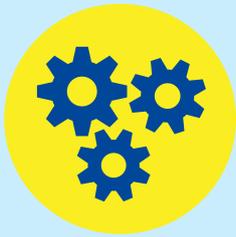
over 180
companies

Participating in venture capital funds that have committed

75-100
US\$ million

Cybersecurity software on operational technology assets launched in Hong Kong and progressively rolled out over the next 12-18 months

2. Our Business Activities



Generation

- Operate power assets
- Design & build power assets



Delivery

- Operate transmission & distribution networks
- Design & build transmission & distribution networks



Customer

- Smart energy use
- Customer promise & experience

Our Corporate Governance



Do the right-thing culture



High integrity Governance Framework



Effective board oversight



Transparent shareholder communication

Innovation & technology



Enhance the performance of our core operation



Pursue business adjacencies



Develop new markets and areas

3. Value We Created



Financial

Market capitalisation

202

HK\$ billion
(as at 31 Dec 2017)

Revenue

92,073

HK\$ million

Operating earnings

13,307

HK\$ million

Dividends (total & per share)

7,352

HK\$ million

2.97

HK\$ per share



Manufactured

Total electricity sent out (equity plus capacity purchase basis)

83,897

million kWh

Customer accounts – Total

5.18

million

In Hong Kong

Supply reliability over

99.999%

Unplanned customer minutes lost in Hong Kong

1.57

minutes

(average of the past 3 years)



Natural

Carbon intensity: Group (equity basis)

0.80

kg CO₂/kWh

Hong Kong

0.51

kg CO_{2,e}/kWh

Renewable energy generation capacity (equity basis)

2,751^{MW}

14.2%

Non-carbon emitting generation capacity (equity basis)

4,350^{MW}

22.4%



Human

Lost time injuries rate (number per 200,000 man-hour)

0.13 employee

0.14 contractor

Decent and sustainable employment opportunities

835

new hires in 2017

Competitive pay and benefits with real increases on remuneration

Sustainable pension schemes received the inaugural Best Asian Private Pension Fund award



Social Relationship

Direct beneficiaries
439,000+

Organisations benefited
451

Community programmes implemented
647
programmes

Set up first named professorship in sustainability in Hong Kong



Intellectual

Projects launched under our Innovation Pipeline
7
projects

Improvement in operational efficiency

Partnership and collaboration with other organisations, including signing an MoU with the Israel Electric Corporation, and the Smart City Consortium in Hong Kong

About this report

Our goal is to be the leading responsible energy provider in the Asia-Pacific region, from one generation to the next. This report discusses in detail how we create value for our stakeholders over the long term.





About this report

Welcome to our 2017 report

Under our Value Framework, CLP is committed to communicating and reporting the economic, social and environmental impact of our business to our stakeholders on a regular basis. To fulfill this commitment, the advances in communications technology has led to the need for us to actively engage and listen to our stakeholders through an increasing number of channels that suit their needs and preference. This year we have moved our full Sustainability Report online, allowing us to enhance signposting, draw reference from different sources, show key ideas visually, and to interact with readers more easily.

We hope you will like these changes and welcome your feedback through the online survey or email. As a token of our appreciation, each stakeholder who sends us feedback on or before 30 June 2018 will receive a corporate souvenir from us (subject to availability).



Reporting period and scope

102-45

This report covers CLP Group's sustainability performance for the calendar year ending 31 December 2017. It includes discussions on the "material" topics and "most material" topics identified through our [materiality assessment](#) for our relevant company boundaries. It is published at the same time as our [Integrated Annual Report](#). Our previous report was published in March 2017.

102-49

For 2016 to 2017, there were no material restatements of the quantitative Key Performance Indicators. Changes to our reporting scopes in 2017 are:

- Environmental scope: addition of the Fangchenggang II, Laizhou I and Sandu I Power Stations, as they completed their first full calendar year of operation under CLP ownership in 2017. Cathedral Rocks Wind Farm was removed as we transferred the asset management to the asset joint owner as of 1 July 2017, and therefore it did not fulfil the "full calendar year of operation" requirement.
- Safety scope: Cathedral Rocks is included in the safety scope until 30 June 2017 when the asset management was transferred to the asset joint owner.



Below is the definition of the company boundary for each of the main categories of data included in this Report. Please refer to our 2017 Annual Report for more details on the entities included in our consolidated financial statements.

GOVERNANCE	Includes all people employed by CLP entities or their subsidiaries. It does not include non-CLP employees in our Joint Ventures, Joint Operations or Associates.
FINANCE	Selected financial figures are extracted from our Annual Report and include the financial statements of CLP Holdings Limited and its subsidiaries as well as the Group's interests in joint ventures and associates 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 on pages 201 and 202 of our 2017 Annual Report.
EMPLOYEES	Includes all people employed by CLP entities or their subsidiaries (excluding part time staff unless otherwise specified). It does not include employees of our joint ventures, joint operations, associates or contractors.
HEALTH AND SAFETY	Includes all entities which hold power assets, transmission and distribution infrastructure, fuel storage facilities or regional office areas: <ul style="list-style-type: none"> · That are wholly owned or majority owned by CLP; or · That are under CLP's operational control, defined as full authority to implement CLP's operating policies; and · That are under construction or in operation.
ENVIRONMENT <ul style="list-style-type: none"> · Resource Use · GHG & Air Emissions · Environmental · Compliance 	Includes all entities which hold power assets, transmission and distribution infrastructure or fuel storage facilities and satisfy all the following criteria: <ul style="list-style-type: none"> · That pose material impact to the environment; · That are under CLP's operational control, defined as full authority to implement CLP's operating policies; and · That have been operating for a full calendar year. <p>100% of the performance data for in scope entities is reported without adjustment of the data to reflect our equity share, unless otherwise stated.</p>
CLIMATE VISION 2050	Includes all entities which hold power generation assets. <ul style="list-style-type: none"> · Entities are included on an equity ownership basis, meaning the definition of operational control is not considered, only whether CLP holds an equity share; and · The scope includes all entities that were in operation at some point during the reporting year, meaning assets which were acquired during the reporting year are included despite not having been in operation for a full calendar year under CLP ownership. <p>Performance data is consolidated on an equity basis – i.e. if CLP holds a fraction of the total entity, performance is consolidated on a pro rata basis in accordance with CLP's equity holding.</p> <p>Some statistical data derived from our overseas operations may not be strictly comparable because local and or regulatory definitions may vary.</p>
CLP POWER HONG KONG CARBON EMISSIONS INTENSITY OF ELECTRICITY SOLD	Includes all power generation assets involved with the delivery of electricity to CLP Power Hong Kong customers, and: <ul style="list-style-type: none"> · The total annual CO₂ and CO₂e emissions are from CAPCO assets in Hong Kong only (as nuclear power does not result in significant carbon emissions); and · The GWh is from our Total Electricity Sales for CLPP HK and includes generation from Daya Bay Nuclear Power Station.



Reporting frameworks and content indices

We reference different reporting guidelines and frameworks to ensure our reporting is comprehensive and aligns with international best practices.

Global Reporting Initiative (GRI)

- The GRI is an international independent organisation which provides the world's most widely used standards on sustainability reporting.
- CLP has been reporting with reference to the GRI since 2007, and has adopted the GRI Standards for the second year since it was launched in 2016.
- This report has been prepared in accordance with GRI Standards: Core option. It also reports on the GRI G4 Electric Utilities Sector Disclosures, and has been checked by GRI on materiality disclosure.

 [Download the GRI content index](#)

International Integrated Reporting Council (IIRC)

- The IIRC is a global coalition that created the International Framework which has become the widely used guideline for integrated reporting.
- CLP's Annual Report has been reporting with reference to this guideline since 2011. Moving towards a more integrated reporting approach, this report continues to make reference to the Framework, particularly on the concept of the six capitals.

Hong Kong Stock Exchange Environmental, Social and Governance (ESG) Reporting Guide

- Companies listed on the Hong Kong Stock Exchange (HKEx) are now required to meet the "General Disclosure" and Key Performance Indicators (KPIs) in the "Environmental" Subject Area, in a "comply or explain" manner.
- As a Hong Kong listed company, CLP first began reporting according to the ESG Guide in 2012. This report satisfies the "comply or explain" provisions as well as "recommended disclosures" of the Hong Kong Stock Exchange Environmental, Social and Governance (ESG) Reporting Guide (ESG Guide).

 [Download the HKEx content index](#)

Greenhouse Gas Emissions

- CLP's greenhouse gas (GHG) emissions inventory covers the six originally specified gases in accordance with the Kyoto Protocol. We have also considered the seventh one added under the Kyoto Protocol, namely nitrogen trifluoride (NF3), but have deemed it immaterial to our operations.
- Our GHG emissions are reported with reference to: The World Resources Institute (WRI) / World Business Council for Sustainable Development (WBCSD) GHG Protocol, the Intergovernmental Panel on Climate Change's Guidelines for National Greenhouse Gas Inventories 2006 and international standard ISO 14064.
- To facilitate implementation, in 2007, we developed the first version of our Group-wide GHG reporting guideline with reference to the aforementioned guidelines. The reporting guideline is regularly reviewed in accordance with CLP practice at least every three years.

Data verification

Limited Assurance is provided by PricewaterhouseCoopers (PwC) on a selected set of environmental, social and governance-related Key Performance Indicators for this Report in accordance with International Standard on Assurance Engagements 3000 (Revised), Assurance Engagements other than Audits or Reviews of Historical Financial Information, and, in respect of greenhouse gas emissions, International Standard on Assurance Engagements 3410, Assurance Engagements on Greenhouse Gas Statements.



Download the assurance statement

Materiality for 2017 and stakeholder concerns

102-46

The content of this report was determined using our [Boundary Scoping and Materiality Identification \(BSMI\) methodology](#). The most material topics were identified by our internal and external stakeholders, through their concerns or interests collected during the year from existing engagement channels embedded in our daily operations. The reporting boundary for each topic was defined in terms of including the most relevant material business entities. This year, we piloted additional channels to gauge external views – we commissioned an online stakeholder survey and a technology-driven data analytics report. The results indicated that our internal assessment results seemed broadly aligned with the external views.

Financial Data

- All financial data in this report is in alignment with the figures published in the audited financial statements as published in our Annual Report. The financial statements are prepared in accordance with Hong Kong Financial Reporting Standards (HKFRS) issued by the Hong Kong Institute of Certified Public Accountants (HKICPA) and the Hong Kong Companies Ordinance.



102-44

Our stakeholders' concerns or interests about our business vary depending on the location and context and therefore require different actions or responses. The main topics that arose during the year in our various regions, as well as the actions we undertook to address them, are summarised in the following table by stakeholder group.

 [Download the Stakeholder Key Concerns or Interests Table](#)

2017 Materiality Matrix

102-47

The 2017 BSMI process identified 23 material topics and 18 most material topics, which were basically the same results as in 2016. However this year, to further integrate the GRI topics into the application of the Integrated Reporting Framework, our Materiality Matrix below maps the topics according to the six capitals referred to by the IIRC.

	Most Material Topics	Material Topics
Financial Capital	<ul style="list-style-type: none"> · Economic Performance · Anti-corruption 	<ul style="list-style-type: none"> · Indirect Economic Impacts · Anti-competitive Behaviour
Manufactured Capital	<ul style="list-style-type: none"> · Availability and Reliability · Demand-side Management 	<ul style="list-style-type: none"> · System Efficiency · Disaster/ Emergency Planning and Response · Customer Health and Safety · Procurement Practices · Supplier Social Assessment · Supplier Environmental Assessment · Plant Decommissioning · Marketing and Labelling · Provision of Information
Natural Capital	<ul style="list-style-type: none"> · Environmental Compliance · Emissions · Energy 	<ul style="list-style-type: none"> · Water · Effluents and Waste · Biodiversity · Materials
Human Capital	<ul style="list-style-type: none"> · Occupational Health and Safety · Employment · Diversity and Equal Opportunity · Human Rights Assessment · Non-discrimination · Labour / Management Relations · Training and Education 	<ul style="list-style-type: none"> · Child Labour · Forced or Compulsory Labour · Freedom of Association and Collective Bargaining · Security Practices · Market Presence
Social and Relationship	<ul style="list-style-type: none"> · Public Policy · Socioeconomic Compliance · Customer Privacy · Local Communities 	<ul style="list-style-type: none"> · Access to Electricity · Rights of Indigenous People
Intellectual Capital	<ul style="list-style-type: none"> · N/A 	<ul style="list-style-type: none"> · Research and Development

Chairman & CEO message

In 2017, we deliberated on four of the SDGs as being most relevant to our business strategy and that we could make significant contributions to.

At CLP, we are committed to sustainable development and the management of our business for the long term. In 2017, we made progress in setting new Group targets that contribute towards the United Nations 2030 Sustainable Development Goals (SDGs) and the Paris Agreement on Climate Change. Our targets will not only help track our contributions to these two milestone international developments, but will also provide a foundation and direction for exploring new business models and opportunities.

Aligning Our Strategy With the Sustainable Development Goals

The 17 United Nations 2030 Sustainable Development Goals (SDGs) indicate the development direction and needs of the world, thus providing helpful medium to long term signals on emerging opportunities and risks for business to consider when developing or reviewing their business objectives and strategies. In 2017, we deliberated on four of the SDGs as being most relevant to our business strategy and that we could make significant contributions to. They were: SDG 13 – Climate Action; SDG 7 – Affordable & Clean Energy; SDG 8 – Decent Work & Economic Growth; and SDG 9 – Industry, Innovation & Infrastructure. We also developed targets for three of the four SDGs as outlined in the following sections.

Strengthening Our Climate Vision 2050

During the year, we undertook a comprehensive review of our Climate Vision 2050, which was first published over a decade ago. Further to the review, we developed a new set of “Energy



THE HONOURABLE SIR MICHAEL KADOORIE
CHAIRMAN

RICHARD LANCASTER
CEO

Transition Targets”, which are a set of decadal carbon intensity reduction targets spanning out to 2050, that contribute to SDG 13. The most significant development in this regard was the tightening of our carbon intensity reduction target for 2050 from a 75% reduction in our carbon intensity to 82% reduction over 2007 levels. This change strengthens our transition trajectory downwards – moving us one step closer towards a carbon neutral world. We also developed a new set of Clean Energy Targets, namely a 30% renewable and 40% non-carbon emitting capacity targets for 2030, both of which contribute to SDG 7. While all of these new targets remain challenging, they do not depend on the development of new technologies and are appropriate and measured having regard to the speed of change and the realities of the development of power markets in the Asia Pacific region. Furthermore, in order to reflect more

holistically our contribution to supporting the development and maintenance of energy capacity, we will begin to report our progress on a basis that includes our capacity purchase in addition to just what we own.

Pursuing Opportunities Through Innovation

Over our century long history, we have recognised emerging trends and have been a pioneer in adopting new technologies and practices. The digital revolution is yet another emerging trend from which we can seize opportunities presented by this phenomenon. In 2017, a Director of Big Data, reporting to our Senior Director of Innovation, was recruited to be part of the new Innovation team and tasked to define and refine how we leverage all the new and emerging technologies to help us and our customers be more efficient. In 2017, we invested in a venture capital fund in Silicon Valley which can help us explore new opportunities. We also applied new technologies and have continued to utilise data analytics in our operation to boost performance and efficiency. For example, in Hong Kong, we are using drones as “inspectors” to look at aspects of our Black Point Power Station, particularly the operational areas where access by our staff is difficult or potentially dangerous. In Mainland China, we started using robots to clean our solar panels. As we have made innovation a priority in our long-term plans for the Group, we are currently exploring metrics and potential targets for our innovation endeavours as our contribution towards SDG 9 – Industry, Innovation & Resilience.

Nurturing Our Human Capital

With all the new business innovation opportunities coming up, we will continue to strengthen our talent pool. The launch of the CLP Power Academy in Hong Kong last year is one good example of this effort. In addition, one of our main focuses is unlocking the potential for attracting, developing and retaining more females into our industry. In 2016, we had announced our three priorities to improve our gender diversity: increasing the number of women in leadership positions in CLP; increasing the number of female engineers we employ; and ensuring gender pay equity. In 2017, we moved forward with setting new Group targets for these three priorities. The target to “ensure equal pay for work of equal value is maintained in all our businesses, any gender pay equity gap for females is eliminated, and will meet all relevant local compliance and disclosure standards”, contributes to SDG 8 – Decent Work & Economic Growth.

Elevating Our Focus On Protecting Lives

The two fatal accidents in our Hong Kong operation last year which claimed four lives were a tragic reminder that we must be forever vigilant in our efforts to protect the safety of our staff, contractors and customers. We express our deepest sympathy to the families of the deceased and reiterate that we are making every effort to find ways to help us avoid similar accidents in the future. In 2017, we undertook a comprehensive review of safety management under the supervision of the Board. That review highlighted that the level of serious incidents across the Group had remained relatively stable despite a strong downward trend in the total

number of safety incidents in recent years. As a result, we significantly strengthened the focus of our safety procedures on the reduction of serious incidents, introduced specific action plans to improve standards in this area and further elevated the classification of safety in our Group risk register to ensure a sustained increase in oversight on safety. We also appointed a new Senior Director of Health, Safety and Environment to oversee the new approach and will closely monitor the implementation of these plans on an on-going basis with a determination to do as much as possibly can to prevent the recurrence of such tragic accidents.

Transitioning While Ensuring Energy Security

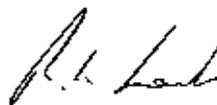
A core belief we have on sustainable energy is the need to address the energy trilemma: providing a safe and reliable electricity supply in an environmentally responsible way and at a reasonable cost. While pursuing an energy transition towards a low carbon future, it is crucial that energy security is not overlooked or taken for granted, as some of the new types of low carbon generation will not yield energy in the same pattern or quantity as traditional types of generation. In 2017, we continued to work diligently on securing long-term, reliable fuel supply to cope with the local economic development and environmental needs of Hong Kong, while in Australia we continued to help meet the local demand given the tight supply. We also continued to engage in public dialogue on policy matters relating to our industry, as we believe it is important for us to share our practical regional experience and insight, to support the development of sound low carbon energy policy and initiatives.

Outlook

Globally, we note the trend in the development of smart cities, which comes with unprecedented connectivity across all sectors and regions. To support the development of a smart city, we believe a reliable, efficient and clean energy system is essential. At CLP, we have the drive, desire and expertise to be an integral part of these exciting new developments. We are well-prepared to recognise and seize the opportunities that they are bringing, benefitting from a diversified portfolio, our forward-thinking, clear focus, agility and a capable workforce. We look forward to a dynamic and bright future that we believe will come through continued positive engagement with all our stakeholders.



The Honourable Sir Michael Kadoorie
Chairman



Richard Lancaster
Chief Executive Officer

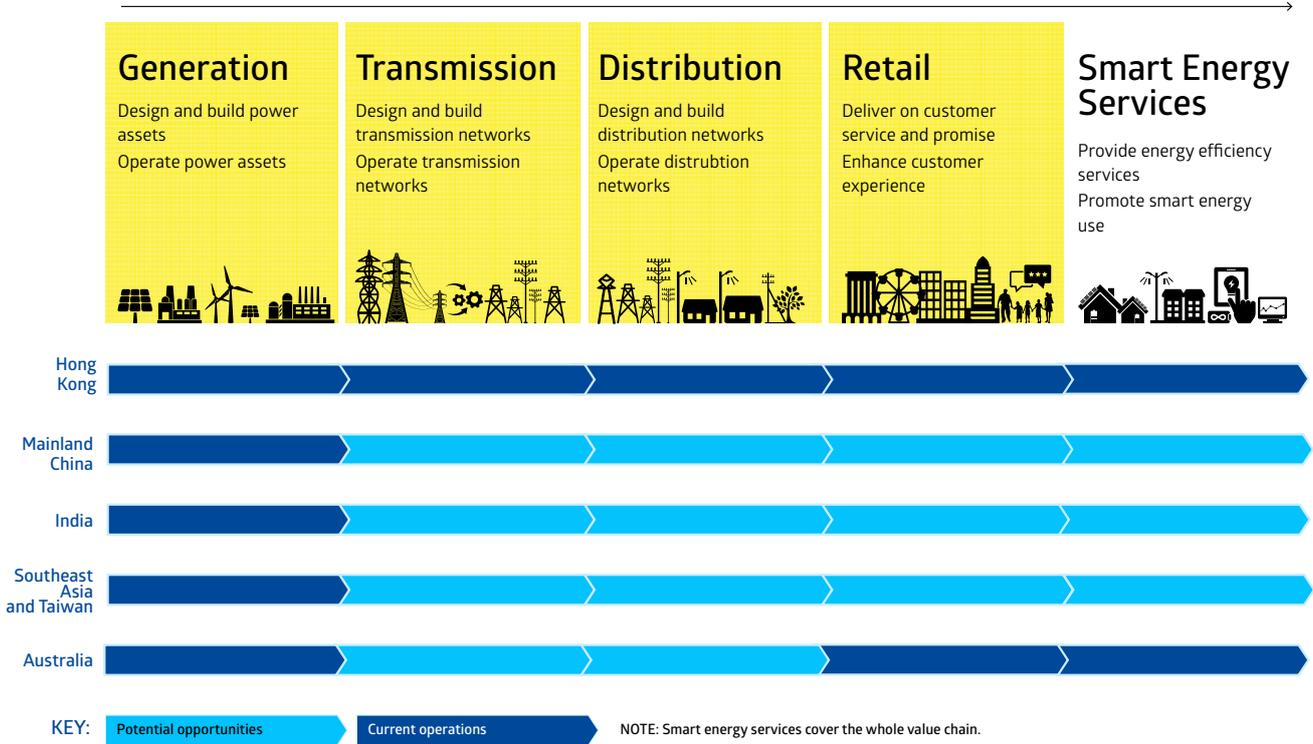
Hong Kong, 26 February 2018

Our Business

CLP Holdings Limited is a publicly held company with a history in the electricity business dating back to 1901. Based in Hong Kong, we also have presence in Mainland China, India, Southeast Asia and Taiwan, and Australia.



Our Business



Our value chain

Our core business is to provide electricity to customers reliably at a competitive price, with the least impact on the environment and delivering positive impacts to the communities we operate in. We procure, operate, sell and engage responsibly throughout our value chain so that we can be a sustainable business.

As a Group, our products span the entire value chain, from power generation to transmission and local distribution, to gas and electricity retail services, supported by smart energy services. Locally, we play different roles across the electricity value chain in different geographies, depending on the local constraints and market characteristics.

Much of our business outside Hong Kong lies in the production of electricity, and all of our business units own sizable generation assets. We build, operate and own assets for the long term and therefore must protect their value over the same period so

that we can be operationally sustainable. Our generation fleet has a balanced portfolio consisting of coal, gas, nuclear, wind, hydro and solar power facilities.

Through our retail businesses in Hong Kong and Australia, we serve customers, including both businesses and residential households. Our wholesale customers include grid companies in Mainland China and electricity distribution companies and intermediaries in India, which purchase power directly from our generating assets.

A significant share of our third party spend is with local suppliers which support the local community while meeting CLP's business needs. Our preferred suppliers are those who are ethical and committed to sustainable development, and have a track record on Health, Safety, Security & Environmental (HSSE) competence. They should be capable of meeting the expectations of our Responsible Procurement Policy Statement (RePPS).

Our assets and services

CLP is headquartered in Hong Kong, where we are listed on the Hong Kong Stock Exchange. Hong Kong is also where our largest business is, where we operate under the brand of "CLP Power Hong Kong". We also have business units in Mainland China, India (under the brand of "CLP India"), Southeast Asia and Taiwan, and Australia (under the brand of "EnergyAustralia").

[Find out more about our assets and services](#)

As of 31 December 2017, we had 7,542 full-time employees and our market capitalisation was HK\$202 billion. Our revenue for 2017 was HK\$92,073 million. The electricity sent out from our assets was 83,897GWh (on an equity plus capacity purchase basis).



2017 Portfolio changes

Under our Climate Vision 2050, we are committed to growing our investment in non-carbon emitting energy projects across the Group and we continue to make significant progress. In 2017, we invested HK\$1.5 billion in renewable projects and our operating earnings from renewable energy increased from HK\$610 million in 2016 to HK\$649 million in 2017. We also invested in more nuclear capacity in Mainland China. Major portfolio changes for 2017 are shown below.

To provide an indication of whether our significant investment agreements and contracts include human rights clauses, CLP reports the percentage of funding for all non-recourse financing and refinancing that was provided by banks which have adopted the Equator Principles. In 2017, around 60% of this funding came from these Equator Principle banks (2016: slightly less than half).

The main asset portfolio changes this year

- the acquisition of a 17% interest (1,108 equity MW) in the 6,516 MW Yangjiang nuclear facility in Guangdong, Mainland China;
- the divestment of our 15.75% interest (314 equity MW) in CGN Wind in Mainland China;
- the partial commissioning of the 100MW Veltor solar project in India, of which we own 49% interest (49 equity MW).
- the commissioning of the Laiwu II wind project in Shandong, of which we own 100% interest (49.5MW equity MW).

Renewable Energy Development in Australia

EnergyAustralia has entered transactions to underpin the development of more than 500MW of renewable generation capacity since we announced in December 2016 a programme to support new wind and solar farms in eastern Australia. The agreement will help meet our obligations under the Australian Government’s Renewable Energy Target, which requires retailers to have 23.5% of total energy in the national electricity market provided by renewable sources by 2020.

Our Performance

Key performance indicators

We continually improve by managing, monitoring and reporting our performance. View a quantitative overview of our 2017 performance.

[View data](#)

Key Sustainability Ratings

We track our performance on selected sustainability indices to help us improve our performance and stay ahead of the potential emerging sustainability issues.

[See our ratings](#)

Awards and Recognition

We reflect upon the awards and recognition we have achieved during the year to better understand the changing public expectations on business.

[Read more](#)



Key Sustainability Ratings

We track our performance on selected international and local sustainability indices to help us improve our performance and stay ahead of emerging sustainability issues.

Carbon Disclosure Project

CDP is one of the most influential investor-related carbon performance assessments. We have been responding to CDP since its launch in 2002.



CDP Climate

	2015	2016	2017
	Disclosure: 96 Performance: C	A-	B

Scores

CDP Water Score

	2016	2017
	B	A-

Disclosure Score

Dow Jones Sustainability Asia Pacific Index

The DJSI is a globally recognised index which includes companies from a wide spectrum of industries. CLP has been a constituent of the Dow Jones Sustainability Asia Pacific Index (DJSI Asia Pacific) and Dow Jones Sustainability Asia Pacific 40 Index (DJSI Asia Pacific 40) since the launch of both indices in 2009.



DJSI CLP and Electric Utilities Industry Average & Asia Pacific Average Scores

	2015	2016	2017
	57	73	70

Company Score

Electric Utilities Industry Average Score

	2015	2016	2017
	52	52	50

Disclosure Score

	2015	2016	2017
	62	68	67

Asia Pacific Average Score

Hang Seng Corporate Sustainability Index

CLP has been listed on the Hang Seng Corporate Sustainability Index and Hang Seng (Mainland China and Hong Kong) Corporate Sustainability Index since 2010. The Hang Seng Corporate Sustainability Index is a local index which helps us better understand our sustainability performance relative to other Hong Kong and Mainland Chinese companies listed on the Hong Kong Stock Exchange.



Hang Seng Corporate Sustainability Index Series Member 2017-2018

HKQAA Rating



2015	2016	2017
AA	AA	A+

Rating

Others

There is an increasing number of sustainability-related rankings or ratings that we do not proactively contribute to although CLP may still be included in some of these rankings.

FTSE4Good

CLP is not listed on FTSE4Good index due to the presence of nuclear power in our generation portfolio. However, we are scored by FTSE4Good and we monitor our performance on FTSE4Good on an annual basis. As of 31 December 2017, our FTSE4Good score was 3.3.



2015	2016	2017
3.2	3.3	3.3

Overall Scores

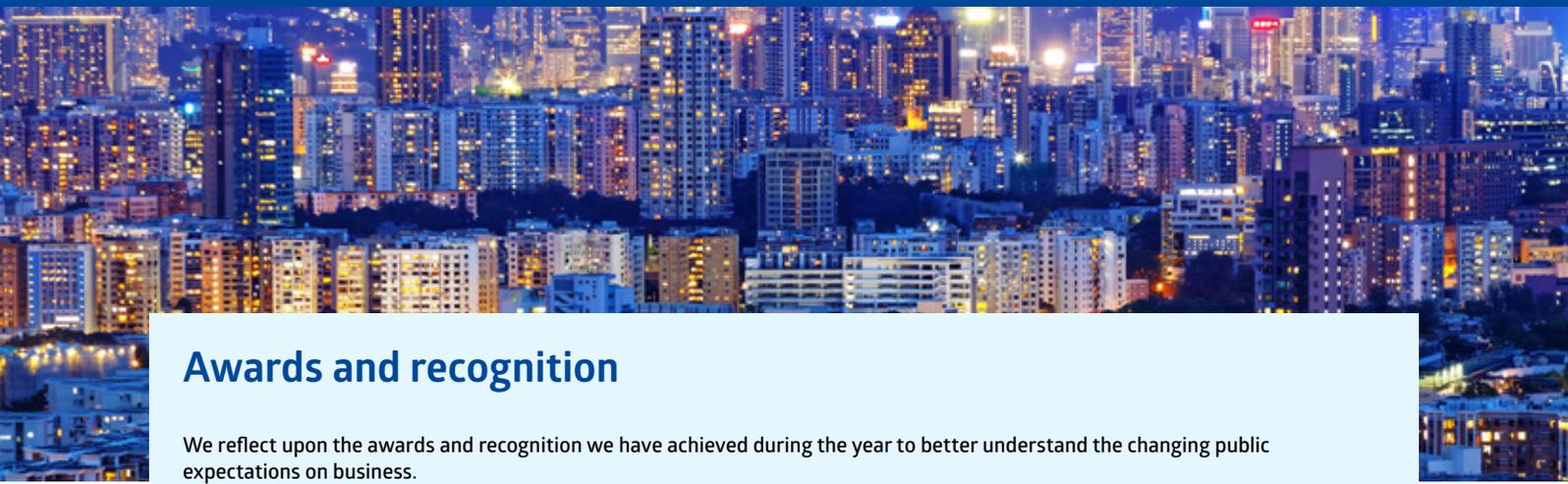
MSCI

CLP has been included in the MSCI ESG Leaders Indexes (previously MSCI Global Sustainability Indexes) since 2015. We have maintained a stable overall rating of A in the last three years.



2015	2016	2017
A	A	A

Overall Scores



Awards and recognition

We reflect upon the awards and recognition we have achieved during the year to better understand the changing public expectations on business.

Hong Kong Institute of Certified Public Accountants

Best Corporate Governance Awards - Sustainability and Social Responsibility Reporting Award

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



Hong Kong Institute of Certified Public Accountants

Sustainability Reporting Award

CLP was bestowed with The Hong Kong Management Association's Sustainability Reporting Award in the general category for the sixth successive year since the award was introduced in 2012.

Hong Kong Sustainability Award

In the inaugural Hong Kong Sustainability Award launched by the Hong Kong Management Association, CLP emerged as one of the winners in the large organisation category and a recipient of Special Recognition for Outstanding Sustainability Initiative. Attracting 106 entries in 2016/17, the award recognised organisations that demonstrated due consideration to the economic, social and environmental aspects of sustainability, while achieving good business and organisational performance.



Carbon Disclosure Project

CDP Hong Kong and South East Asia Award

CLP was named the best performing Hong Kong Company with a score of A- for its water programmes in 2017. It was ranked top of the Hong Kong-based or listed companies which participated in the CDP survey. The assessment was based on the climate change, water and forest-related data received from 1,073 of the world's largest companies.



IR Magazine

IR Magazine Awards - Greater China 2017

CLP clinched the best ESG communications award in the IR Magazine Awards – Greater China 2017. The magazine has honoured excellence in investor relations around the world for over 25 years.

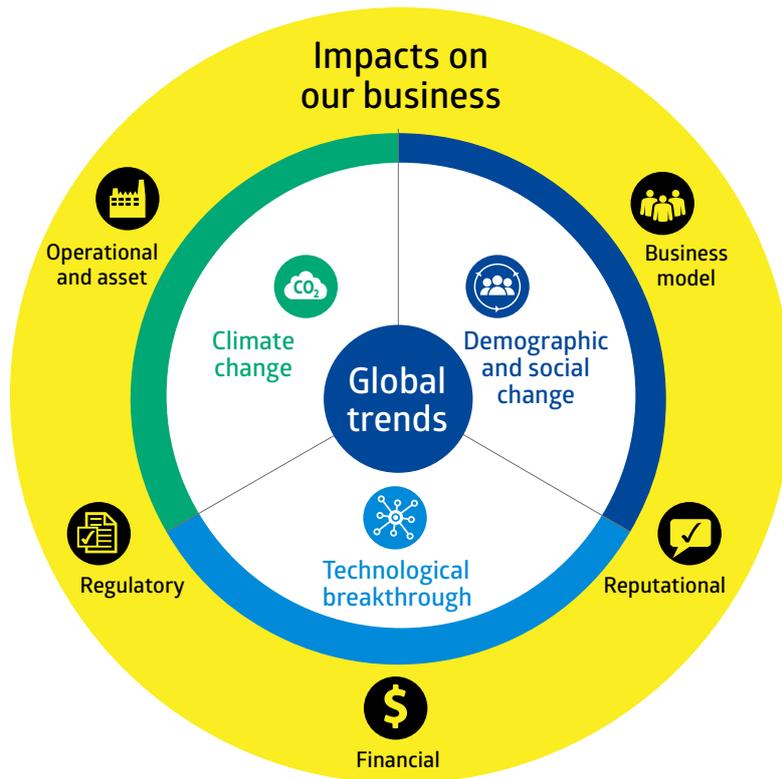


Trends and drivers

Global trends will inevitably influence us directly or indirectly. We proactively monitor these trends and seek to identify emerging business-specific risks and opportunities.



Trends and drivers



Drivers

Climate change, technological breakthrough and demographic and social change continue to be profound forces that are significantly changing our operating environment. We have studied these trends to understand how they will impact us, what potential business-specific or emerging risks they pose; and how we can seize the opportunities they present as guided by our values and commitments.

Since the markets in which we operate are diverse, our risk management system aggregates the local-specific risks and opportunities monitored across all business units and overlays that with regular emerging risk maps to help us: anticipate our Group level risk exposure; put controls in place to counter threats; and to effectively pursue the set objectives.

However, the way emerging global trends impact on business is often gradual, taking a longer period to unfold, and often in uncertain ways. Conventional risk management tends to include shorter time horizons and may not be able to capture

the potential strategic risks or opportunities arising from these global trends effectively. In 2017, we commenced a pilot project to explore how to further integrate our knowledge of the global trends with the process of emerging strategic risks and opportunities identification. The Draft Guidance for applying Enterprise Risk Management (ERM) to Environmental, Social and Governance (ESG)-related risks developed by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) and the World Business Council for Sustainable Development (WBCSD), referred to our pilot as an example supporting one of the steps on understanding business context and strategy. We will continue to work on integrating ESG-related emerging risks into our risk management system and will report on our progress in 2018.

Navigate the panels below to find out more on the global trends affecting us and the potential business risks and opportunities they bring. They are also discussed in different sections throughout this Report.



Globals Trends

Climate change

We were encouraged to see the Paris Agreement ratified, as the committed Nationally Determined Contributions (NDCs) provide medium- to long-term signals conducive to attracting the longer-term investments needed for infrastructure.

However, the power industry alone cannot meet the agreed climate change mitigation targets. We need governments, communities and businesses to work together to put in place: (1) regulatory structures that facilitate the transition to a cleaner energy mix; (2) appropriate financing mechanisms; and

(3) conventional and renewable energy sources that are reliable and affordable.

While the power industry is ready to do its part, we must be cognisant of the different needs in different parts of the world. In developing economies, where energy demand is still growing, fossil fuels will remain a key energy source for some time. Meanwhile in developed economies, where supply may outstrip demand, there is a more immediate opportunity to transition to a low carbon energy future. Hence, different countries will require different solutions at different times.

Risks	Opportunities	Actions taken
<ul style="list-style-type: none"> · Potential stranded fossil fuel assets · Abrupt policy changes that could affect supply security or reliability · Physical impacts of climate change on our assets and value chain · Potential carbon price increasing the operating costs for fossil fuel assets · Potential reputational risk from owning fossil fuel assets 	<ul style="list-style-type: none"> · Continue to expand our renewable energy portfolio, and deploy new ways to finance these projects · Use Power Purchase Agreements (PPAs) to sell renewables energy to customers directly · Invest in nuclear power with a credible and trusted partner · Offer a range of carbon reduction advisory services and implementation support to our customers · Provide resilience/adaptation services and expertise to stakeholders · Where fossil fuel assets are still needed to support development or low carbon transition, deliver assets with the highest efficiency and lowest emitting technologies as is commercially possible 	<ul style="list-style-type: none"> · On the supply side, use cleaner fuel and promote the use of renewable energy to lower the carbon emissions from our power generation; on the demand side, promote energy efficiency and conservation (EE&C) through green tools and education programmes. · We have reviewed our “Climate Vision 2050” and have set challenging but achievable energy transition targets and clean energy targets, which set a road map for our decarbonisation journey. · Our Climate Action Finance Framework launched in 2017 sets out a more holistic approach to financing the transition towards a low carbon energy future. It formalises and governs project evaluation, monitoring and reporting the use of proceeds for Climate Action Bond issuances. · Upgrade our facilities to strengthen our defence against extreme weather events. For instance, we are planning and implementing operations and system reinforcements where necessary. We also maintain emergency response and crisis management plans with regular drills. Looking forward, we plan to develop a model that can more accurately forecast the effect of an approaching typhoon on our network so that we can be better prepared. · Continue our active involvement with governments, businesses and communities to help formulate the policies and regulations required to facilitate this energy transition.



Technological breakthrough

Technology advancements influence not just the technical solutions available, but also the behaviour and expectations of customers and other stakeholders. They can also lead to major disruptions of traditional business models, which we are starting to see in utilities around the world.

Advancements in digital technology and its applications, and new entrants coming into our sector are bringing significant changes to our industry. We should no longer think of electricity as the only product we offer our customers.

Customer expectations are evolving, which mean being customer-centric and capable of continually enhancing customer experience will become essential; in the future, our business will be about the services and the quality of these services that we provide along with our products to customers.

Risks	Opportunities	Actions taken
<ul style="list-style-type: none"> · Abrupt changes in customer and/or stakeholder behavior · Business model disruption · IT-related risks such as cyber security 	<ul style="list-style-type: none"> · Deploy new low carbon energy technologies to replace carbon intensive ones both on the supply side and demand side · Use of digital technology to increase the efficiency of our operations · Use digital technology and data analytics to develop new value-added services for bundling with the energy we provide · Repositioning our role in the value chain as a way to transition into a new business model that suits the country or markets we are in 	<ul style="list-style-type: none"> · To play a meaningful role in smart infrastructure, we are starting to build our capability and to develop a strategy to manage data on a very large scale. We are also exploring the development of a platform for smart devices to plug into the electricity system on our grid and right across our business. · The two focuses of our Innovation Team are: to leverage on technologies and information to get better at what we do; and to develop new areas for our business. We are looking across all our assets and examining how digital technology platforms can help optimise the performance of our generation fleet and as we deepen our skills and capabilities in this area, we can consider the possibility of deriving new revenue streams from such capabilities. · With the potentially severe consequence of cyber threat (e.g. disruption of energy supply, theft of sensitive data leading to regulatory breach, and fraud or abuse of CLP brand incidents), we have enhanced internal capacity building, and stepped up our vigilance and detection of such incidents. · These are discussed further in the Intellectual Capital section.



Demographic and social change

Global population is growing but the demographic changes in different countries vary. While population in developed economies have stabilised or are diminishing and ageing, in developing economies such as Vietnam and India, populations continue to grow and the demographic profile is also younger.

But population is only one of the factors that determine the business opportunities present in the market, other factors include speed of economic development, regulatory policy and

how the energy transformation impacts these countries. For example, in some developing countries, there is the opportunity to bypass the grid and leapfrog to locally distributed technology as we saw with the telecommunication industry.

Risks	Opportunities	Actions taken
<ul style="list-style-type: none"> · Ageing workforce creating risks of declining productivity and safety performance · Increase in health care costs and sickness absenteeism · Pressures on long-term sustainability of pension funds · Inter-generational conflict as older workers seek to defer retirement and younger workers seek promotion 	<ul style="list-style-type: none"> · Younger generation more interested in studying Science, Technology, Engineering and Mathematics (STEM) subject areas because of the impact of new technology · Diversify our recruitment sources and increase workforce diversity with a focus on gender · Provide intelligent energy-related services to specific demographic segment, for example elderly customer group · Increase our market presence in markets with rapid population and economic growth 	<ul style="list-style-type: none"> · Ensuring sustainable retirement fund contributions · Monitoring sick leave and enhancing employee wellbeing related initiatives · Strengthening the health and safety function · In addition to energy supply, we are enhancing customer services to help our customers improve their energy efficiency and conserve energy through a range of smart energy services, diversifying our business and creating more value to our stakeholders.

More detail

Risk Management Approach

Read more about how we manage risks of our 2017 performance.

[See Our Approach](#)

Risk Management Report

Read this year's Risk Management Report in the Annual Report

[Visit Report](#)

New Horizons

Read more about the latest views, emerging trends and developments in the energy industry

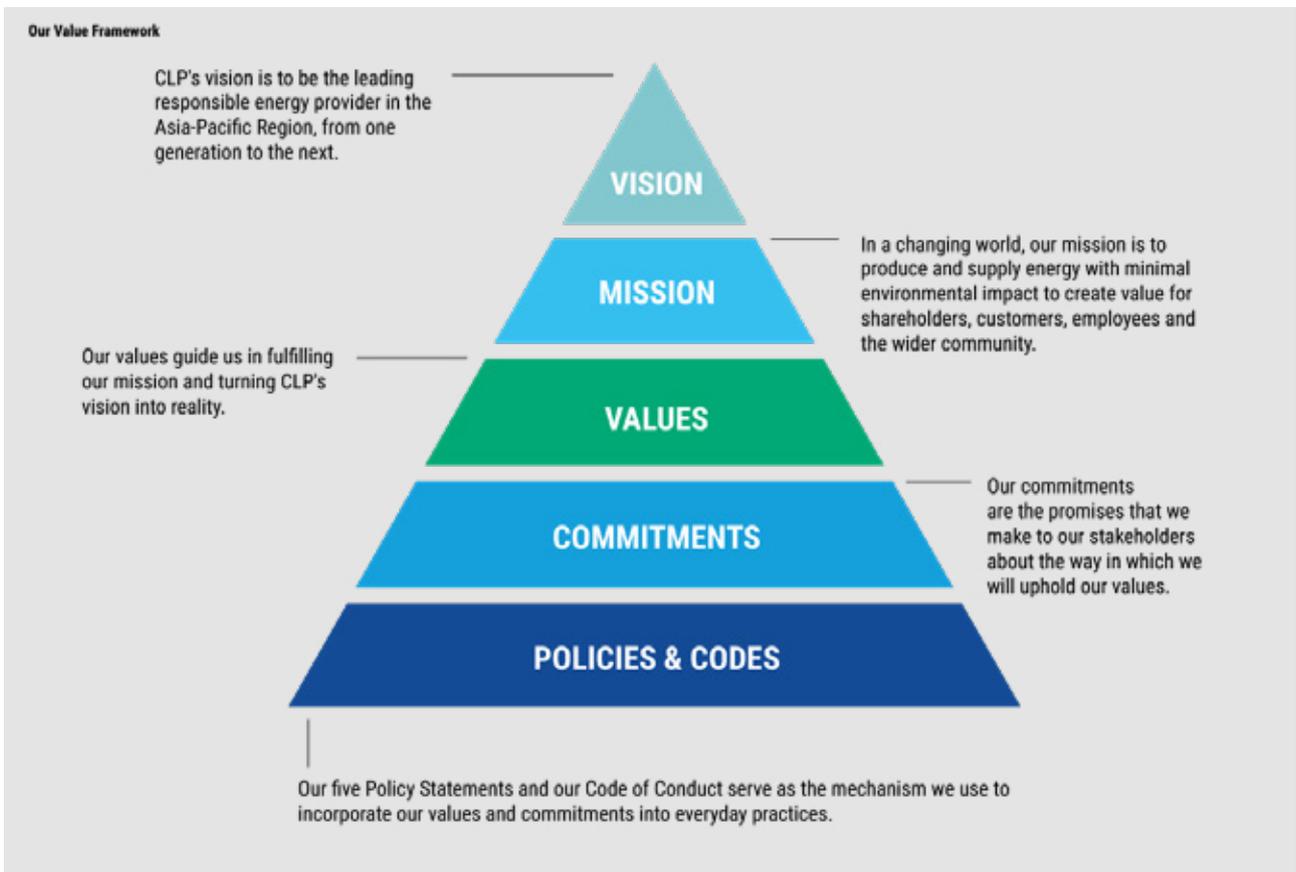
[Visit Site](#)

Sustainability at CLP

It is not just about what we deliver, but how we deliver and so we abide by the time-honoured values, principles and commitments that have been integral to CLP's success for over a century.



Sustainability at CLP



Our value framework

Our Value Framework reflects the moral compass of the company, articulating our values, as well as our vision, mission and commitments to our key stakeholders.

Our vision is to be the leading responsible energy provider in the Asia-Pacific region, from one generation to the next. Our mission is to produce and supply energy with minimal environmental impact to create value for shareholders, customers, employees and the wider community, in the context of a changing world.

These, together with our values and commitments made to our key stakeholders, are core to why sustainability is at the heart of our business. Having a set of unwavering values is critical

when changes in our business environment are constantly evolving and the relevant rules or precedents to establish good or best practice may not yet exist. Under such circumstances, our values which are grounded in the fundamental principle of “doing the right thing”, can enable us to innovate and continue to be an industry leader in our region, while minimising potential emerging risks.

Conducting our business in a socially and environmentally responsible way is not just an ethical obligation – it is good for a sustainable business.

[PDF](#) See our value framework and code of conduct

Sustainable development goals

In 2017, as we looked to develop actual targets, we further streamlined our focus to four priority SDGs we believed to be most relevant to our future business and on which we can make a significant impact.



SDG 13
Climate Action



SDG 7
Affordable & Clean Energy

Climate change is undoubtedly one of the most critical environmental-related challenges for the power sector given it is one of the key sectors contributing to greenhouse gas emissions. One of the solutions for the power sector to address this challenge and to reduce its air pollutant emissions is to provide affordable and clean energy. Our Climate Vision 2050 launched over a decade ago is testimony to how serious we are in tackling the climate change challenge and in 2017, we continued along our journey by updating our Climate Vision 2050 targets. The details of the new targets are described in the section on Climate Vision 2050. In summary, they include:

- new “Energy Transition Targets”, which are a set of decadal carbon intensity reduction targets spanning out to 2050, contributing to **SDG 13** under our Environment focus area; and
- new “Clean Energy Targets”, which are renewable and non-carbon emitting capacity targets for 2030 which contribute to **SDG 7**, addressing both our Environment and Economic focus areas, given the context that providing energy is our core business.



SDG 8
Decent Work & Economic Growth

Decent Work, a concept which incorporates contractual working arrangements and terms and conditions of work, is key to attracting and retaining the talent needed for powering sustainable business and economic growth. Hence, **SDG 8** is an important priority goal covering both our People and Economic focus areas. This goal makes specific reference to equal pay for work of equal value, which is a target we have already set internally to support our gender diversity initiatives. We have developed the following set of targets to help widen the pipeline of females to support our future business strategy:

- for Women in Leadership (WIL), achieve gender balance in leadership positions by 2030, compared to a 2016 baseline of 22%;
- for Women in Engineering (WIE), achieve 30% of our engineers to be females by 2030, compared to a 2016 baseline of 9%; and
- ensure equal pay for work of equal value is maintained in all our businesses, any gender pay equity gap for females is eliminated, and we will meet all relevant local compliance and disclosure standards.

CLP's Priorities and the relevant SDGs mapped on to our Sustainability Focus Areas:



SDG 9
Industry, Innovation & Infrastructure

We are an industry player in the energy infrastructure sector and we must continually innovate to sustain our business. Our infrastructure is built to support the sustainable development of the communities we operate in and so **SDG 9** was deemed an appropriate priority goal for our Economic and Community focus areas. Although we are a power company that has been constantly innovating over the last century, the quickening pace of change in the past two decades has given rise to the need for additional channels of innovation. Commensurate with the endeavours of our new Group Innovation team set up in 2016, we have begun to explore new potential relevant metrics and targets and will report on them once they have been developed.

Climate Vision 2050

Much has happened since we published our Climate Vision 2050 back in 2007, ranging from the changing momentum of the international climate agreement, to advances in science and technology, to changes in social expectations.

In 2017, we undertook a review of our Climate Vision 2050 by carrying out scenario analyses to test the impact on our business of varying speeds of transition to a low carbon future in the markets where we operate, along with different choices we may make in implementing our strategy. Based on business plan projections, the regional context for energy market development and technologies that exist today, we developed scenarios of varying ambition on how our business would look under 'slow', 'medium' and 'fast' transition scenarios and set them against the International Energy Agency's Energy Outlook 2016 projections for world and regional energy development. It appeared that the targets we set a decade ago have predicted the future to some degree – they were close to the 'New Policies Scenarios' which assumes that countries meet their Nationally Determined Contribution (NDC) targets submitted under the Paris Agreement.

Although the original targets would still seem to be valid in terms of reflecting the more realistic pace of change in our region, we believed there was room to strengthen them. We

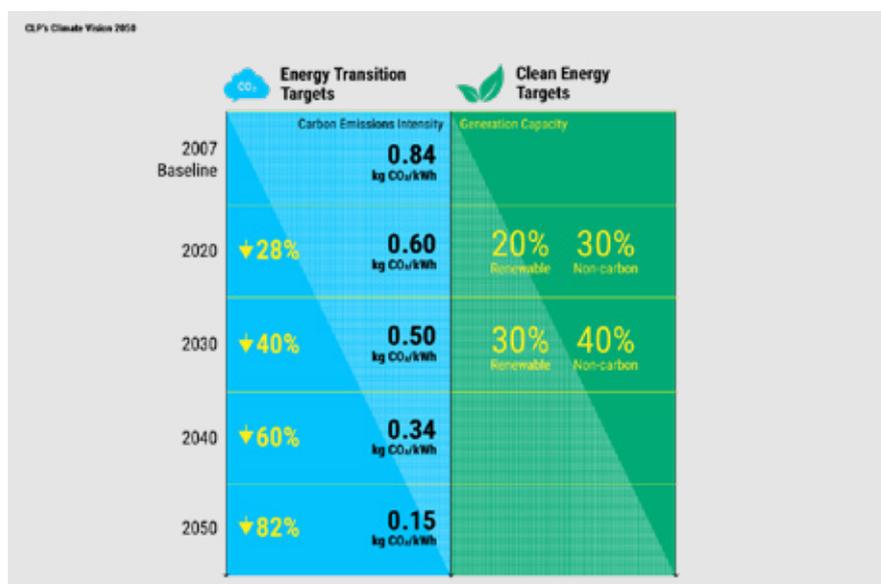
tightened our target for 2050, thus moving our trajectory a step closer towards a carbon neutral world. These new targets will of course still be challenging, even though we have considered the pace and realities of the development of energy markets in the Asia Pacific region.

Changes to the targets include:

- Tightening of our cornerstone carbon intensity reduction target from 75% to 82% by 2050 (compared to 2007);
- Developing new interim carbon intensity reduction targets of 40% by 2030 and 60% by 2040 (compared to 2007), while taking away the carbon intensity reduction target of 46% by 2035 to align with international convention; and
- Establishing a renewable energy target of 30% and a non-carbon emitting target of 40% by 2030.

In order to reflect more holistically on our generation capacity requirements, we will also begin to report our progress on these targets on a basis that includes capacity purchase, in addition to what we own. We will continue to regularly review our targets to ensure we take into consideration the momentum of change over time.

[Find out our progress towards these targets](#)



More detail

Our Sustainability Governance

We integrate sustainability-related governance into our corporate governance structure from the Board level down to the operational business unit level.

[Read more](#)

Compliance and Beyond

We comply with laws and regulations, and voluntarily follow standards that reflect our principles and values.

[Read more](#)

Our Sustainability Governance

To pursue new opportunities in a changing business environment, appropriate governance is key to ensuring relevant emerging risks are being managed and the interests of our stakeholders are safeguarded.

Governance Oversight

The [CLP Code of Governance \(The CLP Code\)](#) is our own unique code on corporate governance. It guides our policies and underpins our success. It covers all our business and applies to all directors, officers and employees of CLP Holdings and its subsidiaries. The Code incorporates and goes beyond the principles of good corporate governance, and the two levels of recommendations in The Corporate Governance Code and Corporate Governance Report of the Hong Kong Stock Exchange. The only exception to this is that we do not publish quarterly reports as we do not believe that it is necessary or ultimately of benefit to our shareholders for reasons that we have explained in full on our [website](#).

Our overall sustainability management process is overseen by the Board through the Sustainability Committee; and the Sustainability Executive Committee is responsible for the strategy and execution. With sustainability embedded into our business operations, we have a set of codes and policies, systems, standards and guidelines in place to govern the financial, social, environmental and governance-related aspects of our business at different level.



Board Diversity

We believe that board diversity enhances decision-making capability and a diverse board is more effective in dealing with organisational changes and less likely to suffer from group thinking. It is also an essential element contributing to the sustainable development of the Company.

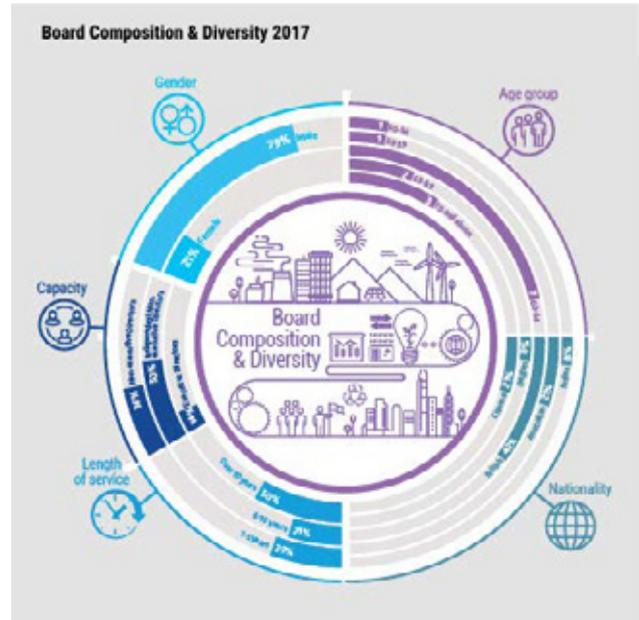
The Value in Board Diversity

- Enhances decision-making capacity;
- Improves effectiveness in dealing with organisational changes;
- Reduces likelihood of group thinking; and
- Contributes to sustainable development.

How is this Relevant to our Shareholders?

- The Nomination Committee reviews the Board Diversity Policy periodically;
- Shareholders approve the election or re-election of Directors;
- Directors and the Board are responsible for promoting the shareholders' interests;
- Shareholders need to be satisfied with the level of board diversity; and
- We are committed to providing shareholders sufficient information to access our board diversity.

[Read more about how we maintain Board diversity](#)



Board Committees

Good corporate governance is the foundation of a responsible business, and a key enabler of long-term value creation. It is a conscious decision to do the right thing as a company. It promotes and safeguards the interests of our stakeholders, and enhances our credibility and reputation.

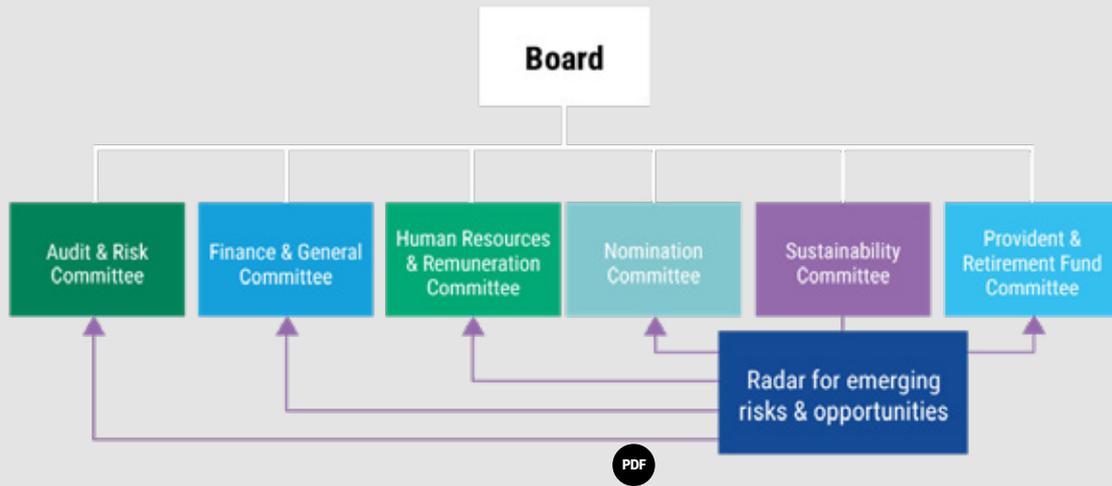
Key aspects of our corporate governance policies and practices are detailed elsewhere in this website and in our Annual Report:

[Read more about Corporate Governance](#)

[Read the Corporate Governance Report in the 2017 Annual Report](#)



Role of the Sustainability Committee



Sustainability Committee

The Sustainability Committee oversees our positions and practices on sustainability issues, principally in relation to social, environmental and ethical matters that affect shareholders and other key stakeholders. Chaired by the CEO, it is the highest governance body on these issues and is chaired by the CEO.

The Committee's primary responsibilities include:

- Reviewing, endorsing and reporting to the Board on CLP's sustainability frameworks, standards, priorities and goals and overseeing CLP group-level strategies, policies and practices on sustainability matters to attain those standards and goals;
- Reviewing and reporting to relevant Board Committees on key international sustainability trends, benchmarking against peers, sustainability risks and opportunities and other emerging issues;
- Overseeing, reviewing and evaluating CLP Group's sustainability performance in terms of internationally-recognised metrics relevant to the industry, as well as the requirements of sustainability stock indices and the desirability of CLP's inclusion in those indices;

- Reviewing and advising the Board on CLP's public reporting with regard to its performance on sustainability matters; and
- Overseeing CLP's community, charitable and environmental partnerships, strategies and related group-level policies and making recommendations to the Board on any changes to those partnerships, strategies and policies.

Radar for emerging risks & opportunities

Sustainability Committee, Provident & Retirement Fund Committee, Audit & Risk Committee, Finance & General Committee, Human Resources & Remuneration Committee, Nomination Committee

[PDF Read the Terms of Reference of the Sustainability Committee](#)

[PDF Read the full report on the Sustainability Committee's activities for 2017](#)



Audit & Risk Committee

A key responsibility of the Audit & Risk Committee is to maintain oversight of our overall risk management process, so as to assure that adequate risk management and internal controls systems are in place and followed. Risks are managed at both the strategic and operational level, to ensure that we can pursue long-term growth and sustainability of our business, without losing sights of the day-to-day operations are meeting the needs of our broad range of stakeholders, both now and into the future.

Specifically, in relation to management of sustainability issues, the Audit & Risk Committee is responsible for reviewing and making sure that the assurance of relevant data in the Sustainability Report is appropriate. Our financial auditor is also responsible for assuring our Environmental, Social and Governance (ESG) data, and the results are presented to Senior Management and the Board through the Audit & Risk Committee.

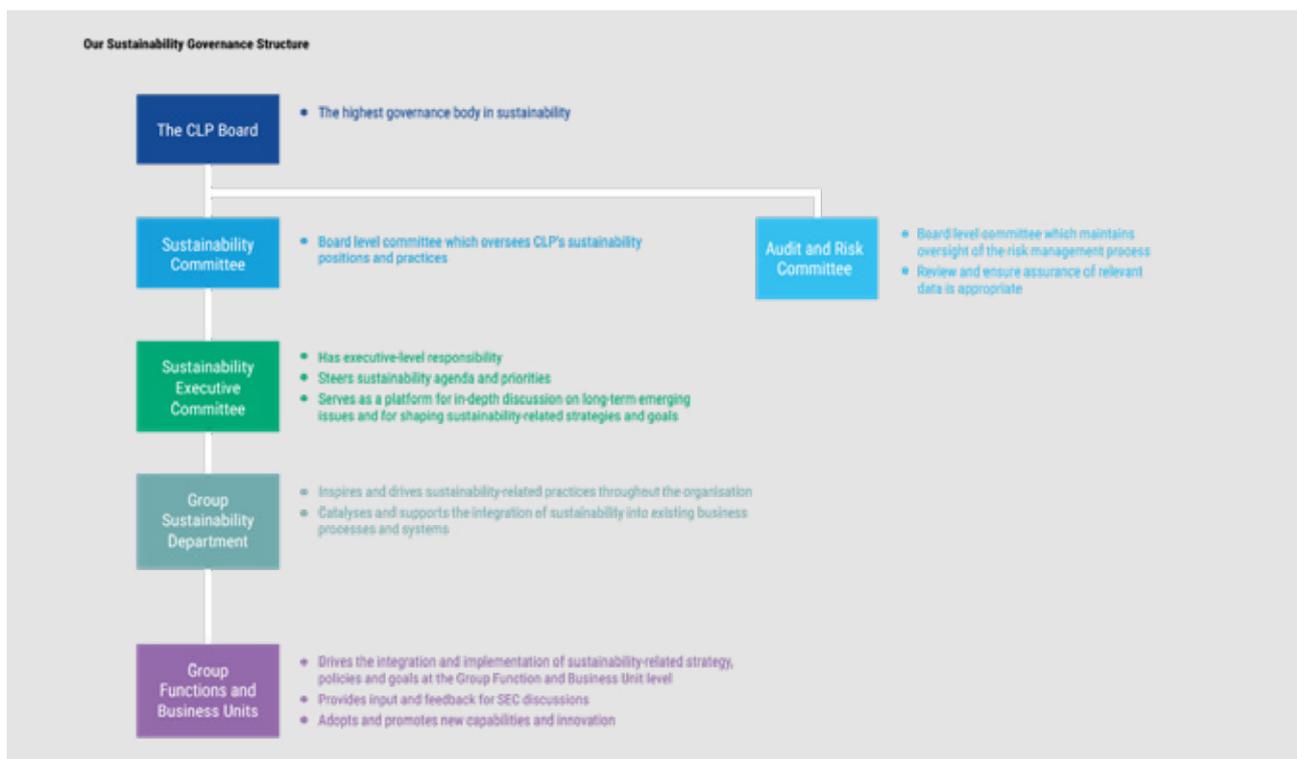
[Read the Terms of Reference of the Audit and Risk Committee](#)

[Read the Audit and Risk Committee Report for 2017](#)

Sustainability Executive Committee

The CEO, who is a member of the CLP Board and is the Chair of the Sustainability Committee, has executive level responsibility for economic, environmental and social-related matters. The Sustainability Executive Committee (SEC), which comprises CLP Group's corporate senior executives, was set up in 2016 and is also chaired by the CEO. The SEC discusses, shapes and steers the sustainability agenda and relevant deliverables. It is also the platform for in-depth discussion on new emerging issues and for shaping relevant new strategies. The General Representation Letter in connection with the assurance of our selected ESG data is jointly signed off by our CEO and CFO.

The Group Sustainability Department (GSD) is responsible for supporting the SEC in driving sustainability-related issues to the Board level, as well as throughout the organisation - from the Group functions to employees at the business unit level. GSD also convenes the Group Sustainability Forum to facilitate the integration and implementation of sustainability into our existing business processes and systems, from informing our business strategy development and planning processes, to improving our operational performance and corporate reporting. It also inspires and supports the incubation of new capabilities and innovation at the operational level.



Compliance and Beyond

Meeting applicable laws and regulations is just the minimum; we go beyond compliance and follow voluntary standards that reflect our principles and values.

GRI Most Material Topic : Anti-corruption

Code of Conduct and Anti-corruption

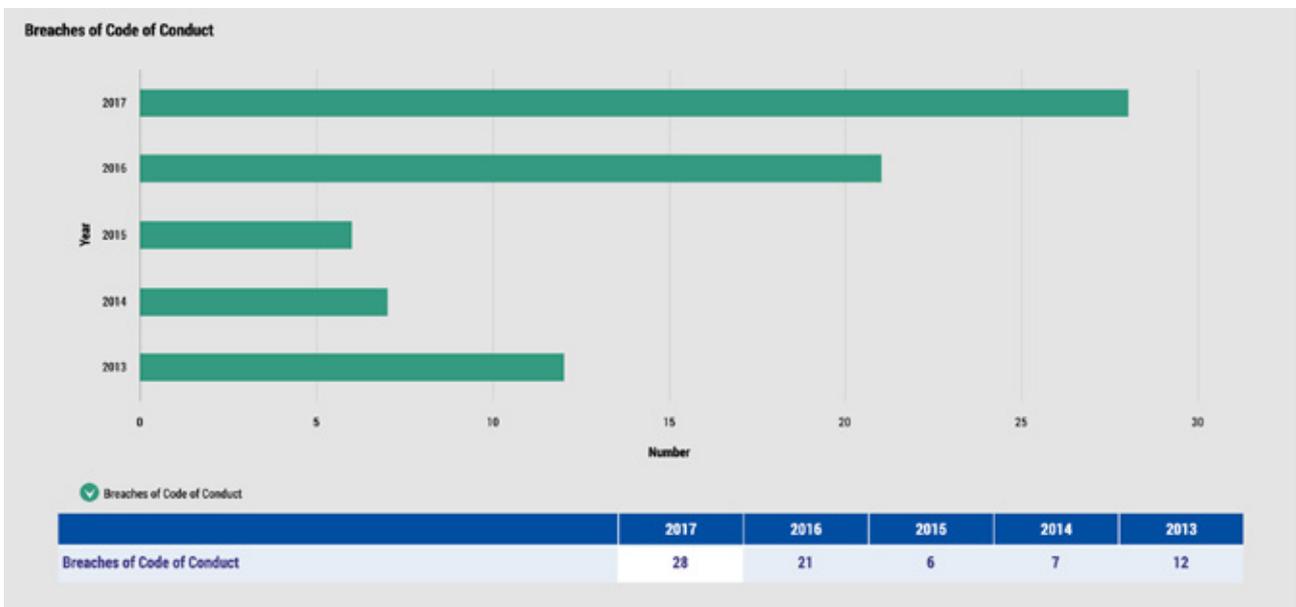
We are committed to acting with integrity in all our business activities as it is a vital to in building the trust that has ensured our continued expansion for more than a century.

All our employees are expected to fully adhere to the principles contained in the [Code of Conduct](#) which has been aligned across the CLP Group. Management and staff receive training on the Code and its implications periodically. In addition, those above a designated level or in certain functions are required to sign annual statements confirming compliance with the Code.

In 2017, we conducted a company-wide Business Practice

Review (BPR) process for all staff (except for our Australian employees who are not due for the BPR until 2018). This is a regular process conducted every four years to review the principles of the Code of Conduct, and ensure business practices comply with the Code. Any potential issues are raised and reviewed with higher management. A number of case studies based on past violations are also included to highlight how to properly handle potential and actual Code of Conduct violation situations. Contractors are encouraged to attend the BPR sessions along with CLP employees.

During 2017, there were 28 breaches (2016: 21) of the Code. None of the 28 breaches in 2017 was material to the Group's



financial statements or overall operation and none involved Senior Management. The breaches were mainly related to issues of workplace behaviour. Sanctions ranged from reprimands to dismissals. Compared to the previous years, the relatively higher number of breaches in 2016 and 2017 reflected the improved identification and stricter enforcement of work place behaviour requirements.

Our Code of Conduct is the tool we use to guard against corruption within CLP. We take corruption seriously, and cases of corruption are externally reported and the data is verified by a third party before results are reported externally. In 2017, we had no case of corruption at CLP (2016:nil).

The [Whistleblowing Policy](#) is in place to encourage employees and related third parties (such as customers and suppliers) who deal with the Company to raise concerns, in confidence, about misconduct, malpractice or irregularities in any matters related to the Company. During 2017, there were 11 reported cases of whistleblowing (2016: 23).

[Read more about how we monitor and address violations to the Code](#)

GRI Material Topic : Anti-competitive Behavior

GRI Material Topic : Customer Health and Safety

GRI Material Topic : Rights of Indigenous Peoples

GRI Most Material Topic : Socioeconomic Compliance

Legal compliance

Under our [Value Framework and Code of Conduct](#), it is imperative that we comply with all laws and regulations in markets where we operate, and we are prepared to forego opportunity or advantage in order to maintain our high standards of corporate governance and integrity. Beyond compliance, we voluntarily follow other standards that reflect our principles and values.

The CLP Group operates in a number of different jurisdictions with different legal and regulatory requirements. Compliance with legal and regulatory requirements in the jurisdictions that we operate in has always been, and will continue to be a matter of top priority for us.

The CLP-wide reporting system for Code of Conduct violations applies to any alleged or potential breaches of the Code of Conduct. All CLP staff are expected to co-operate fully in the investigation of any alleged violation, and disciplinary action applies to any staff that has been found in breach of the Code.

To uphold the spirit of transparency and accountability, we report our legal non-compliances on an annual basis in our Sustainability Report. These include convicted criminal cases where CLP is a named defendant, and major breaches that result in significant fines or non-monetary sanctions. In 2017, our performance in the different areas is summarised below, grouped based on the GRI Standards and the HKEx ESG Reporting Guide:



		Number of cases
Business practices	Anti-corruption	No reportable case. Read more in the Code of Conduct and Anti-corruption section.
	Anti-competitive behaviour	In 2017, there were no new legal cases regarding anti-competitive behaviour There is one existing and previously reported case involving our Ho-Ping Power Station in Taiwan, in which the CLP Group has an effective 20% equity interest. The Ho-Ping litigation is for alleged concerted action with other independent power producers (IPPs) in violation of the 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 will return to the THAC for re-examination. In May 2017 the THAC ruled again in favour of Ho-Ping and rejected the FTC's decision. The FTC has filed a further appeal which is being reviewed by the SAC. Ho-Ping will continue to pursue and defend its position.
Employees and contractors	Employment practices	No reportable case.
	Labour standards (child and forced labour)	No reportable case.
	Occupational health and safety	No reportable case. Read more in the Safety performance section.
Customer	Customer privacy	No reportable case. Read more in the Customer privacy section.
	Product and service Information and labelling and marketing information	No reportable case in Hong Kong. EnergyAustralia reported some instances of non-compliance with information, contractual and billing requirements under the National Energy Retail Rules and the Victorian Energy Retail Code. Read more in the Customer section.
	Customer health and safety	No reportable case in Hong Kong. Read more in the Health and safety section.
Community	Rights of indigenous people	No reportable case.
Environment		A total of 13 environmental licence limit exceedances in 2017. Read more in the Environmental regulatory compliance section.

We are exposed to the risk of contractual disputes and litigation in the course of our normal operations. The Group considers each instance separately in accordance with legal advice and will make provision and / or disclose information as appropriate. Our financial statements in our [Annual Report](#) include disclosure of the following cases under "Contingent Liabilities":

- CLP India – Deemed Generation Incentive Payment and Interest on Deemed Loans;
- Indian Wind Power Projects – Wind World India Limited (WWIL)'s Contracts;
- JPL – Disputed Charges with Offtakers; and
- EnergyAustralia – Disposal of Iona Gas Plant.

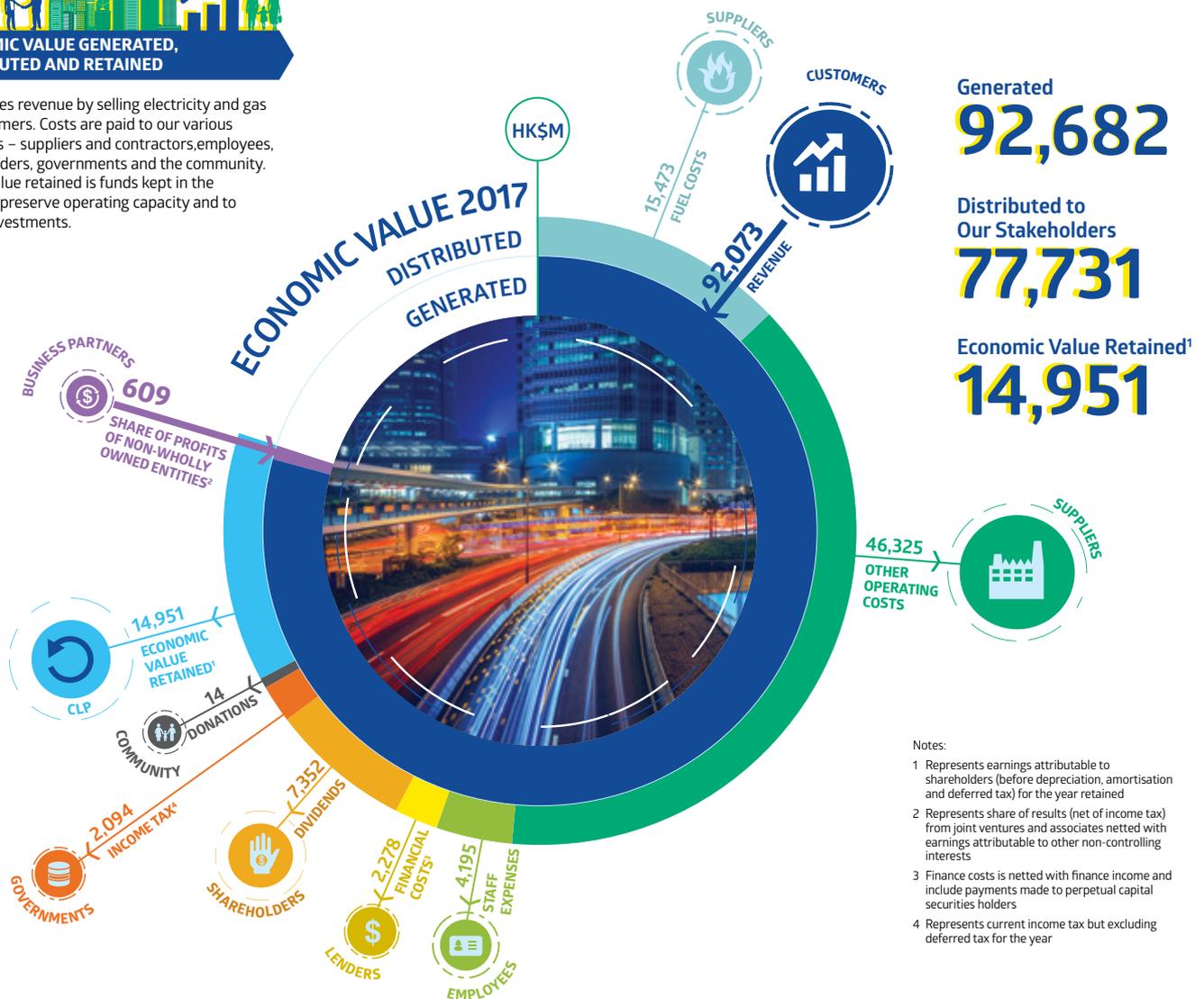
We often find ourselves faced with an evolving legal and regulatory regime that affects our operations. We closely monitor emerging regulations, and ensure we are well-prepared for any new regulations even before they become effective.

Financial Capital

Our contribution to society is far beyond the profit we generate for our shareholders. We also create value for other stakeholders – about 84% of our revenue was redistributed back to our stakeholders through our expenses and payment in 2017.



CLP generates revenue by selling electricity and gas to our customers. Costs are paid to our various stakeholders – suppliers and contractors, employees, capital providers, governments and the community. Economic value retained is funds kept in the company to preserve operating capacity and to fund new investments.



Notes:

- 1 Represents earnings attributable to shareholders (before depreciation, amortisation and deferred tax) for the year retained
- 2 Represents share of results (net of income tax) from joint ventures and associates netted with earnings attributable to other non-controlling interests
- 3 Finance costs is netted with finance income and include payments made to perpetual capital securities holders
- 4 Represents current income tax but excluding deferred tax for the year



Interview with Geert Peeters, Chief Financial Officer of CLP Group

“As we move towards a lower carbon future, it is important that we explore new and innovative ways of financing energy transition in the markets where we operate.”

What were the highlights for you in 2017?

Despite turbulence in the financial markets, shortage in the Australian energy market and oversupply of power in China, we had a strong year achieving on business performance and earnings, while maintaining a robust financial structure and strong investment grade credit ratings. In 2017, our Standard & Poor's (S&P) credit ratings were upgraded across the board, with CLP Holdings moving from A- to A, CLP Power Hong Kong from A to A+ and EnergyAustralia from BBB to BBB+. In addition, for the first time, S&P assigned a credit rating of AA- to CAPCO. We see these upgrades as an endorsement to CLP's business strategy, fundamentals and financial philosophy, which emphasizes discipline, proactiveness and diversification.

As we move towards a lower carbon future, it is important that we explore new and innovative ways of financing energy transition in the markets where we operate. In 2017, we developed the Climate Action Finance Framework (CAFF) to set a foundation for providing more low carbon financing options for investors to meet their increasing ESG investment requirements, while contributing to the development of CLP's new low carbon energy infrastructure. The first bond issued under the CAFF was an Energy Transition Bond to finance the construction of a new 550MW combined cycle gas turbine generation unit (CCGT) at Black Point Power Station in Hong Kong, supporting our transition away from coal. As the first benchmark USD Energy Transition Bond issued globally, this bond was the first of its kind in the world.

As CLP invests more into the future, how do you explain to shareholders who may have concerns?

First, it is important to note that while we have increased our investments, we have maintained a strong balance sheet and even strengthened our credit ratings. The company generates strong cash flows, approximately two thirds of which are re-invested. Our disciplined financial strategy is aimed at keeping a sustainable balance between growth, energy and technological transition, financial strength and dependable investor return. CLP has a very long track record of delivering on this and it is key in our integrated decision-making.

What trends are pushing sustainability into the realm of finance?

Post the climate conference in Paris, we are definitely seeing more proactive engagement from many stakeholders and in particular from the financing community. There is a consensus that climate change has far reaching impacts for human kind and that businesses in general and utilities in particular, have to relentlessly seek solutions to move us towards a lower carbon pathway. I see the emergence of a combination of: i) enablers from technology and aspiration, such as CLP's updated Climate Vision; with ii) the 'carrot' from the rapidly increasing green financing market; and iii) the 'stick' from increased shareholder positioning and activism on the topic of climate change and ESG-related matters.

At CLP, we proactively respond to this both through action and communication, as a pioneer in aspirational Climate Vision setting, investment in renewable assets in Asia-Pacific and finally as an early adopter and promoter of integrated reporting. This early adoption of sound voluntary ESG principles has prepared us very well for what is increasingly becoming required ESG practices, in particular in the equity and public debt markets.

We see integrated reporting playing an important role in helping to communicate a more holistic view on how a company is being managed. A sustainable company is one that does not just focus on financial delivery, but it must also be able to sustainably and ethically manage its human, social, intellectual, manufactured and natural capitals, as they are all critical to the company's long-term existence. At the end of the day, sustainability is about being able to anticipate emerging risks and opportunities and making appropriately balanced decisions at the right time and place. This means we must have an integrated approach not only in our reporting, but also in our thinking and our decision-making.



Topics covered in this chapter

Sharing the economic value generated

GRI Most Material

· Economic Performance

GRI Material

· Indirect Economic Performance

Financing climate transition

Strengthening our Hong Kong market

GRI Most Material

· Availability and Reliability

Growing our business

GRI Most Material

· Anti-corruption

GRI Material

· Anti-competitive behaviour

How we manage Financial Capital

> Our Management Approach

GRI Most Material topic:
Economic performance

GRI Material topic:
Indirect Economic Impacts



Sharing the economic value generated

We create value not only for our shareholders, but also for our other stakeholders. The indirect economic value that we create is an important part of what makes our business sustainable.

A prudent approach

Our Value Framework specifies our commitment to the responsible management of our investment and business risks and investing to build on and preserve the value of our assets, capabilities and relationships.

The power industry is recognised for its high investment costs, capital intensity and long payback periods with compounding risk factors. The ability to arrange timely, cost-effective, diversified, multiple-tenured and sustainable funding is critical in managing and growing our business. Our shareholders and business partners place high value on our consistent commitment to prudent and vigilant financial management. We are highly committed to preserving our robust capital structure, maintaining strong investment grade credit ratings, keeping and cultivating good, long-term business relationships with lenders and investors, and reserving financial strength and flexibility to meet business objectives and contingencies.

With our growing, cross-border business portfolio, we are exposed to multiple risks in liquidity, financing and refinancing, foreign exchange, interest rates, counterparties and compliance. CLP Group requires all business units to clearly identify, carefully monitor and effectively manage their financial-related exposure, both in policy formulation and implementation.

Identifying potential financial market risks is only the first step of our financial strategy. A holistic risk management framework with effective implementation helps CLP protect profit and improve the reliability of cash flows to contribute to the financial strength of our business and create value for our shareholders. Equally important is the swift and rigorous implementation of policies and procedures put in place to mitigate the potential risks to the business in areas such as funding, foreign currency, interest rates, credit rating and counterparty risks.



Economic value generated and distributed

Our contribution to society is beyond the profit we generate for our shareholders. Revenue can be viewed as part of the economic value CLP has created in the provision of electricity and gas supplied to our customers. The payment of expenses can be considered as the distribution of economic value to our

various stakeholders – suppliers and contractors, employees, capital providers, governments and the wider community. Economic value retained in CLP represents the reinvestment made to preserve operating capacity and to fund new investments. Please see how the economic value we generate is redistributed on the [Financial Capital](#) landing page.

Financial performance in 2017

We worked hard to deliver a highly reliable, environmentally responsible and safe electricity supply to customers in 2017. In 2017, operating earnings from our energy business increased 7.9% from a year ago to HK\$13,307 million.

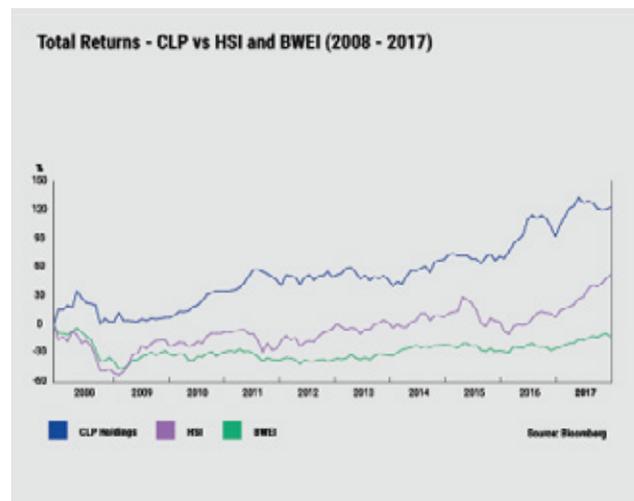
In 2017, we paid interim dividends to our shareholders of of HK\$1.77 (2016: HK\$1.71) per share for the first to third quarters, totalling HK\$4,472 million (2016: HK\$4,320 million). The fourth interim dividend of HK\$1.14 (2016: HK\$1.09) per share totalling HK\$2,880 million (2016: HK\$2,754 million), to be paid on 22 March 2018. This represents a dividend payout ratio for the year of 55% of operating earnings.

Despite uncertainties arising from new global political and economic order, financial markets continued to advance through much of 2017. The interest rate increase and market movements presented corporates with challenges and opportunities depending on their financial discipline, competency, and readiness to deal with market fluctuations. At CLP, we remained focused on our well-proven financial philosophy and deployed our financial flexibility and capability to diversify so that we could navigate through the volatile market in support of our business strategy.

In 2017, the average closing price of CLP's shares was HK\$80.47, an increase of 8.7% when compared with the average of 2016. The share price appreciated strongly during the first half of the year. The lowest closing price for the year of HK\$72.55 was recorded on 3 January and the highest closing price of the year of HK\$85.30 occurred on 1 June. The share price stabilised over the middle of the year and then declined towards year-end. This was largely driven by growing concerns that the U.S. Federal Reserve would increase interest rates and that Hong Kong utilities have in the past demonstrated an inverse correlation with rising interest rates. The share price ended the year at HK\$79.95.

Compared with the starting position on 1 January 2017, CLP's share price gained 12.2%. The HSI and the Bloomberg World Electric Index (BWEI) were up by 36.0% and 11.4% respectively, recovering strongly after making minimal growth or lost in 2016.

This comparison is shown in the chart on the right.



PDF

Find out more in the Financial Review section of our Annual Report

Credit ratings

CLP always strives to maintain strong investment grade credit ratings. In 2017, our commitment and initiatives to support a strong financial position were recognised by positive rating actions from S&P. In 2017, S&P upgraded the ratings of CLPH, CLP Power Hong Kong and Energy Australia to A (from A-), A+ (from A) and BBB+ (from BBB) respectively. CAPCO received AA- and A1 from S&P and Moody's respectively for the first time.

The credit ratings of major companies within the Group as at 31 December 2017 are summarised in the table below.



Our Credit Ratings

	S&P	Moody's
CLP Holdings	↑ A / Stable	A2 / Stable
CLP Power Hong Kong	↑ A+ / Stable	A1 / Stable
CAPCO	AA- / Stable	A1 / Stable
EnergyAustralia	↑ BBB+ / Stable	not applicable
Positives	<ul style="list-style-type: none"> · CLP Holdings' financial performance to improve after Yangjiang investment · Enhanced capital structure of CAPCO · Favourable regulatory and operating conditions in Hong Kong · EnergyAustralia's secured long-term fuel supply to support stable operation 	<ul style="list-style-type: none"> · Strong financial profile, supported by predictable regulated cash flows from Hong Kong business · Well-managed debt maturity and sound liquidity profile, supported by good access to diversified funding
Negatives	<ul style="list-style-type: none"> · Lower permitted rate of return on assets under new SoC agreement · Uncertainty from the legal proceedings against EnergyAustralia with respect to its sale of Iona Gas Storage 	<ul style="list-style-type: none"> · Overseas and unregulated business investments increase risk profile · The upcoming reduction in permitted regulated returns in Hong Kong



Financing climate transition

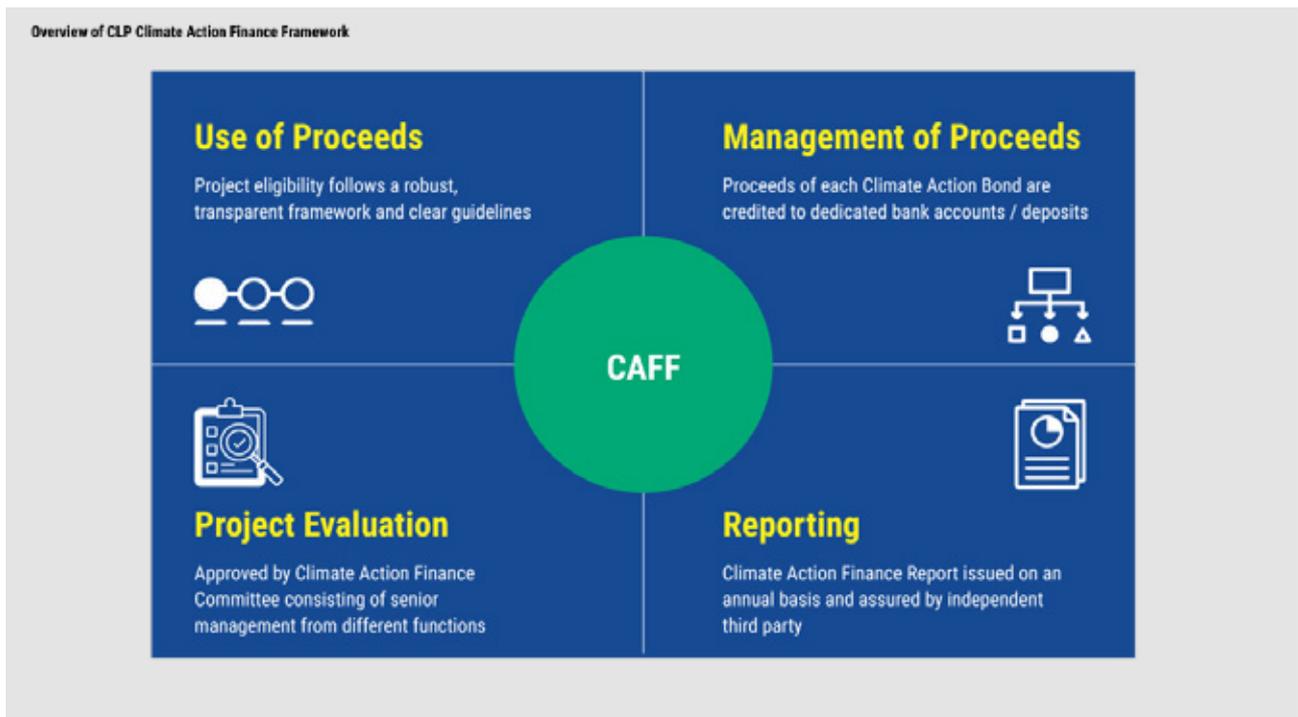
Our Climate Action Finance Framework sets out how we may raise green and sustainable financing to invest in projects that can reduce the carbon footprint of our business.

CLP Climate Action Finance Framework

The objective of the [Climate Action Finance Framework \(CAFF\)](#) is to support the transition to a low carbon economy by attracting socially responsible, sustainable financing, to support CLP's investments that reduce the carbon content of energy generated and increase the efficiency of energy usage.

Established in July 2017, the CAFF formalises and governs project evaluation, monitoring and reporting the use of proceeds for Climate Action Bond issuances. Two types of Climate Action Bonds can be issued under the CAFF, which are:

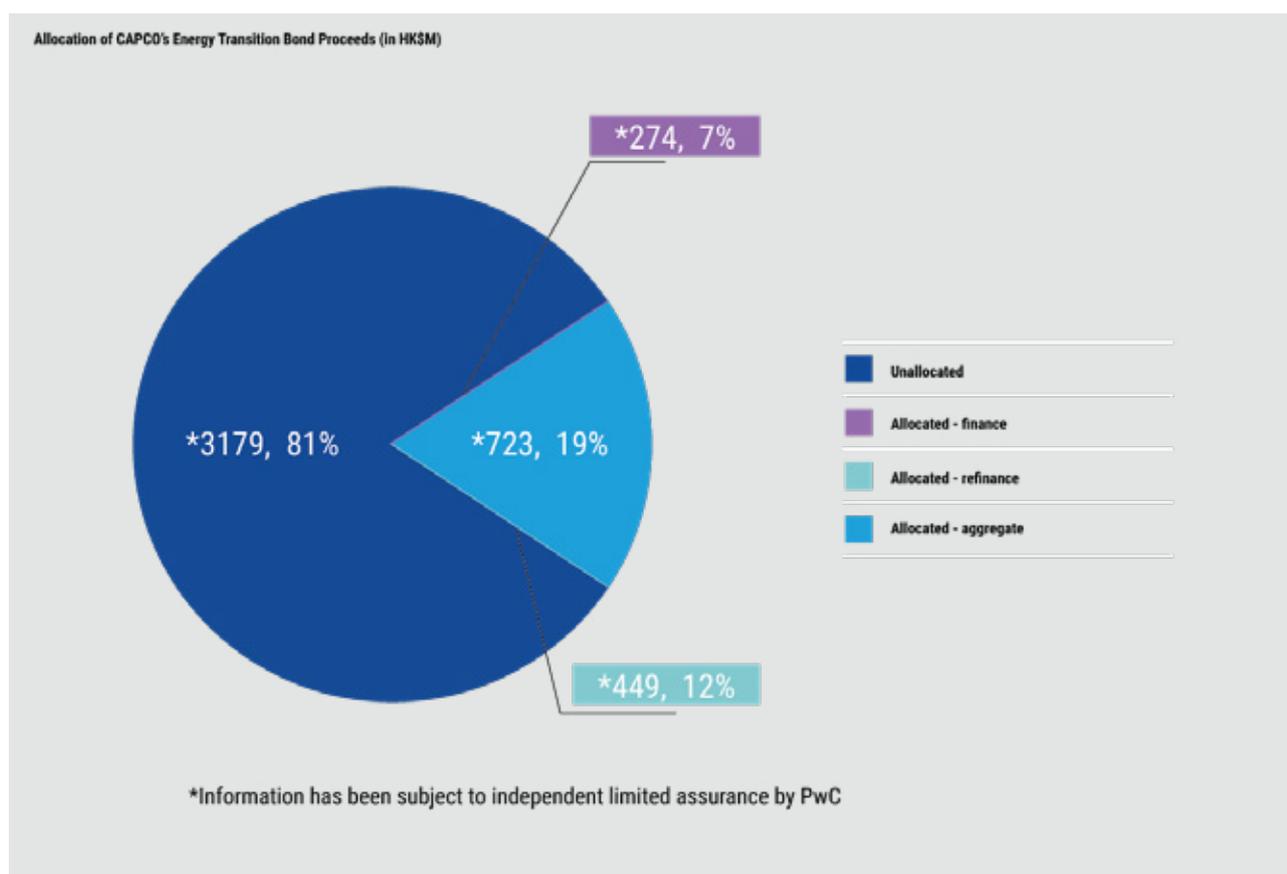
- Energy Transition / Emission Reduction Bonds whose use of proceeds is to develop gas-fired power plants to support the transition from coal-fired power generation in markets with limited renewable energy resources; and
- New Energy Bonds whose use of proceeds is to develop renewable energy, energy efficiency and low emissions transportation infrastructure projects.



All eligible projects of the CAFF undergo a rigorous review and approval process within a robust, transparent framework with clear guidelines. CLP has established a Climate Action Finance Committee (the Committee) with the responsibility for governing the CAFF, including approval of Climate Action Bond issuance and determination of the eligibility of proposed use of proceeds. The Committee consists of CLP Executive Director and Chief Financial Officer and senior managers from our sustainability, finance and legal departments.

DNV GL, an independent consultant and a leading provider of green bond independent assessment, has provided a second party opinion on the CAFF, confirming that there are environmental benefits for the investments to be funded under the CAFF.

[Download CLP Climate Action Finance Report 2017](#)



Inaugural issue of Energy Transition Bond

Castle Peak Power Company Limited (CAPCO), a key subsidiary of CLP engaging in the electricity generation business in Hong Kong, successfully issued a US\$500 million 10-year inaugural Energy Transition Bond under the CAFF in July 2017.

The proceeds from the bond will be used to finance the construction of a new 550MW combined cycle gas turbine generation unit (CCGT) at CAPCO's Black Point Power Station in Hong Kong. The new unit will employ the latest gas turbine technology to achieve high thermal efficiency and a lower carbon emissions intensity than the average of the generation units currently used in Hong Kong.

CAPCO's Energy Transition Bond Details

Issuer	Castle Peak Power Finance Company Limited
Guarantor	Castle Peak Power Company Limited
Issue Date	25 July 2017
Tenor	10 years
Nominal Issued Amount	US\$500 million
Issue Price	99.417%
Listing	The Stock Exchange of Hong Kong
ISIN Code	XS1648263926

The issue, which is the first benchmark USD Energy Transition Bond globally, was more than 2.5 times over-subscribed with over US\$1.25 billion in orders from global investors, many of whom are environmental, social and governance motivated institutional investors.

The construction of the new CCGT is a critical component of CLP's contribution to the implementation of Hong Kong Government's Climate Action Plan 2030+ to reduce Hong Kong's carbon intensity by 65% to 70% by 2030 compared with the 2005 level, which includes the policy of increasing the share of gas in the Hong Kong's fuel mix for power generation to around 50% in 2020 from the current level of around 27%. This Energy Transition Bond was listed in the Stock Exchange of Hong Kong, which also supports the Hong Kong Government's ambition to promote Hong Kong as a green financing hub.



Read more on our first issue of Energy Transition Bond



Strengthening our Hong Kong market

Hong Kong is our home base and our core market, where we serve around 80% of the population. It continues to present new opportunities as demand for electricity and their related delivery infrastructures grows.

Scheme of Control review

Electricity in Hong Kong is supplied by two vertically integrated utilities, each serving different geographical areas. They are regulated by the Government under a Scheme of Control (SoC) framework, which requires them to invest to meet the demand for electricity and allows them to earn a return based on the capital investment in fixed assets made to supply electricity.

As one of the electricity utilities in Hong Kong, we are required to conduct our business in a manner that is compatible with the environmental and economic needs of the community. The first SoC was in place in 1964 and for over half a century, it has been effective in keeping pace with changing times to meet community expectations. It has provided regulatory and economic certainty, enabling us to meet the needs of our customers with reliable power at reasonable tariff levels.

[Read more on the Scheme of Control](#)



Yearly tariff review

Under the SoC, we are required to submit to the Government a tariff proposal for the next year before the end of October every year. CLP and the Government will jointly review and agree on the tariff before it becomes effective.

Our electricity tariff consists of a Basic Tariff and a Fuel Cost Adjustment. The Basic Tariff covers all the costs required to provide electricity, including a standard cost of fuels and a return as determined by the SoC. The Fuel Cost Adjustment covers the charges or rebates for the difference between the actual cost of fuels and the standard cost of fuels recovered through the Basic Tariff.



The Average Net Tariff for 2018 has been adjusted to HK\$1.154 per unit of electricity on 1 January 2018. The Average Basic Tariff was increased by 2.3 cents per unit while the Fuel Cost Adjustment was increased by 1 cent. A Rent and Rates Special Rebate of 1.1 cents per unit is being offered to all customers. The tariff adjustment will take effect from 1 January 2018 under the existing Scheme of Control Agreement which will expire on 30 September 2018.

Enhancing gas-fired generation capacity

To support the Government's environmental policy to increase the percentage of gas used in local generation to around 50% in 2020, additional gas-fired generation capacity is required. Construction of a new 550MW gas-fired generation unit at Black Point Power Station is going ahead with the main civil works milestone completed during the year and operation for the unit planned before 2020.

As one of the possible future gas sources to meet our increasing gas demand, we have moved forward with our proposal to build an offshore liquefied natural gas (LNG) terminal in Hong Kong waters that will enable us to have direct access to a range of gas sources from around the world and strengthen the reliability of Hong Kong's fuel supplies. We target to receive the environmental approval for the LNG terminal in 2018. Preparation for the commercial arrangements for LNG supplies are also under way.



Emission caps and carbon targets

To improve air quality in Hong Kong, we have been working together with the Government on setting caps on emissions from our power plants for three specified pollutants, i.e. sulphur dioxide (SO₂), nitrogen oxides (NO_x) and respirable suspended particulates (RSP). These caps have become progressively lower over time as a result of regular reviews. The emissions caps applicable for 2017 are 6% to 9% below those for 2015 and 2016, which required us to reduce SO₂ emissions by 65% and NO_x and RSP emissions by more than 30% from the 2014 base. We were able to meet these stringent emissions requirements by maintaining increased consumption of natural gas, importing additional nuclear energy from Daya Bay on a temporary basis, reducing the use of coal, making use of low-emissions coal and enhancing the operational performance of our emissions control equipment.

In January 2017, the Government announced Hong Kong's Climate Action Plan 2030+ and a carbon intensity reduction target of 65%-70% (compared with 2005) for 2030. The Government indicated that Hong Kong will phase down coal-fired electricity generation and use more natural gas and more non-fossil fuels in the fuel mix to meet the enhanced target. CLP will work together with the Government on future new generation capacity and the potential replacement of coal generation units upon normal retirement to contribute towards this target.



[Read more on how we finance the transition](#)

GRI Most Material Topic :
Anti-corruption

GRI Material Topic : Anti-competitive Behaviour



Growing our business

We operate in different countries, each with different market structures and different implications of what sustainability means for our business in each location.

Upholding our values under different context

Our strategy “Focus · Delivery · Growth” demands that we generate growth for our shareholders. While Hong Kong remains our core market and strategic focus, Mainland China and India are our primary growth markets, while we continue to explore secondary growth opportunities.

There is enormous variation in the electricity market structure where we have a presence. These market structures and the associated rules have a fundamental impact on the financial performance and sustainability of each of our businesses. Regardless of where we are, the respective local and national governments are one of CLP’s most important stakeholders. We work closely with them and the results help guide and inform our business model and development plans for each country. Wherever we go, we uphold our Value Framework and our Code of Conduct, paying special attention to Competition and Anti-Corruption Laws and regulations.



> Read more on our commitment to regulatory compliance

> **PDF** Read the Business Performance and Outlook in our different markets

Market development in Mainland China

Electricity in Hong Kong is supplied by two vertically integrated utilities, each serving different geographical areas. They are regulated by the Government under a Scheme of Control (SoC) framework, which requires them to invest to meet the demand for electricity and allows them to earn a return based on the capital investment in fixed assets made to supply electricity.

As one of the electricity utilities in Hong Kong, we are required to conduct our business in a manner that is compatible with the environmental and economic needs of the community. The first SoC was in place in 1964 and for over half a century, it has been effective in keeping pace with changing times to meet community expectations. It has provided regulatory and economic certainty, enabling us to meet the needs of our customers with reliable power at reasonable tariff levels.



Market development in India

Over the past few years, the Government of India has taken steps to improve the access to electricity, and increase renewable energy capacity. During 2017, the Indian electricity market witnessed a number of milestones on these areas and this set an overall direction for the market. These milestones include a significant increase in the number of electrified villages and a reduced frequency in power cuts in towns and villages. Although we are not directly involved in rural electrification, we expect this reform will contribute to an overall increase in electricity demand and hence a potentially higher offtake for our power plants.

Competitive bidding for renewable energy projects becoming the mainstream is another major market change that we have seen in India. After successfully implementing competitive bidding for long term Purchased Power Agreements (PPA) for solar in the last few years, in 2017 the Government of India rolled out bidding guidelines to procure wind power under long term PPAs. We are monitoring the competitive bidding market and will participate at an appropriate time.

Thanks to reduction in solar tariffs and implementation of net metering regulation by many states in India, rooftop solar tariffs are now lower than the retail tariff offered to industrial and commercial consumers by power distribution companies in most states. Due to this pricing, regulatory conditions and the availability of zero down payment PPA (also known as OPEX / RESCO PPA), the solar rooftop market in India is expected to grow exponentially over the next few years. We are developing rooftop solar solutions for commercial and industrial consumers under the OPEX model and expect to roll this out in 2018.





Market development in Australia

The Australian energy market consists predominately of private companies, however there remains several state-owned operations across the supply chain, particularly in the northern state of Queensland. Our local business unit, EnergyAustralia, is one of the largest integrated electricity retail and generation businesses in Australia.

Energy and climate change policy is a shared policy issue across Federal and State governments and continues to be one of the most contentious political issues in Australia. This dynamic has created a fragmented and uncertain operating environment for many energy businesses. Despite this, EnergyAustralia continues to maintain cooperative working relationships with all Australian governments.

Australia has historically considered a range of policies to reduce greenhouse gas emissions. The most recent is the National Energy Guarantee (NEG) which would place an obligation on electricity retailers from 2020 to meet an emissions and reliability guarantee. The emissions guarantee will oblige retailers to ensure that the electricity they supply to customers meets a given emissions intensity and the reliability guarantee will mean retailers have to have sufficient levels of flexible and dispatchable generation to meet forecast demand from their customers. Federal and State governments are expected to decide in 2018 whether to implement the policy.

In relation to Purchase Power Agreements (PPAs), in 2017 EnergyAustralia completed a A\$1.5 billion programme to support the development of over 500MW of new solar

and wind energy to help meet our obligations under the federal government's Renewable Energy Target. This includes the:

- 150MW Coleambally solar farm in southern New South Wales
- 48.5MW Manildra solar farm in New South Wales
- 142MW Ross River solar farm in northern Queensland
- 60MW Gannawarra solar farm in northern Victoria
- 113MW Bodangora wind farm in central-west New South Wales

Across Australia, electricity and gas retail markets have been deregulated, paving the way for highly competitive markets. The state of Victoria is considering a number of recommendations from the Thwaites review of retail markets.

The Australian Competition and Consumer Commission (ACCC) electricity and gas inquiries were announced in March and April 2017 respectively. The electricity inquiry is one of the largest inquiries the ACCC has ever done. It covers margins, retail and wholesale market behaviour, and the effects of vertical integration. The preliminary report was released in September 2017. The scope of the inquiry was increased to include wholesale bidding behaviours and increased attention on consumer outcomes. The final report is expected in June 2018. The gas inquiry was established to review the supply and demand for wholesale gas in Australia, as well as to publish regular information on the supply and pricing of gas. In 2017 they published two interim reports. These bi-annual reports will continue until 2020.

Manufactured Capital

Our operations are the heart of our business. We must pursue excellence in procuring and operating our manufactured assets such as equipment, buildings and infrastructure to deliver the energy needed to fuel the growth of our communities.

1 POWERING OUR COMMUNITIES



GENERATION CAPACITY
19,395
Equity MW



TOTAL SENT OUT*
83,897
Million kWh



RELIABILITY
Over
99.999%

*From power stations in which CLP has invested and capacity purchase arrangements

4 PLANNING FOR EMERGENCIES



Our Group Crisis Management Plan outlines our crisis management organisation, roles and responsibilities, procedures and processes, as well as all the tools needed to ensure our collective response is well planned and executed, and fully integrated across our organisation

2 SERVING OUR CUSTOMERS

Between 2015 and 2017, on average a CLP customer experienced
1.57 minutes

of unplanned power interruptions per year, increased from **1.48 minutes** between 2014 and 2016 mainly due to the significant impact of typhoon Hato in August 2017.

2.56m
retail customers in
Hong Kong



2.62m
retail customers in
Australia



Service pledges on complaints response and handling time



Robust data management system protects customer privacy

3 OPTIMISING OPERATIONAL EFFICIENCY



Maintaining asset quality
Group wide Asset Management System Standard put in place in 2016 based on ISO55000. It integrates our Health, Safety, Security and Environment (HSSE) and our project management governance systems



Demand side management
Big data is allowing us to optimise asset performance. We're stepping up measures to reduce customers' peak electricity demand to achieve energy efficiency through close customer engagement. The more demand can be lowered through applying efficient devices and increasing customers' awareness of energy consumption, the more bills can be reduced and the need for new investment in electricity infrastructure can be reduced.

5 PROCURING RESPONSIBLY

Purchased from **5,536** suppliers With spend of **30.9** HK\$ billion in 2017



Launched the CLP Group Procurement Standard which sets out the key principles for general and fuel procurement across the Group



Developed a Supplier Relationship Management framework to collaborate with our key suppliers to review performance, improvement and innovation opportunities



Interview with Derek Parkin, Chief Operating Officer of CLP Group

“For us to be able to optimise the performance of both ageing traditional assets as well as new renewable energy assets, the use of big data will be key.”

What were the highlights for you in 2017?

While there are many positive achievements I would like to highlight for 2017, I want to start with the topic of [safety](#), which has always been a top priority for CLP. It is not acceptable that any lives are lost through the delivery of our products or services and yet in 2017, two fatal incidents involving four contractor workers occurred in Hong Kong.

After extensive analysis of our safety performance over the last decade and the relevant trends around the world, we have begun to direct our focus on reducing exposure to serious injuries or fatalities (SIF). Although overall injury rates are declining, it is the serious injuries and fatalities that are not and which we must focus our attention on. We have identified interventions that can increase the effectiveness of the existing safety management system and have based our plan for improvements on these findings. We also created a new Senior Director role for Health, Safety and Environment at the Group level for which a very experienced professional has been hired. Given the important role that our contractors and suppliers play in our business, CLP will continue to work hard to ensure their safety while they are working on CLP's projects and premises.

What new capabilities will help CLP operate even more efficiently and effectively?

While we have traditional assets that are ageing, we also have new renewable energy assets for which there is a relatively short history of knowledge. For us to be able to optimise the performance of both ageing traditional assets as well as new renewable energy assets, the use of big data will be key. In addition to helping improve our efficiency, such a capability will empower us to predict equipment or process failure accurately and efficiently ahead of time, preventing unplanned disruptions to operations and in some cases eliminating the need for blanket routine checks that are resource intensive and hence less cost-effective.

Through the synergy between the new Renewable Energy and Big Data teams, we have already been making good progress. With our long history in pioneering new technologies

and the experience we have accumulated in building power infrastructure non-stop over the last decade, I believe CLP can develop this capability and even use it to contribute to new business revenue streams.

What were the positive achievements in 2017?

We are always exploring new technology and ways to operate assets more efficiently and intelligently. In 2017, we conducted trials of a smart energy platform to analyse operational data for enhancing efficiency and energy yield at our renewable and thermal assets across the Group. In Hong Kong, we enhanced our network reliability by installing on-line condition monitoring systems for switchgear and transformers to allow real-time monitoring and advanced detection of emerging fault conditions.

We have also been looking at the implications of increasing operational performance risks on our assets. In the past, developers including CLP, have relied on external service providers to provide operations and maintenance services for its renewable assets. However, given the increasing potential risks, as well as our intentions to strengthen our capabilities for our future business, we have begun to increasingly internalise this capability, thus raising the level of renewable energy operational expertise within the organisation and building upon our extensive expertise in project development and construction.

As we look at new potential business models, the ability to procure efficiently and effectively to fulfill our purpose and expectations, remains a critical component for success. We have begun to shift away from our traditionally more transaction-based approach towards a more holistic and strategic approach. In 2017, we formalised group-level categories of spend and designated a Category Council for each of them, to identify

and realise group leverage opportunities, achieving best value for both CLP and our customers. We also appointed a Director of Procurement for the Group to enable deeper analysis of our spend and better leveraging of our Strategic Relationship Management framework with key suppliers.



Topics covered in this chapter

Serving our customers

GRI **Material**

- Customer Health and Safety
- Marketing and Labelling
- Provision of information

Powering Our Communities

GRI **Most Material**

- Availability and Reliability
- Demand-side Management
- Energy

GRI **Material**

- System Efficiency

Optimising operational efficiency

GRI **Most Material**

- Energy

GRI **Material**

- Disaster Emergency Planning and Response
- Plant Decommissioning
- System Efficiency

Planning for emergencies

Procuring responsibly

GRI **Material**

- Procurement Practices
- Supplier Environmental Assessment
- Supplier Social Assessment

How we manage Manufactured Capital

> **Our Management Approach**

GRI Material Topic : Marketing and Labeling

GRI Material Topic : Provision of information



Serving our customers

We are committed to providing quality service and value to our customers, including delivering on our customer service pledges while meeting regulatory requirements.

Customer portfolio

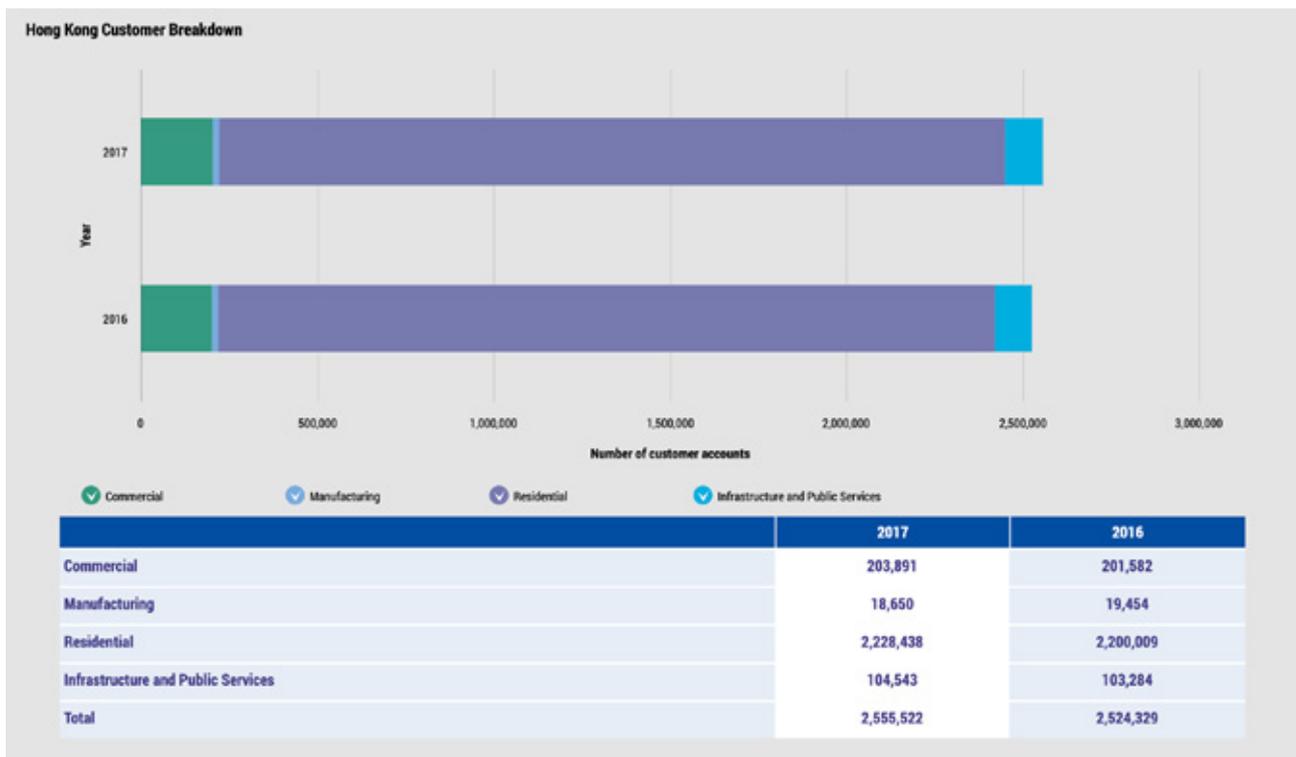
Our home base **Hong Kong** is seen by some as a mature market, but we still see an increase in demand for electricity and the infrastructure necessary to deliver it. This is driven by a growing population and customer base, as well as major infrastructure developments such as the expanding MTR network, the high-speed rail link and the Hong Kong-Zhuhai-Macau Bridge.

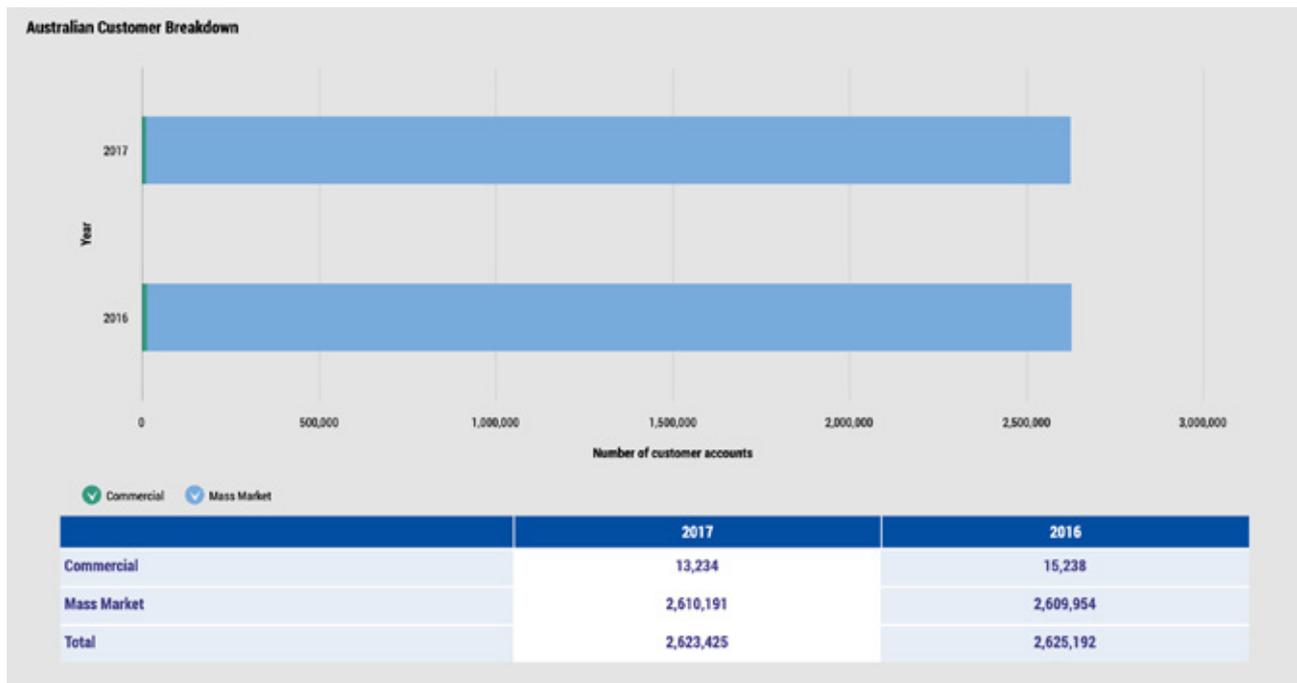
CLP Power Hong Kong is the sole electricity provider for Kowloon, the New Territories, and most of the outlying islands, serving 2.56 million customer accounts or about 80% of Hong Kong’s population.

Our total electricity sales for 2017 were broadly the same as in 2016 at 34,505GWh, where 33,164GWh came from sales to our Hong Kong customers and 1,341GWh from sales to the Mainland.

Competition for customers in **Australia** remained intense in 2017 with discounts and rebates dominating the acquisition strategies of retailers. Despite this, EnergyAustralia maintained a stable number of customer accounts in 2017.

EnergyAustralia retails electricity and gas to customers in New South Wales, Victoria, South Australia, the Australian Capital Territory and Queensland (electricity only). It is amongst the 30 or so retailers active in the key markets of New South Wales and Victoria, with over 2.62 million customer accounts.





We make a conscious effort to meet our customers’ needs, including protecting their privacy, health and safety, ensuring marketing and product information is correct, as well as providing adequate and up-to-date information about the impacts of our products and services.

[Read about how we engage with and support our customers](#)

Ensuring reasonable tariff in Hong Kong

We attach great importance to customers’ concerns about the impact of tariffs and have taken a prudent approach to cost management in order to keep our tariff at a reasonable level.

CLP’s electricity tariff consists of two parts:

- Basic Tariff – covers all the costs required to provide electricity, including a standard cost of fuels and a return as determined by the Scheme of Control (SoC); and
- Fuel Cost Adjustment – covers the charges or rebates for the difference between the actual cost of fuels and the standard cost of fuels recovered through the Basic Tariff.

The Average Net Tariff for 2018 has been adjusted to HK\$1.154 per unit of electricity on the 1st January 2018. The Average Basic Tariff was increased by 2.3 cents per unit, while the Fuel Cost Adjustment was increased by 1 cent. A Rent and Rates Special Rebate of 1.1 cents per unit is being offered to all customers.

Adjustment in our tariff in recent years has mainly been due to the fluctuations of fuel costs. Globally, fuel prices have been highly volatile and since natural gas costs more than other fuels, to meet government’s target of increasing gas to around 50% of the fuel mix in 2020, it must be expected that this will lead to further challenges in tariff management. We have taken actions



to minimise the impact of significant fuel cost fluctuations and to maintain tariff at a reasonable level. These actions include enhancing generation efficiency, making the most of existing gas reserves, and cost control. We are proposing to build an Offshore Liquefied Natural Gas Terminal in Hong Kong waters to further enhance Hong Kong’s competitiveness in sourcing reliable supplies of natural gas. It is in the final stages of an Environmental Impact Assessment and, subject to the necessary approvals from government, it is expected to be completed in 2020.

[Find out more about the Scheme of Control](#)

GRI Material Topic : Customer Health and Safety

Customer health and safety

Electricity needs to be provided safely. We take this responsibility seriously and place the highest priority on both customer and employee safety.

Working near electricity supply lines can impose public health and safety concerns. We conduct regular construction site inspections and provide cable plans and safety talks to road work contractors to enhance safety awareness. Through site inspections and safety talks, measures for working near electricity supply lines are communicated to site management personnel.

Electromagnetic fields (EMF) arising from the power system can be another public health concern. Our power supply equipment fully complies with the guidelines issued by the International Commission on Non-Ionizing Radiation Protection (ICNIRP). Regular EMF measurements on our power supply equipment are carried out jointly with the Electrical and Mechanical Services Department. The measured EMF levels are well below the guideline limits.



Managing our effects on community

All our power plants have the potential to impact local communities, in both positive and negative ways. We try to mitigate any concerns through the following measures:

- Communicating with local governments to explain the nature of the project before construction starts and obtain their help in liaising with the local community;
- Following all applicable laws and regulations regarding land acquisition and environmental impact;
- Providing employment opportunities where possible;
- Contributing to local community services such as schools or hospitals; and
- Offering to receive local people and school children at the plant and explain what we do.

We have a wide range of open public engagement channels through which we can receive any concerns, interest or feedback at any time during the year. General complaints about the company are typically handled by our Public Affairs team who work with the relevant colleagues to resolve the issue at hand.

GRI Most Material topic:
Availability and Reliability

GRI Most Material topic:
Demand-side Management



Powering our communities

We generate and deliver electricity safely and reliably, at a competitive price and with the least environmental impact, to power the development of sustainable communities.

Availability and reliability

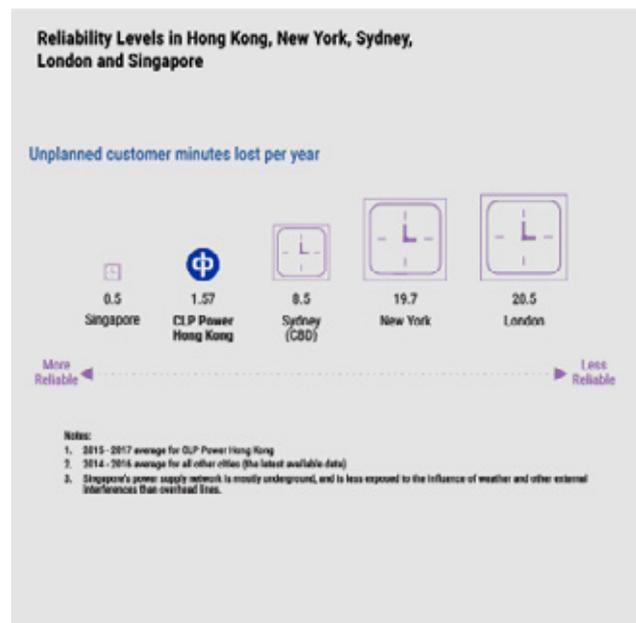
Availability and reliability are two key performance metrics for CLP assets. For our generation assets, we monitor the “Equivalent Availability Factor”, which typically ranges from 70-90% and is a key performance measure for each of our assets.

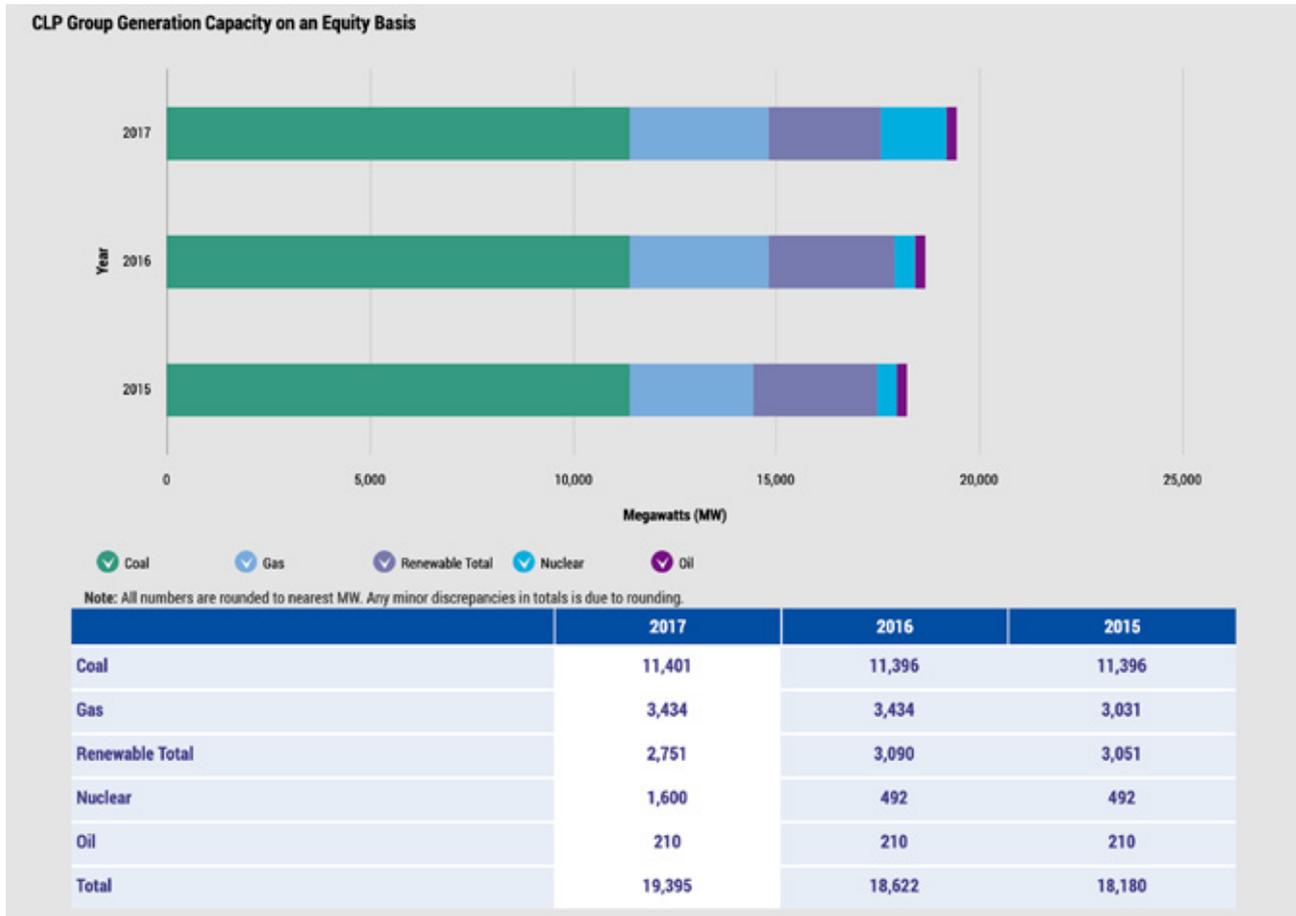
In Hong Kong, we maintain a world-class supply reliability of over 99.999%. Between 2015 and 2017, on average a CLP customer experienced 1.57 minutes of unplanned power interruptions per year. This is higher than the 1.48 minutes between 2014 and 2016, due to the impact of severe strong Typhoon Hato on 23 August 2017, without which we would have seen a significant reduction.

This achievement shows the value of factors such as a stable and supportive regulatory framework that encourages careful investment planning, as well as the professional expertise of our staff in power operations.

In 2017, we continued to enhance the reliability and security of our supply system and invested HK\$8.1 billion to maintain and enhance our supply system and generation assets to meet both current and future energy demand. We commissioned two new 132kV substations to provide power supplies to a data centre in Tseung Kwan O and the new border control facilities at Heung Yuen Wai.

> Find out how we monitor availability and reliability of our assets





GRI Most Material topic : Energy

GRI Material Topic : System Efficiency

Power generation

Since our first 75kW generator was commissioned over a century ago in Hong Kong, we have increased our generation capacity in operation and under construction across the Asia Pacific region to 19,395MW of equity generating capacity, supplemented with an additional 5,159MW of capacity purchase. Our generation portfolio utilises diverse types of energy sources, including coal, gas, nuclear and renewable energy (wind, hydro and solar).

In 2017, the Group’s total electricity sent out on an equity plus capacity purchase basis increased to 83,897 GWh from 79,583GWh in 2016. Our total generation capacity increased from 18,622MW in 2016 to 19,395MW on an equity basis (23,781MW to 24,554MW on an equity plus capacity purchase basis), due mainly to our 17% investment in Yangjiang Nuclear Power Co Ltd (gaining 1,108MW of nuclear capacity). Coal capacity remained similar, while our non-carbon equity

generating capacity increased from 3,582 MW to 4,350 MW, again due mainly to increased investment in nuclear capacity. However, divestment of our minority shares in some wind assets in Mainland China contributed to a dip of our renewable equity generating capacity from 3,090MW to 2,751MW.

We are committed to continue growing our non-carbon emitting portfolio and as mentioned earlier, we have set an additional renewable energy target of 30% and a non-carbon emitting target of 40% by 2030, as part of our Climate Vision 2050 review in 2017. We will begin to consistently report also on our generating capacity on an equity plus capacity purchase basis starting next year.

We report the annual operating performance of our generation portfolio for those assets which fall within our environmental scope (as defined in the Reporting Scope section). The performance metrics include the availability factor, generation sent-out, thermal efficiency and energy intensity.

[Download the generation performance of our assets in 2017](#)

GRI Material Topic : System Efficiency

Transmission and distribution

While CLP has generation businesses across the Asia-Pacific region, Hong Kong is the only location where we operate a transmission and distribution network. This serves about 80% of the population of the city and close to 100% of the population in our service area.

The reliability of our system is above 99.999%, higher than other major international cities such as London, New York and Sydney. At the end of 2017, we had approximately 1,164 km of overhead and approximately 14,514km of underground circuits at medium or higher voltage. In addition, we also had 232 primary and 14,483 secondary substations in Hong Kong.

In 2017, our average network loss for the past five years was 4.04%, slightly lower than our 2016 figure of 4.1%.



We use a set of universally recognised supply reliability performance indicators from the IEEE 1366-2012 standard to monitor our system performance. These indicators are the core attributes for power systems and are reported annually to the Hong Kong Government.

Supply Reliability Performance Indicators

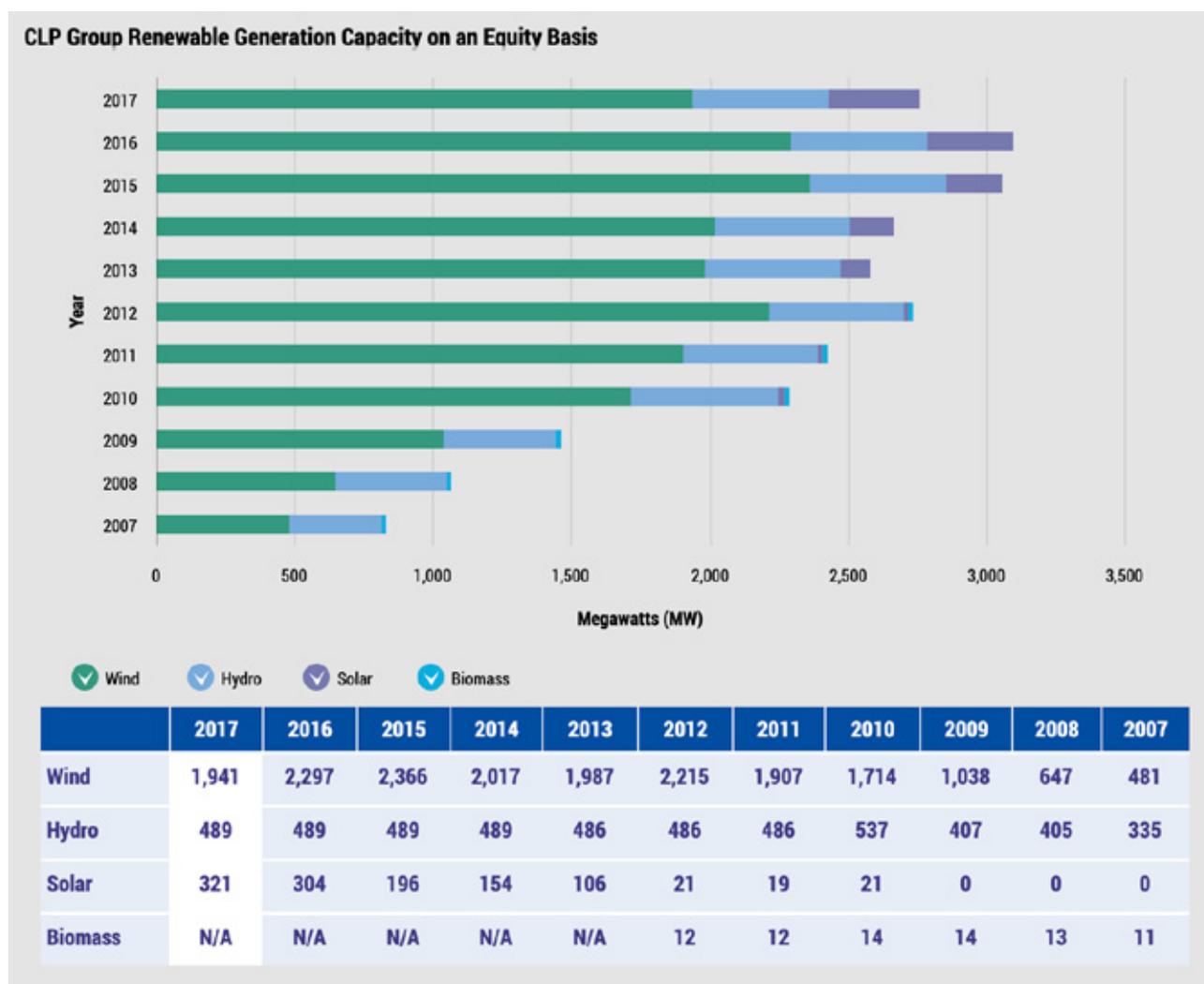
<p>System Average Interruption Frequency Index (SAIFI)</p> <p>The average number of supply interruptions for each customer served. Both planned and unplanned interruptions are included.</p>	<ul style="list-style-type: none"> · Our three-year average SAIFI (2015 – 2017) was 0.18, meaning our customers experienced a power interruption approximately once in five years during this period. · It remained the same as last year’s three-year rolling average.
<p>System Average Interruption Duration Index (SAIDI)</p> <p>The average duration of interruptions each customer may encounter in a given year.</p>	<ul style="list-style-type: none"> · Our three-year average SAIDI (2015 – 2017) was 0.34 hours including both planned and unplanned interruptions. · This is an improvement over last year’s three-year average SAIDI (2014 – 2016) of 0.35 hours.
<p>Unplanned Customer Minutes Lost (Unplanned CML)</p> <p>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.</p>	<ul style="list-style-type: none"> · Our three-year average (2015-2017) unplanned CML was 1.57 minutes, which is higher than 1.48 minutes between 2014 and 2016. · The increase was mainly due to severe Typhoon Hato on 23 August, without which we would have seen a significant reduction.



Investing in a climate resilient grid

2017 was one of the hottest years on record and we saw many high-impact extreme weather events including hurricanes, floods, heatwaves and drought. Such events can often cause disruptions to power supplies. Therefore, it is critical that our assets are resilient enough to withstand these extreme conditions to minimise disruptions to electricity supplies for critical services and infrastructure, and to enable faster recovery of affected communities. In 2017, Hong Kong experienced seven tropical cyclones, of which one was Typhoon Hato bringing in wind speeds of up to 185 km/h. Due to the strength and resilience of our power system, there were no systemic power failures, in contrast to the neighbouring city of Macau, which completely lost all electricity supplies to over 250,000 customers.

Overhead lines make up a significant part of CLP's Hong Kong transmission and distribution network, where more than 700 pylons of 400kV overhead lines form the backbone of the supply system. If a pylon is destroyed by strong winds or collapses because of a landslide, it can take several months to restore to order. Over the years, we have been reinforcing the pylons of 400kV overhead lines so the structures can withstand such super typhoons. CLP conducts regular emergency typhoon drills, particularly ahead of Hong Kong's typhoon season to help reduce the vulnerability of the power system and minimise the down time required for recovery from extreme weather events. Emergency restoration systems were introduced to construct the temporary pylons quickly so as to reduce the recovery time. We have also implemented additional measures to counter the potential impact of severe typhoons and storm surges. These include installing smart switchgears on distribution overhead lines, installing flooding prevention measures and alarm systems at low-lying flood prone substations, and establishing a typhoon response protocol and coordinating system.



Moving towards clean energy

In 2017, we made progress towards our target of 30% non-carbon emitting capacity by 2020, as our non-carbon equity generating capacity increased from 19.2% to 22.4%, due mainly to our increased investment in nuclear capacity. However, progress on our 20% renewable energy capacity by 2020 was slightly hindered by our divestment of wind assets in Mainland China combined with our increased nuclear capacity, both

contributing to a fall of the share of our renewable equity generating capacity from 16.6% to 14.2%. Fluctuations are expected from year to year, but pursuing an overall trend of increase is the key objective.

We are working diligently to meet our upcoming targets of 20% renewable and 30% non-carbon generating capacity by 2020. These interim targets are part of our journey towards the new [Climate Vision 2050](#) review targets of 30% renewable and 40%

non-carbon energy capacity by 2030, which will require even more expansion of CLP's non-carbon energy presence over the coming years.

A new Group-level Renewable Energy team was set up in 2017 to support regional teams to meet our ambitious climate and investment targets. This team is working with regional teams to grow our renewable energy presence and pipeline, achieve operational excellence across all of our renewable assets and explore the potential to expand into new markets and technologies.

While developers, including CLP, have often relied on external service providers to provide operations and maintenance services at sites, CLP has begun to internalise this capability at many sites in India and China, increasing the level of renewable energy operational expertise within the organisation, to add to our extensive expertise in project development and construction.

We will continue to expand our presence in established renewable energy technologies such as onshore wind and solar, with several opportunities to construct new sites or acquire operational assets currently being considered.



2017 Clean Energy Development

<p>Hong Kong</p>	<ul style="list-style-type: none"> · Continued connecting renewable projects to our grid. At the end of 2017, we had about 300 renewable energy systems with a capacity of about 41MW connected to our grid; · CLP continues to play a direct role in the development of Hong Kong's renewable energy resources by connecting the government's large-scale waste-to-energy projects to our grid. We are also exploring our own utility-scale renewable energy opportunities, for example, by pioneering Hong Kong's largest landfill gas power generation project at the West New Territories (WENT) Landfill site that will produce 10MW of renewable power. The amount of energy produced will be enough to meet the annual electricity demand of around 17,000 four-person homes. We expect it to be operational in 2018.
<p>Mainland China</p>	<ul style="list-style-type: none"> · Our clean energy portfolio in Mainland China was strengthened by the acquisition of 17% interest in Yangjiang Nuclear (1,108 equity MW) in December 2017. The station comprises six 1,086MW generating units, of which four units are in commercial operation and the other two units are currently under construction with targeted commissioning in 2018 and 2019 respectively. · Meanwhile, we continued to have a strong renewables portfolio in Mainland China. 62MW of renewable energy projects were commissioned in 2017, including Laiwu II Wind (49.5 equity MW) wind and Huai'an Solar (13 equity MW).
<p>India</p>	<ul style="list-style-type: none"> · With our maiden 100MW Veltor Solar Farm in Telangana in southern India, the size of our commissioned renewable portfolio in India has been taken to 970MW. CLP currently owns 49% of Veltor and we have an option to acquire the remaining 51% in future from our partner Suzlon.
<p>Australia</p>	<ul style="list-style-type: none"> · EnergyAustralia has entered into transactions to underpin the development of more than 500MW of renewable generation capacity since we announced in December 2016 a programme to support new wind and solar farms in eastern Australia. Together with existing commitments, these power purchase agreements (PPAs) will help EnergyAustralia meet our obligations under the Australian Government's Renewable Energy Target, which requires retailers in the NEM to source approximately 23.5% of electricity sales from renewable sources by 2020.



Energy Recovery at EnergyAustralia

At Mount Piper Power Station, we announced plans to assess the viability of converting part of station to run on non-recyclable materials, an Australian first. The proposed A\$160M energy recovery project will allow Mount Piper to produce more energy for the same amount of coal. The feasibility study showed it was possible to generate around 27MW of electricity, enough to power around 40,000 homes. A decision whether to proceed with the project will be taken in 2019, with first power scheduled for 2021.

New markets and technologies for renewable energy

Renewable energy is a relatively new field in comparison to traditional thermal generation and it continues to undergo rapid changes. CLP is closely monitoring these changes and we are conducting research into emerging technologies and markets in order to remain at the forefront of technological innovation and market developments.

Among the technologies under investigation are offshore wind, which is now being embraced by governments across the region, and floating solar. CLP has been working for the Water Services Department to construct floating solar plants at Shek Pik and Plover Cove reservoirs in Hong Kong. Both offshore wind and floating solar may offer potential for strong growth across Asia Pacific in future years, particularly due to land constraints which increasingly hinder new land-based projects.

As renewable energy expands its presence, energy storage solutions will also need to be considered. In recognition of this, CLP is actively developing storage opportunities, including battery storage projects in Australia and pumped hydro storage.

SDG7 Affordable and Clean Energy

7
AFFORDABLE AND
CLEAN ENERGY

Our shift to renewable and non-carbon emitting energy addresses SDG 7: ensure access to affordable, reliable, sustainable and modern energy for all.

Energy Storage at EnergyAustralia

EnergyAustralia is assessing projects which may play leading roles in a new, modern energy system in Australia. Our proposed 225MW seawater pumped hydro project in South Australia is one example. During the year it passed a major milestone with initial feasibility work indicating no major barriers to development. The project, which would store energy like a battery for times when it is needed, is attractive for its ability to support the integration of intermittent renewable supply into the grid in a way that delivers affordable, reliable and cleaner power for customers.



Optimising operational efficiency

We invest to optimise the performance of our assets in an effort to pursue excellence in our operations and endeavour to deliver world-class energy products and services.

GRI Material Topic : Disaster
Emergency Planning and
Response

GRI Material Topic : Plant
Decommissioning

GRI Material Topic : System
Efficiency

Planning for efficiency

We are constantly identifying opportunities to improve the operational efficiency of all our assets. Such efforts start from the beginning at the project planning stage, where selecting a site that can maximise the yield from wind and solar power, or the prudent selection of best available technology, are critical in determining the operational efficiency or capacity factor range of the asset through its entire life. Quite often, the choice of site, technology and energy source may be constrained by incumbent project requirements which are typically set by the local authority or government. However, even if the type of energy source to be used is already set, such as coal, gas or renewable energy, we can still choose the most efficient technology that is available to maximise project value.

For example, in Hong Kong, the additional new gas-fired generation unit being constructed at Black Point Power Station features an advanced design with a Combined Cycle Gas Turbine (CCGT) configuration that would give it an efficiency of around 60%. This is currently amongst the highest in commercial operation in the world and is significantly higher than that of the existing gas-fired units in Hong Kong. The design allows for greater electricity output without the use of additional fuel, leading to a reduction in emissions intensity. In addition, the installation of an advanced Selective Catalytic Reduction system can further reduce emissions of nitrogen oxides (NO_x).



Maintaining asset quality

The group-wide [Asset Management System \(AMS\)](#) Standard was developed in 2016 to standardise key practices in asset management across different markets. It sets out a framework to ensure that we follow industry best practices.

For plants already in operation, we continued to invest in operational efficiency improvement initiatives. These efforts allow us to maintain our standards of efficiency for our plants across the Group and to meet increasingly stringent regulations on emissions and fuel efficiency in certain jurisdictions.

New technologies supporting data processing, storage and management continue to advance and has become increasingly more affordable and accessible. Consequently, the opportunities arising from big data and data analytics are also increasing, with a wide range of potential applications including performance optimisation.

As our fossil-fuelled assets age, not only will their operational efficiency decline, but the probability of plant component failure will also increase. The ability to detect anomalies in performance or potential premature failure so that we can take appropriate mitigative actions in a timely manner, can help



slow down the decline in operational efficiency and reduce the probability of unplanned disruptions to our operations. In 2017, we embarked on a pilot project in Hong Kong to test a new innovative product on its ability to detect premature failure as well as to provide deeper insights into operational trends and performance optimisation. Results will be assessed in early 2018 and the next steps will be determined, with a view to making improvements to overall asset fleet performance by making use of data analytics and insights.



Most Material Topic : Energy

Operational efficiency improvement

Operational efficiency improvement projects carried out at our plants in 2017 included:

- At Black Point Power Station in Hong Kong, with the successful gas turbine upgrade in one of the eight units in 2016, two more gas turbine units are being upgraded in 2018. After the completion, generation capacity is expected to increase by 25MW for each gas unit in addition to a reduction in nitrogen oxides emissions as well as improvements in fuel efficiency.
- In Mainland China, we completed the emission control retrofit at our Fangchenggang power station for one of the two supercritical units of Phase I in 2017 to ensure compliance with China's 2020 emissions requirements. After the retrofit, the coal consumption per unit MWh sent out of generating unit is expected to be reduced by about 1.6%.
- At our Mount Piper Power Station in Australia, there had been a deterioration in performance over a number of years due to deposition on the steam turbine blades. Following the successful refurbishment of unit one in 2016, we undertook a major outage on our second unit in 2017 to remove further deposition. Unit two improved its capacity from 640MW up to 700MW following the shutdown. As a result of this work, efficiency has improved by over 2%.
- Also at Mount Piper Power Station, in partnership with Re.Group and funded in part by ARENA, we assessed the viability of a new project to recover the energy embedded in non-recyclable waste materials and turning it into electricity. The proposed A\$160M energy recovery project is an Australian first and allows Mt Piper to produce more energy for the same amount of coal burnt. The feasibility study showed that the project is viable and could generate an additional 27MW of electricity, enough to power 40,000 homes. A decision whether to proceed with the project will be taken in 2019 with first energy production scheduled for 2021.





Operational Excellence in our renewable energy assets

At CLP we believe it is important to focus not only on growth opportunities but also the optimisation of operational assets to improve energy yield and efficiency. CLP has strived to improve performance through implementation of innovative new technologies at several operational sites. Two data analytics trial projects were conducted at our renewable energy assets in both Mainland China and India. The projects aimed to provide insights into operational efficiency by conducting modelling based on historical operational data and comparing with real data collected from sites. Alerts are then generated when discrepancies with past performance are identified and appropriate maintenance activities can be suggested.

Using data analytics at Chandgarh wind farm in India, we successfully identified several issues on wind turbine performance including yaw, pitch and torque anomalies. These anomalies had caused generation losses ranging from 50 to over 400MWh per turbine per year. After investigation, they were attributed to shifts in wind vane position on the nacelle and settings in the control software. Together with the data analytics and on-site maintenance team, rectifications were carried out, leading to improvements in performance.

In Qian'an wind farm in Mainland China, the data analytics platform successfully predicted several component failures including anemometer, pitch drive and generator. Upon receiving the pre-fault alarm from the platform, the maintenance team can now inspect each component on site and has sufficient time to prepare all required materials and logistics if maintenance is required. This advanced identification of failure is helping to improve the availability of CLP's wind turbines and the minimisation of generation losses.

Transmission network enhancement

To meet Hong Kong's electricity demand growth, we review future transmission network developments annually in accordance with the latest system maximum demand forecast, area load growth, infrastructure development and generation development. We have developed maintenance and improvement programmes annually for major assets, based on the analysis of current conditions and performance of assets, level of investment and risk.

We continue to improve the reliability of our power supply network. Apart from vegetation management and third-party damage prevention programmes, various measures are taken to further enhance network reliability and minimise customer supply interruption. Some examples are:

- Installing on-line condition monitoring systems for switchgear and transformers to allow real-time monitoring and detection of incipient fault conditions;



- Continuing the reinforcement of the towers for 400kV overhead lines against super typhoons and refurbishment of switchgear; and
- Conducting regular reviews and targeted studies on network performance to drive continual improvement.

Demand-side management

As part of our continuous efforts to drive towards a greener future, CLP is stepping up our Demand Side Management (DSM) measures. Our Customer Service Quality Policy also commits us to supporting our customers to use our products and services efficiently and effectively.

Energy management offers mutual benefits to our customers and our business. DSM aims to reduce customers' peak electricity demand to achieve energy efficiency through closer customer engagement. By applying new technology and increasing customers' awareness of energy consumption, their electricity demand can be lowered. For customers, the bill can be reduced, and for power companies, new investment in electricity infrastructure can be deferred.

Some of our key initiatives in this area are:

- **Advanced Metering Infrastructure (AMI)**, which is a core component of a smart grid. It is an integrated system that comprises smart meters and communication technologies. AMI allows customers to keep track of their electricity consumption and receive alerts on their mobile devices if their energy usage approaches pre-selected consumption levels. In 2013, we introduced myEnergy Pilot Programme, the first end-to-end AMI solution offered by a utility in Southeast Asia.
- **Smart Energy Programme**, which is a one-year pilot scheme launched in June 2017 to build on the success of the myEnergy Pilot Programme. With smart meters and the AMI system made available for 26,000 selected residential customers in urban areas, they are encouraged to adjust their consumption behavior to lower their electricity consumption at peak

times and to save on electricity bills through promotions and a reward scheme. This programme has enabled us to test the potential for rebate and special pricing programmes to encourage the more efficient use of our asset base and looks ahead to the implementation of a large scale residential demand response programme enabled by Advanced Metering Infrastructure (AMI) in Hong Kong in the future, if approved by the government.

- **Demand Response (DR) Programme**, which makes use of Smart Grid technology and AMI applications to enable the overall reduction of consumption when electricity demand is extremely high. Since 2013, we have been offering DR programmes to businesses and industrial customers and these programmes will now be recognised under the new Scheme of Control with effect from the summer of 2019, when additional incentives will be offered to CLP if DR targets are met.

In 2017, EnergyAustralia committed to deliver around 50MW of "demand response" reserve capacity across New South Wales, Victoria and South Australia as part of a pilot programme organised by the Australian Renewable Energy Agency (ARENA) and the Australian Energy Market Operator (AEMO). It is the largest single commitment in the three-year demand response trial. The programme aims to secure 160MW of capacity which can be called upon at short notice should availability in the national electricity market fall to critical levels.

 [Read our approach to demand-side management](#)



Planning for emergencies

We are committed to minimising disruption to our customers. Hence we are vigilant and always prepared to respond to and recover from any emergency situations in a timely and effective manner.

Planning for emergencies

To ensure we can respond effectively to natural or man-made crises and minimise any impact on people, assets, operations and the community, we have in place [emergency response and crisis management plans](#). These plans lay down the processes, actions and responsibilities for responding to and managing the full spectrum of possible situations – from an emergency incident at an individual asset level right up to a crisis that could affect the Group as a whole.

In 2017, the Group Crisis Management Plan was refreshed twice to reflect personnel changes and the establishment of a new back up Crisis Communications Centre (CCC). At Group level, two drills were conducted to remind and update key staff members of the activation protocols in place. At a regional level, the India Crisis Management Plan was activated due to significant community protests by one ethnic group seeking Government concessions for education and employment. The protests continue to be unrelated to our company or assets, but had the potential to affect us. No material impact to our business occurred.

Support for all of our employees engaged on business travel, both domestic and international, continues. Additional specific arrangements are also in place for seconded staff. Training sessions for both supporting staff and for the business travellers themselves have been provided to ensure higher levels of awareness all around.



[Read more on nuclear safety and plant decommissioning](#)



Procuring responsibly

We work with our suppliers to acquire the right products and services that best meet our business needs in a cost-effective manner, while maintaining a high level of integrity and ethical standards.

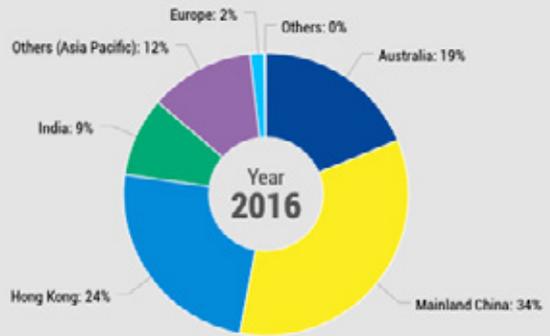
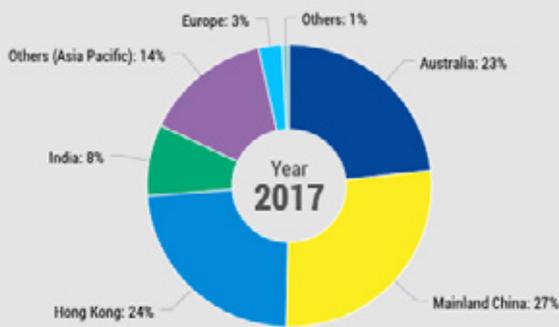
GRI Material Topic : Procurement Practices

Working in partnership

We understand that our responsibility lies beyond our operations and extends across our value chain. Our preferred suppliers are those who are ethical and committed to sustainable development, and share the same values as we have. Read more on our [procurement practices](#).

For all major assets in Hong Kong, Mainland China, Australia and India, we purchased from 5,536 suppliers a total of HK\$30.9 billion in 2017. Some 82% of this amount was from local suppliers in these four regions, supporting the local community, while meeting CLP's business needs.

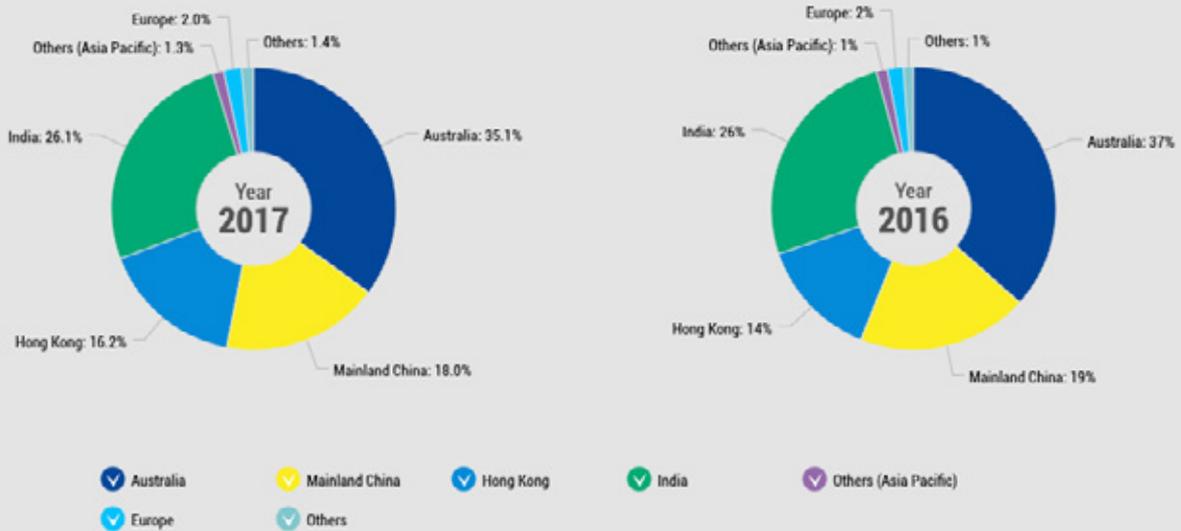
Payment to Suppliers by Region (HK\$M)



- ▼ Australia
- ▼ Mainland China
- ▼ Hong Kong
- ▼ India
- ▼ Others (Asia Pacific)
- ▼ Europe
- ▼ Others

	2017	2016
Australia	7,184	4,877
Mainland China	8,343	8,872
Hong Kong	7,264	6,301
India	2,527	2,355
Others (Asia Pacific)	4,467	3,096
Europe	830	415
Others	253	56
Total	30,868	25,972

Number of Suppliers by Region



	2017	2016
Australia	1,941	1,922
Mainland China	995	1,018
Hong Kong	899	721
India	1,443	1,366
Others (Asia Pacific)	70	65
Europe	112	95
Others	76	61
Total	5,536	5,248

Strategic procurement

Guided by the CLP Group Procurement Standard (GPS), we have launched several strategic procurement initiatives in 2017 across the Group.

We conducted a comprehensive review of our third-party spend across products and services received, resulting in the formalisation of group-level categories of spend governed by Category Councils. Each Council is comprised of subject matter experts providing supply market insights and knowledge of business stakeholders’ future requirements. Category Business Plans are developed in consultation with internal business stakeholders to identify and realise group leverage opportunities, and achieve best value for CLP and for our customers.

The relationship with our suppliers is critical to our long-term business success and so we take a collaborative approach in regularly engaging with them across the different levels of our organisations. We have developed a Supplier Relationship Management (SRM) framework for our key strategic suppliers to jointly review delivery performance, continuous improvement and innovation opportunities. This enables us to strengthen and align our business relationships, mitigate supply chain risks, drive continuous improvements in the areas of Sustainability, Health, Safety, Security and Environment (HSSE), Quality and Innovation, and optimise value from a Group perspective.

In 2017, we also appointed a Director of Procurement for the Group to enable deeper analysis of our spend and better leveraging of our Strategic Relationship Management framework with key suppliers.

GRI Material Topic : Supplier Social Assessment

GRI Material Topic : Supplier Environmental Assessment

Responsible procurement

A significant share of our third-party spend is with local suppliers, which support the local community while meeting CLP's business needs. They should be compliant with legal and business performance requirements and maintain internationally competitive pricing. All purchases performed should also be in line with CLP's values as

specified in our [codes and guidelines](#).

We perform segmentation of the supply base annually, considering both CLP's value of buy to our suppliers and the criticality of suppliers' products/services to CLP's operations, where sustainability is one of the critical aspects assessed. This supplier segmentation helps to identify CLP's key suppliers. We have Supplier Risk Assessment and Supplier Relationship Management Frameworks, under which key suppliers are evaluated, based on various criteria including CLP's value of buy to our suppliers, criticality of suppliers' products/services to CLP's operations, supply chain risk to CLP, as well as their sustainability capability. We then work collaboratively with the related suppliers to develop appropriate action and mitigation plans to address the identified issues or potential risks.

In the past year, we have assessed 78 key suppliers against sustainability requirements and conducted follow-up site visits with 3 key suppliers to verify responsible procurement practices.

In addition to existing suppliers, suppliers for critical projects awarded in 2017, which constitute the majority of our project bases in the year, are assessed on their relevant sustainability status and practices through self-declaration, tender evaluation, site visits or checks, and two-way performance reviews as appropriate. Based on project need, we define requirements on sustainability aspects including safety, health, labour practices, environment and quality, as applicable.



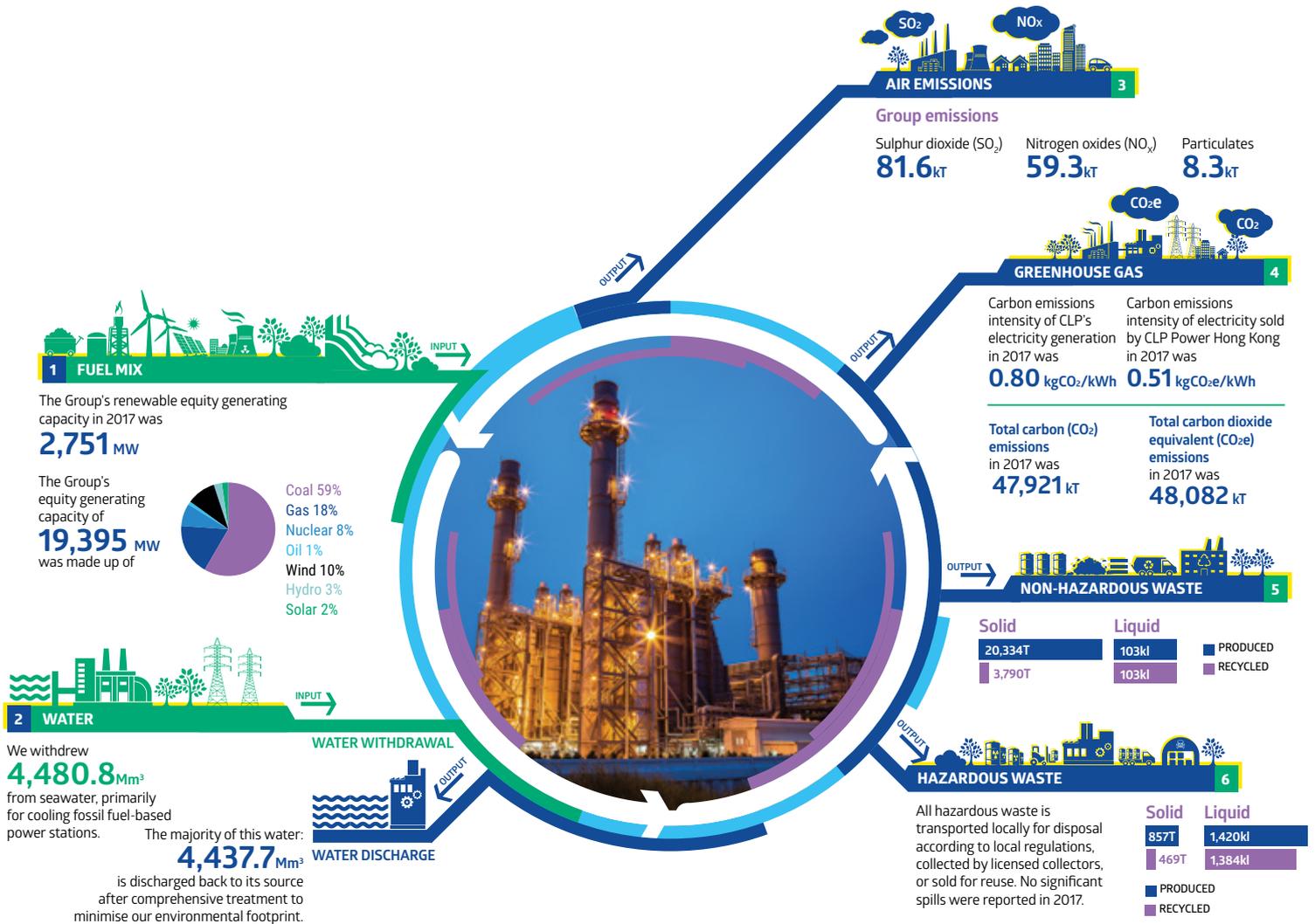
Our overall assessment and monitoring mechanisms have confirmed there were no significant risk findings related to our Responsible Procurement Policy Statement (RePPS) in 2017. No supplier relationship was terminated due to the assessment and monitoring result. Given the nature of our business, we collaborate with suppliers in managing environmental impact during operations. Our business operation involves construction and site work, for which subcontracting is a common practice in the industry. We have engaged some critical sub-contractors in Hong Kong to understand their sustainability status and practices in 2017, and will continue such engagements in 2018, with the aim of further uplifting their sustainability capabilities.

We keep abreast of the external trends and latest development on sustainable procurement, such as the ISO Guide on Sustainable Procurement (ISO 20400:2017), that provides guidance to organisations on integrating sustainability within procurement, for continuous improvement purposes. We also proactively seek opportunities to advocate responsible procurement to peer companies through organised practice and experience sharing activities.

In addition, we are committed to protecting the company's intellectual property rights, as well as all applicable laws and regulations, including observing the intellectual property rights of our suppliers and vendors.

Natural Capital

Our business relies on natural resources. It is in our interest to use resources wisely and manage our impacts vigilantly so that we can continue to operate our business sustainably.





David Simmonds, Chief Administrative Officer of CLP Group

“Climate change remains one of the most significant global trends affecting CLP’s business. Governments are expecting businesses like ours to help them achieve their Paris Agreement commitments.”

What were the highlights in 2017?

In 2017, the Group’s carbon intensity dropped from 0.82 kg CO₂/kWh to 0.80 kg CO₂/kWh and with the completion of our 17% investment in the Yangjiang nuclear power station in 2017, the declining trend is expected to strengthen in 2018.

In 2017, we developed a set of carbon transition scenarios to support the review of our Climate Vision 2050. The outcomes of the review included: tightening of our 2050 carbon intensity target from a 75% to 82% reduction from 2007 levels; introducing new carbon intensity reduction targets of 40% for 2030 and 60% for 2040; developing a new renewable energy target of 30% and non-carbon emitting target of 40% by 2030; and reporting our Climate Vision 2050 metrics on an ‘equity + capacity purchase’ basis to reflect more accurately our generating capacity needs. These new targets demonstrate CLP’s commitment towards a low carbon future and we will continue to review these targets on a regular basis to ensure that we take into account the changing pace of developments in the climate change arena.

What trends do you see pushing the natural capital agenda?

Climate change remains one of the most significant global trends affecting CLP’s business. The physical impacts of extreme weather conditions can affect our operations as well as the value of our assets. Governments are expecting businesses like ours to help them achieve their Paris Agreement commitments. Economics and market forces are further supporting the energy transition as the costs of renewable energy continues to fall, while the replacement costs of fossil fuel generation are beginning to rise. Investors, lenders and insurers are also demanding more reporting on the management of potential business risks posed by climate change, as well as divestment from coal-related activities. The Recommendations of the Financial Stability Board’s Task Force on Climate Financial Disclosures (TCFD) is evidence of this latest trend.

We are also seeing regulations over other environmental impacts such as for air, water, waste and biodiversity for

example, becoming increasingly stringent over time. This is happening in all our operational jurisdictions, particularly in Mainland China where protection of the environment has become a clear priority and President Xi has stated that China “will enforce stricter pollutants discharge standards and see to it that polluters are held accountable.” The expectation is that these regulations will ultimately make fossil fueled generation less attractive than renewable energy. However, we also believe that as more renewable energy is utilised, we may see more environmental-related regulations for renewable energy-related developments as well.

How is CLP prepared to face the relevant challenges?

Our tradition of going beyond compliance essentially helps to prepare us in advance of anticipated regulations. We track the relevant emerging business risks, such as those arising from potential regulations and develop relevant mitigation measures, such as guidelines and policies, as well as any new capabilities needed to implement these measures. Incorporating flue gas desulphurization (FGD) equipment into the design of Jhajjar in India, when it was not a requirement under the local government’s tender specification, is testimony to our ability to anticipate and make the necessary, often difficult, decisions to mitigate a risk that is not yet here today.

As countries pursue their energy transition, they must bear in mind the importance of balancing the energy trilemma. When delivering power, the three areas of energy equity, energy security and environmental sustainability, often compete with each other. For example, in Australia, in the face of coal plant closures, high penetration of renewable energy in some areas and an uncertain energy policy the security of power supply has been compromised, leading to price hikes and supply disruptions. As countries go through their energy transition pathways, they must keep balancing these three areas so that none of them is significantly and irreversibly compromised. With over a century of experience in this industry, CLP is capable to meet the energy trilemma challenges that may occur as we transition towards a low carbon future.



Topics covered in this chapter

Transitioning to a low carbon future

Lowering GHG emissions

GRI **Most Material**

- Emissions
- Energy

GRI **Material**

- System Efficiency

Using our resources efficiently

Minimising impact on the environment

GRI **Material**

- Water
- Effluents and Waste

GRI **Material**

- Biodiversity

Monitoring emerging regulations

How we manage Natural Capital

> **Our Management Approach**

GRI **Most Material**

- Environmental Compliance



Transitioning to a low carbon future

We develop and implement strategies to address renewable resources and global climate change as key issues for the energy sector.

Our Climate Journey

Our climate change journey began back in 2004, when we published our first renewable energy target of 5% by 2010. In 2007, we set a carbon intensity reduction target of around 75% by 2050 compared to 2007 levels, which was based on the scenarios presented in the Energy Technology Perspectives 2006 publication from the International Energy Agency (IEA). This target became the cornerstone of our Climate Vision 2050, and was supported by a series of interim carbon emissions intensity targets in 2010, 2020, and 2035. We were amongst the first power utilities in the world to commit to a carbon reduction pathway.

In 2010, our Climate Vision 2050 was updated and the 2020 carbon intensity target was stepped up from 0.7kg CO₂ / kWh – a reduction of around 15% from 2007 levels – to 0.6kg CO₂ / kWh, a reduction of around 30%. Having already met our 5% target, we set a new 2020 renewable energy target of 20% and a non-carbon emitting target for the same year of 30%, including nuclear power.

We had previously committed to reviewing our Climate Vision 2050 roadmap in 2018, after the Intergovernmental Panel on Climate Change releases its new 1.5°C emissions scenario projections. Given the positive momentum created by the successful ratification of the Paris Agreement on climate change, as well as one of the Financial Stability Board's Recommendations of the Task Force on Climate-related Financial Disclosures being the use of 2°C scenario analyses, we believed it was appropriate to start this review a year earlier in 2017.



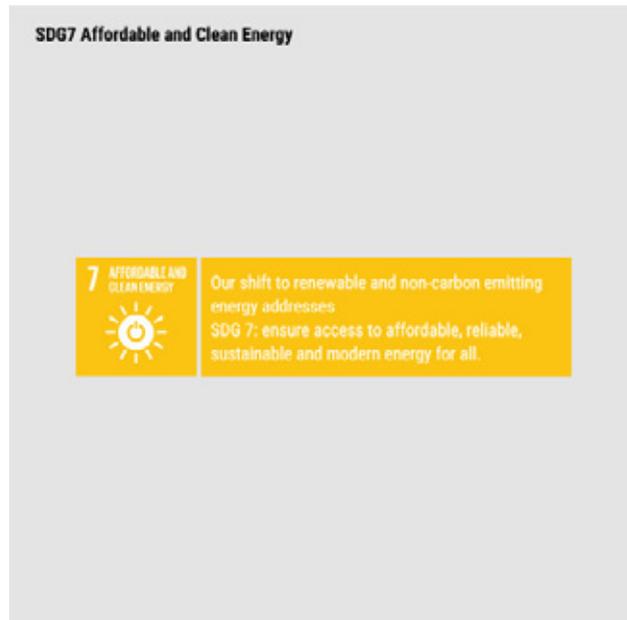
Reviewing our Climate Vision 2050

A great deal has changed in the climate change arena since we published our Climate Vision 2050 in 2007. Most world leaders have signed up to the Paris Agreement and there have been giant strides in climate change science, technology and social expectations.

In reviewing our Climate Vision 2050, we carried out scenario analyses to test the impact on our business of varying speeds of transition to a low carbon future in each of our markets, along with different options for implementing our approach. We developed realistic simulations of how our business would look under slow, medium, and fast transition scenarios and set them against the International Energy Agency's World Energy Outlook 2016 projections for world and regional energy development. It transpired that the targets we set a decade ago had predicted the future relatively well and were close to the medium-speed scenario that assumes countries will meet the targets set out in the Paris Agreement.

Although our original targets were still valid considering the anticipated pace of change in our region, we believed there was room for improvement. Now, to further support the Paris Agreement goals, we have set even more ambitious targets.

[Read more on how we move towards clean energy](#)

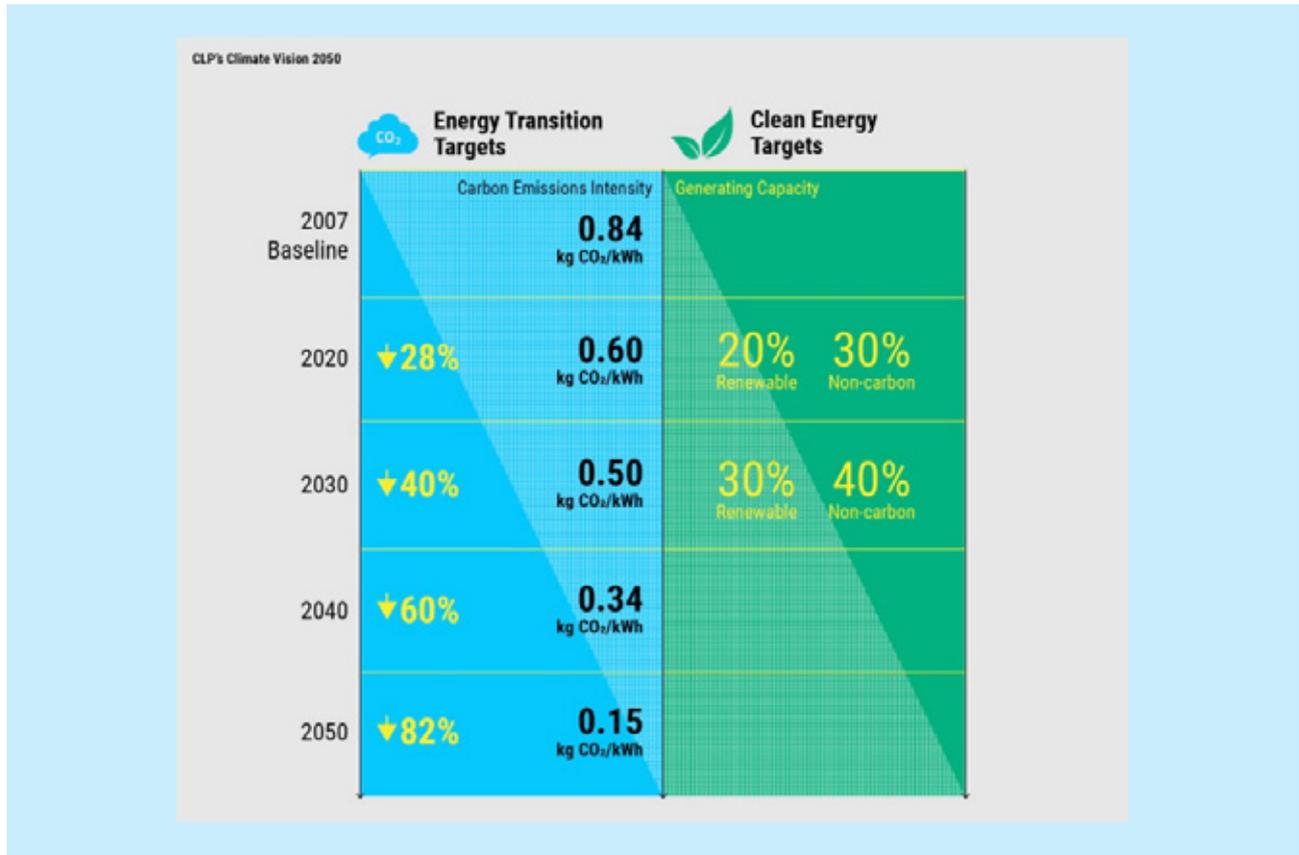


Our updated Climate Vision 2050

The changes in the current review included:

- **Tightening of our cornerstone carbon intensity reduction target from 75% to 82% by 2050** compared with 2007;
- **Developing new interim carbon intensity reduction targets of 40% by 2030 and 60% by 2040** compared with 2007. We have removed the previous interim target for 2035 to better align with the Paris Agreement timeline as well as the United Nations Sustainable Development Goals, which focus mostly on 2030; and
- **Establishing a renewable energy target of 30% and a non-carbon emitting target of 40% by 2030**, considering the growing significance of solar and wind in new capacity additions globally.

The updated targets build on the optimism of our original aspirational, science-based trajectory, but take into consideration the realities of the development of energy markets in the Asia-Pacific region. We believe these new targets are challenging and ambitious and we will review them regularly to ensure that we take into account the momentum of change over time. For a more holistic picture of power capacity requirements, we will also begin to report our progress on these targets on a basis that includes capacity purchases in addition to facilities we own and operate. The two new targets on renewable energy and non-carbon emitting energy for 2030 will also take into account the capacity purchases we make.



Upcoming carbon trading schemes

Our assets currently do not operate in any locations where mandatory or voluntary carbon trading schemes are in place. However, we believe this will change in Mainland China.

In December 2017, the Chinese government announced the launch of a nationwide carbon market, which is set to be the world's largest carbon trading system and underlines the country's determination to fulfil its pledge to see carbon emissions peak by the end of 2030. The initial phase of the market will cover only power generation. Power generators will be granted a certain amount of free emissions allowance by the Government and those emitting beyond the allocation will have to procure the shortfall from the market. We will closely monitor the impact on our assets and ensure that all our projects comply with the obligations.



Helping our customers towards net zero carbon

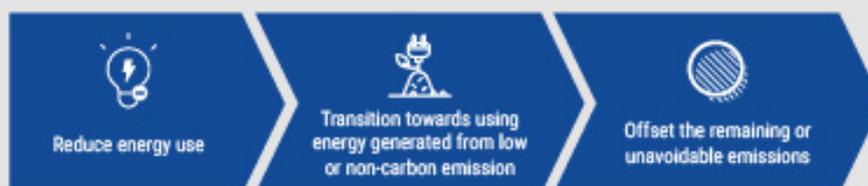
As well as reducing our own carbon footprint, it is essential that we support our stakeholders on their journeys to a low carbon future. In 2017, we completed the development of an eCommerce platform which allows users to purchase carbon credits online. The platform is planned to be launched in the first quarter of 2018.

The platform allows users to calculate their carbon emissions and purchase carbon credits from our India windfarms online, making it easier for individuals or organisations to offset their carbon emissions on voluntary basis. In many markets, we believe a price on carbon is inevitable. Therefore, offsetting unavoidable emissions is one way to begin incorporating a potential price on carbon into the financial planning and budgeting process for an individual or an organisation. This will be the last component of the three-step range of solutions we plan to offer our stakeholders to assist them in their journeys towards achieving net zero carbon emissions.

At EnergyAustralia, customers can now get 100% carbon neutral electricity in their home at no extra cost. For customers who opt for carbon neutral electricity, EnergyAustralia purchases carbon offset units which support projects that reduce emissions, such as renewable energy projects in developing countries or land management and tree planting in Australia, to offset the amount of carbon they release into the atmosphere. Over 100,000 customers have opted in to this programme.

In Hong Kong, under the new Scheme of Control, we will introduce a new Feed-in-Tariff Scheme later in 2018, to support our customers to develop their own RE projects.

How we help our stakeholders achieve net zero carbon emissions





Lowering GHG emissions

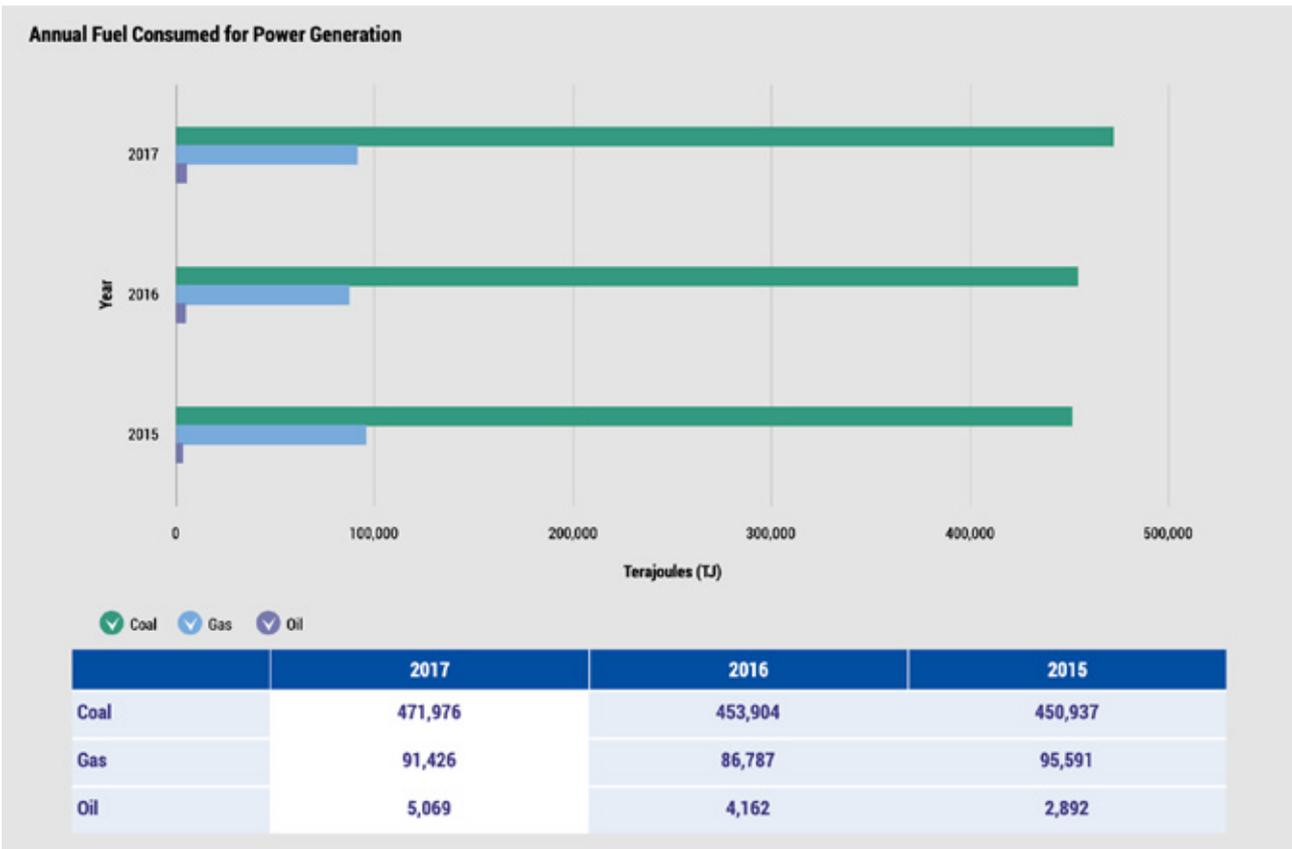
We are committed to using all resources, including fuel, water and other natural resources efficiently and conservatively, and to increase the use of renewable resources.

GRI Most Material Topic : Energy

GRI Material Topic : Materials

Fuel Use

In 2017, the total fossil fuel consumption for power generation increased compared to 2016, with the use of 4.0% more coal and 5.3% more gas. For coal consumption, this was due mainly to increased output from Jhajjar in India and Fangchenggang in Mainland China, outweighing the reduction in output from Yallourn and Mount Piper in Australia, and Castle Peak in Hong Kong. For gas consumption, the increase was due to more generation from Tallawarra in Australia and Black Point in Hong Kong.



GRI Most Material Topic : Emissions

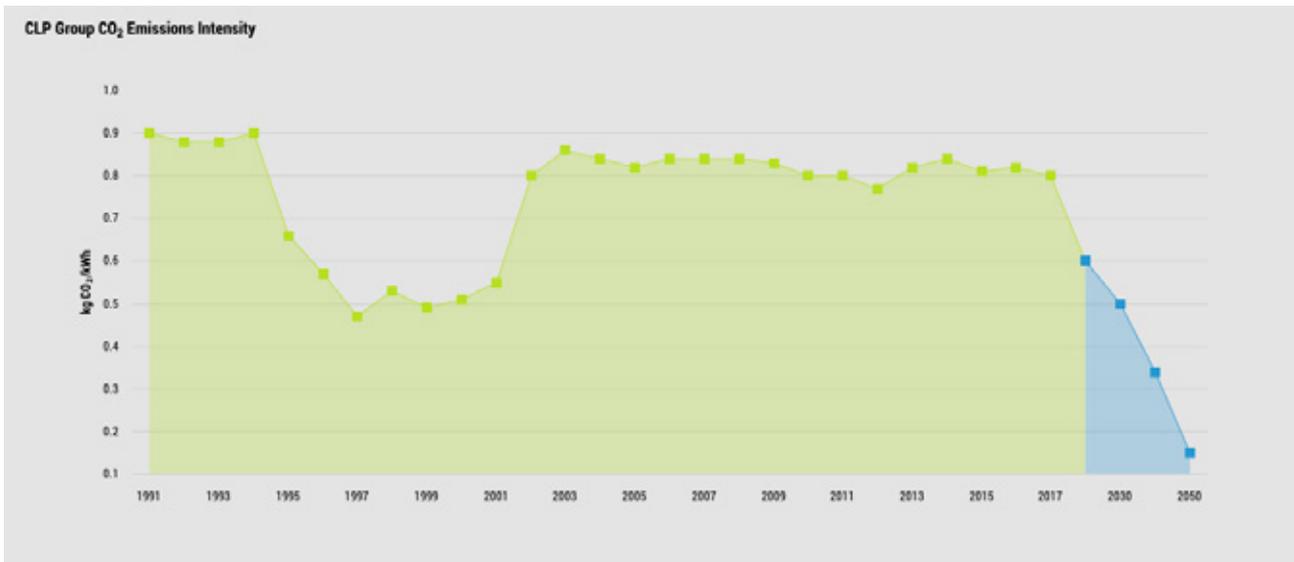
Emissions

In 2017, our Group’s carbon intensity decreased to 0.80kg CO₂/kWh from the 2016 level of 0.82kg CO₂/kWh. It was mainly due to decreased output from the coal-fired plants of Castle Peak power station in Hong Kong, Mount Piper and Yallourn power stations in Australia; and increased output from the gas-powered and more fuel-efficient Tallawarra Power Station in Australia. The significant decrease in generation from less efficient coal plants and increase in output from a more efficient gas one in Australia meant less carbon emissions were emitted per unit of electricity sent. This reduction in carbon emissions is a trend we expect to build upon with the addition of our investment in the Yangjiang nuclear power station.

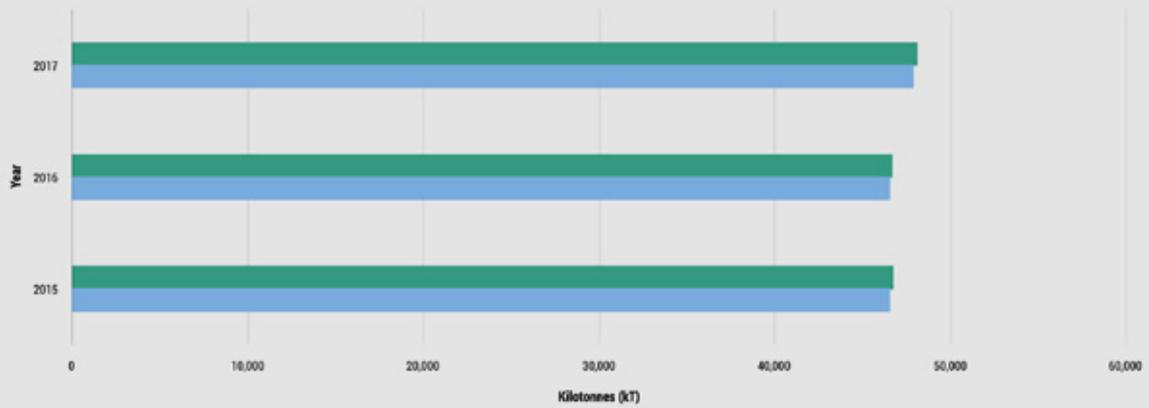
CLP’s Progress Towards Our 2020 Targets

	CO ₂ Emissions Intensity	Renewable Capacity	Non-carbon Emitting Capacity
Basis	Equity Ownership / Equity Ownership + Capacity Purchase	Equity Ownership / Equity Ownership + Capacity Purchase	Equity Ownership / Equity Ownership + Capacity Purchase
2017 Performance	0.80kg CO ₂ / kWh / 0.69kg CO ₂ / kWh	14.2% / 13.1%	22.4% / 23.2%
2020 Target	0.6kg CO₂ /kWh	20%	30%

The carbon intensity of the electricity used by our customers in Hong Kong in 2017 was 0.51 kg CO₂e/kWh, a decrease from 2016 (i.e. 0.54 kg CO₂e/ kWh). This was a result of reduced coal consumption and maintaining the increased consumption of natural gas to meet the Government’s emissions requirements in Hong Kong, plus increased output from Guangdong Daya Bay Nuclear Power Station (GNPS) in Mainland China.

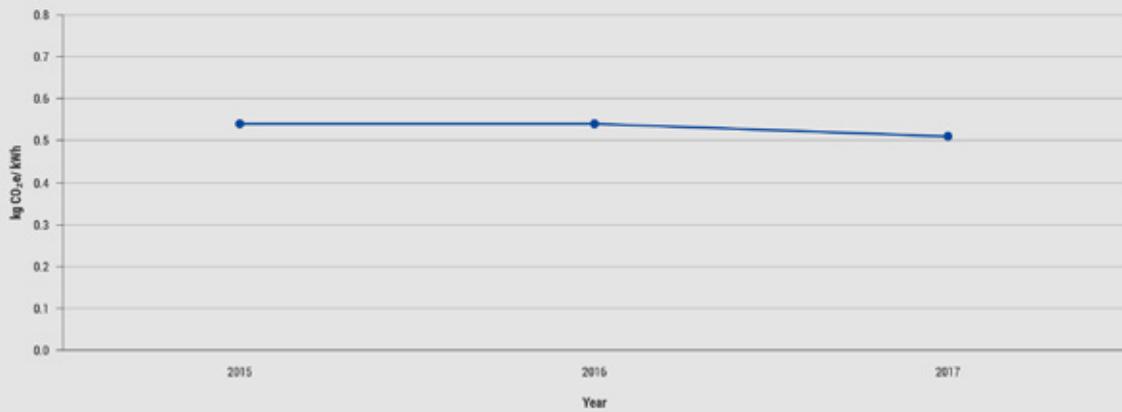


Greenhouse Gas Emissions from Power Generation



	2017	2016	2015
CO ₂ e	48,082	46,681	46,723
CO ₂	47,921	46,518	46,553

Emissions Intensity (Scope 1) of CLP Power Hong Kong Electricity Sold



	2015	2016	2017
in CO ₂ e (kg CO ₂ e/kWh)	0.54	0.54	0.51



Using our resources efficiently

We are committed to using all resources efficiently and conservatively, including water, which is required for most types of power generation.



Material Topic : Effluents and Waste



Material Topic : Water

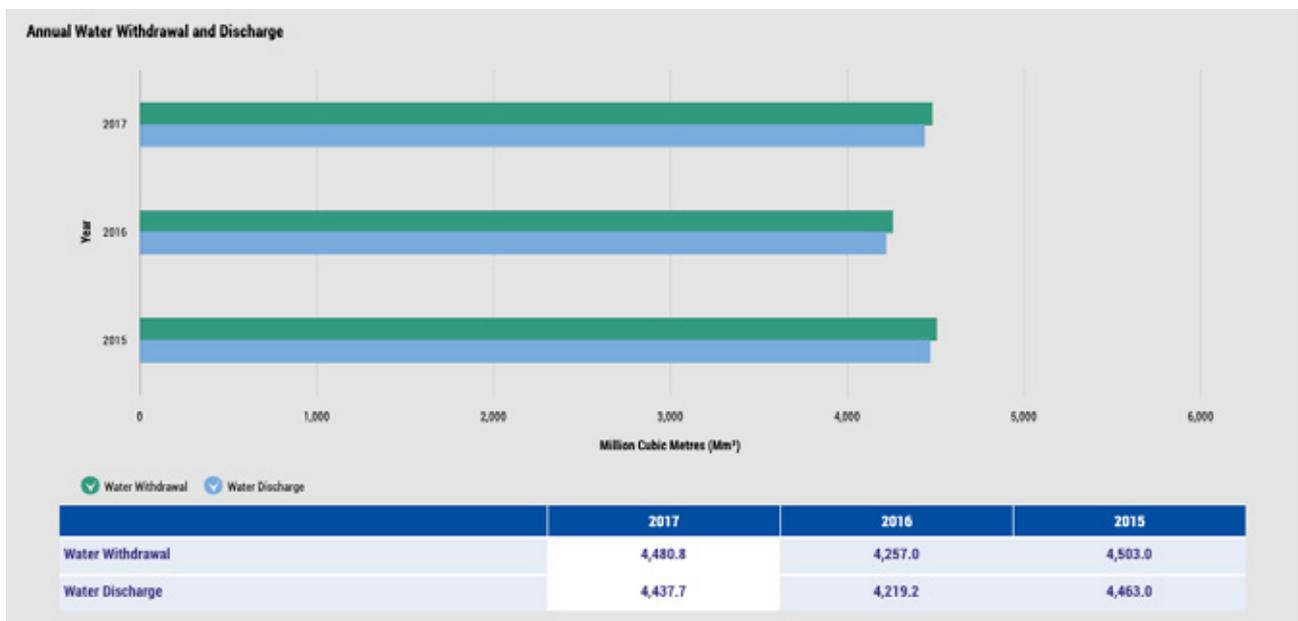
Water

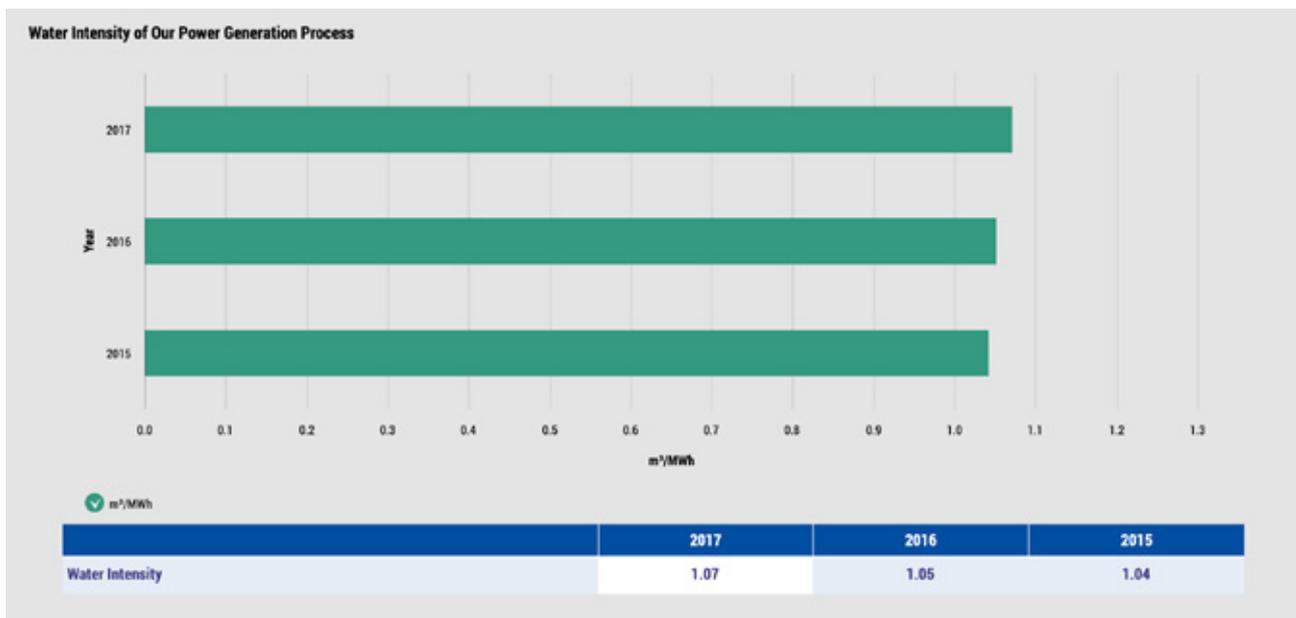
The largest volume of water we withdraw from water bodies is seawater for cooling purposes and this is confined to our fossil fuel-based power stations. The majority of this water is safely discharged back to source after appropriate treatment to minimise the environmental impact.

Our facilities monitor their total water withdrawal and discharge. The quantity of Water withdrawal and discharge in CLP's operations is dominated by thermal plants using once through seawater cooling where very large quantities of seawater are used for cooling and returned to the sea with only slight increase in temperature. In 2017 FCG II commenced operation and Tallawarra had higher generation and these operations resulted in an overall increase in water use.

The water intensity of our power generation process in 2017 of 1.07 m3/MWh, was similar to 1.05 m3/MWh in 2016. The amount of water we are able to recycle depends on factors such as location, power station design, and regulatory requirements. We encourage our power stations to track their total water recycling and report this for indicative purposes.

We manage our water resource risks through a number of means. We assess water availability in the planning stage of projects including the likelihood of water scarcity in the future and during plant operations, we ensure that all requirements and necessary engagements with local stakeholders are in place to maintain our licence to operate. As a result of the water treatment processes we have put in place at our power stations, none of our operations significantly impact the respective water receiving bodies.





Water conservation initiatives

Our power stations, in particular our fossil-fuel fleet which uses more water, have carried out a range of water conservation initiatives depending on site-specific conditions, operational situations and age. Some new initiatives in 2017 were:

- **Jhajjar Power Station, India** – In 2017, the cooling water system at Jhajjar was optimised. Combined with improved efficiency brought by higher plant load, raw water consumption dropped by 9% and water recirculation increased by 14% respectively in 2017 compared to 2016.
- **Fanghenggang Power Station, Mainland China** – A water recycling system has been installed to collect used water from the coal yard. The water is treated and used for suppressing the dust of the coal stock and general cleaning.

We also place high emphasis on learning and sharing across CLP Group, so that all our business units can benefit from an individual power station's efforts and experience.

GRI Material Topic : Effluents and Waste

Waste

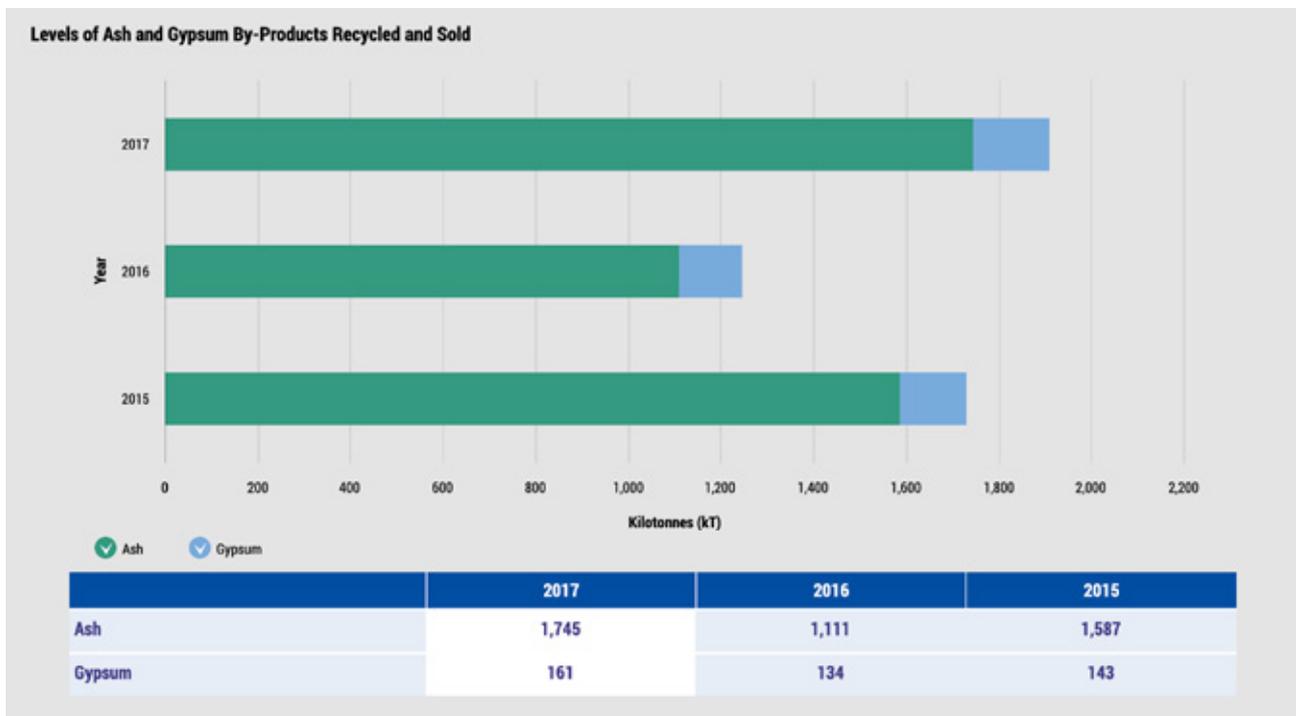
We monitor our waste generation by tracking the amount of both solid and liquid forms of hazardous and non-hazardous waste produced and recycled by our facilities on an annual basis.

All hazardous waste is transported locally for disposal according to local regulations, collected by licensed collectors, or sold for reuse. The amount of hazardous and non-hazardous waste we produced and recycled are summarised below.

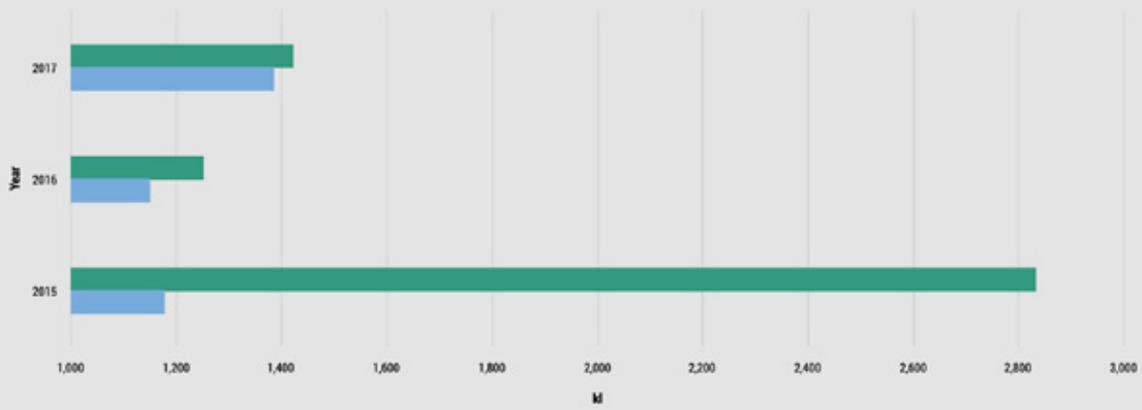
No significant spill was reported in 2017.

WASTE RECYCLED

Our total solid waste increased to 21,191T in 2017 because of construction at our Black Point Power Station in Hong Kong. We continue to sell our generation by-products such as ashes and gypsum for use in other industries.

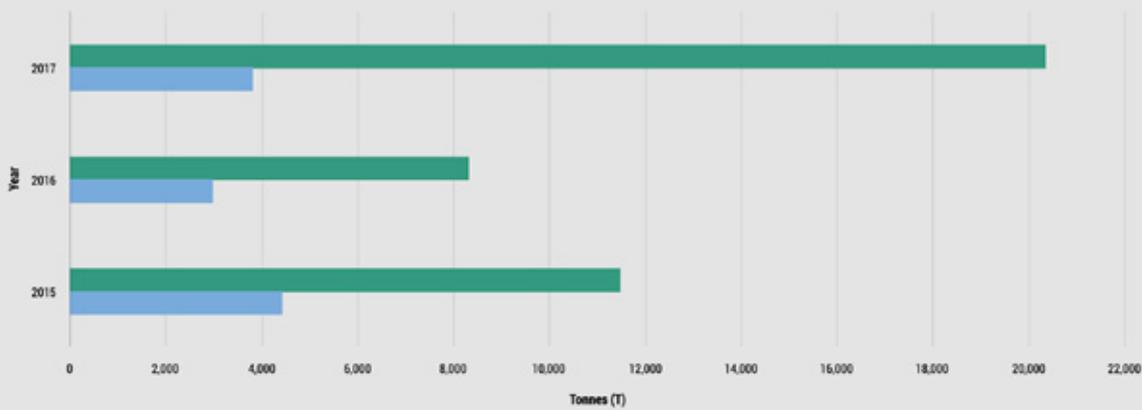


Hazardous Liquid Waste Produced and Recycled



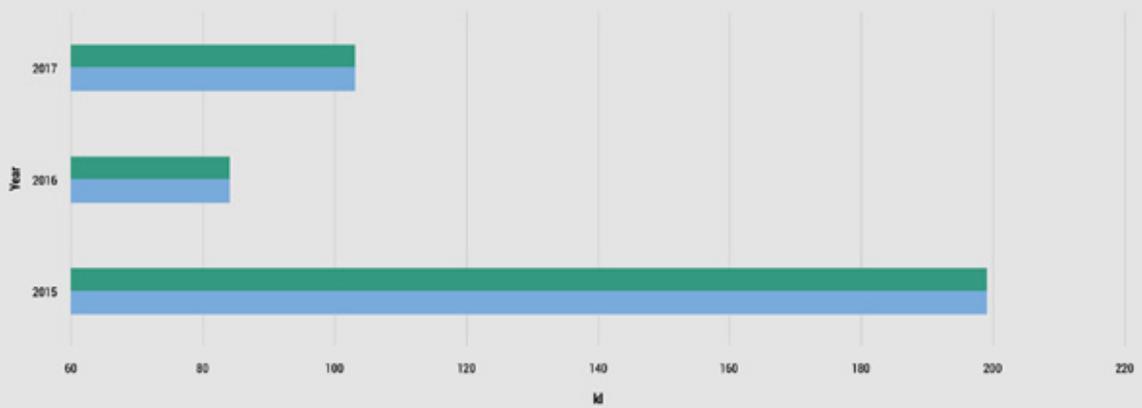
	2017	2016	2015
Hazardous Liquid Waste Produced	1,420	1,251	2,832
Hazardous Liquid Waste Recycled	1,384	1,149	1,176

Non-Hazardous Solid Waste Produced and Recycled



	2017	2016	2015
Non-Hazardous Solid Waste Produced	20,334	8,317	11,455
Non-Hazardous Solid Waste Recycled	3,790	2,963	4,414

Non-Hazardous Liquid Waste Produced and Recycled



	2017	2016	2015
Non-Hazardous Liquid Waste Produced	103	84	199
Non-Hazardous Liquid Waste Recycled	103	84	199

Waste management programmes

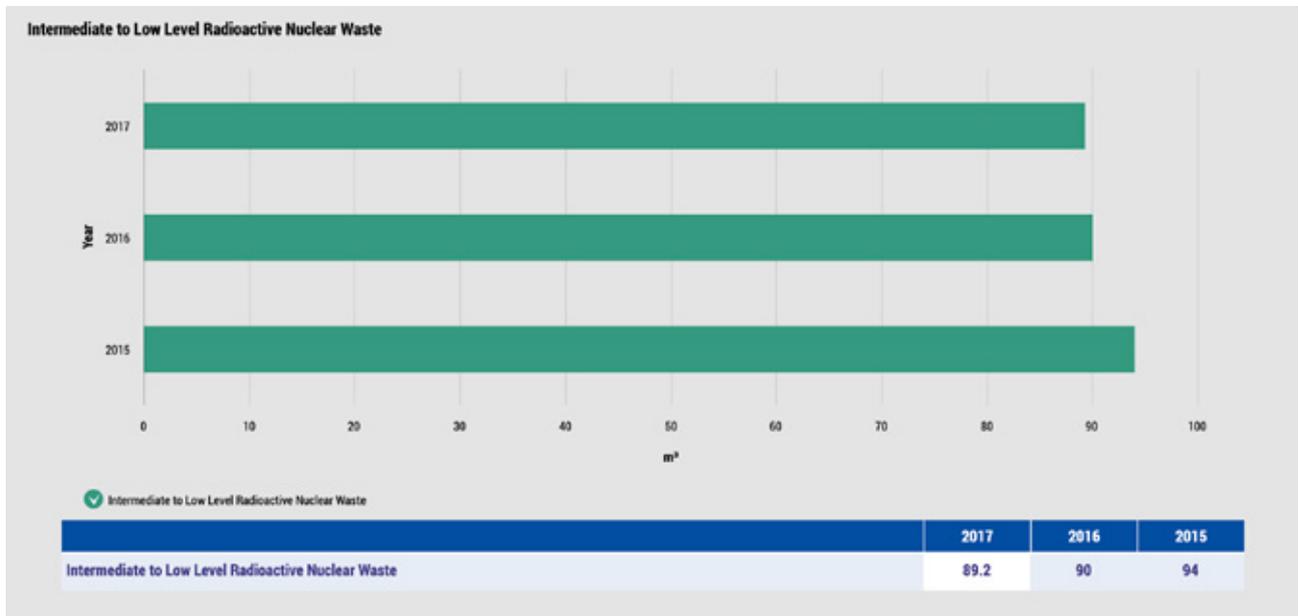
During the year, our power stations run different programmes to manage waste, and learning is shared with both our colleagues and contractors to raise awareness and build capacity. Examples of our programmes in 2017 included:

- Some of our older power stations using materials which were at the time deemed efficient, but later classified as hazardous and so replacement programmes are implemented. For example, at Castle Peak Power Station, we have been replacing HCFCs in air conditioners and HVAC chillers in a rolling programme. Seventy-three air conditioners and three chillers were replaced in 2017.
- At Jhajjar Power Station in India, an oil filtering system was installed in the middle of the year, through which approximately 11,000 litres of oil was filtered and reused in 2017.

NUCLEAR WASTE

The quantity of spent nuclear fuel produced by GNPS for the past several years is presented here. Quantities were similar in 2015 and 2017 as there was only one planned refuelling outage, while there were two in 2016.

[Read more about a Nuclear Power and Safety](#)





Minimising impact on the environment

We ensure that all key environmental impacts are identified and managed in a responsible manner throughout they life cycle of our assets, from construction, operation to decommission.



Air emissions

Our total air emissions rose to 149.2kT in 2017 from 137.8kT in 2016, due mainly to a significant increase in generation from Jhajjar in India driven by greater customer demand. We continued to invest in maintaining our standards of efficiency for our plants and to meet increasingly stringent regulations on emissions and fuel efficiency across different jurisdictions. An example is our emissions control retrofit of one unit completed at Fangchenggang I in Mainland China, in 2017.

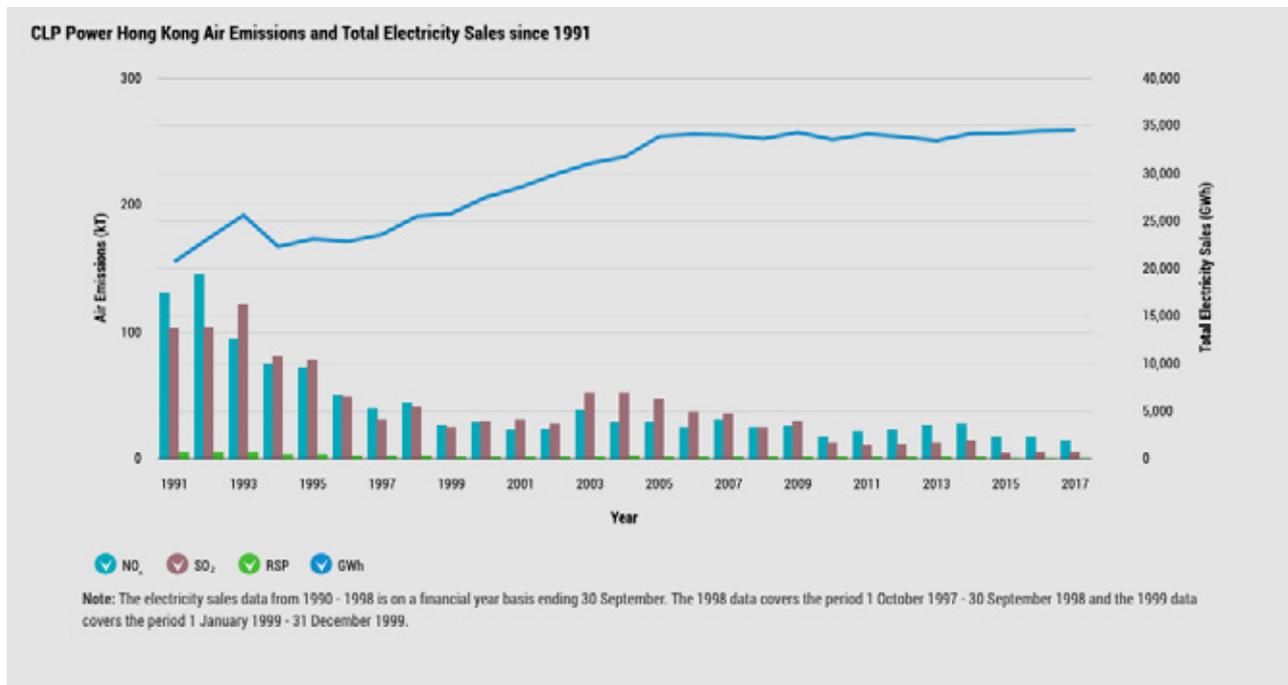
Hong Kong

Our operations in Hong Kong are subject to a number of laws and regulations relating to environmental protection and safety. For 2017, the Company and CAPCO maintained full compliance with environmental licence requirements in all material aspects.

Since 1990, we have concentrated our efforts on reducing emissions and, despite a more than 80% increase in electricity demand, we have managed to reduce emissions of SO₂, NO_x and RSP by more than 85%.

Since 2017, CAPCO has faced a new set of emissions caps that required its power plants to further reduce emissions by 6% to 9% from the very tight base of 2015 and 2016. CAPCO was able to meet these new requirements, due to increased gas consumption optimising the fuel mix, the use of more low-emissions coal, enhancing the effectiveness of emissions control facilities – all whilst maintaining high supply reliability at the same time.

CLP Power Hong Kong concluded discussions with the Government on a new set of emissions caps for the power stations starting in 2022. Under the new Technical Memorandum, the allowances for air emissions of SO₂, NO_x and RSP in 2022 and afterwards will be reduced by 80%, 53% and 53% respectively compared with 2010 levels.



Our fuel mix strategy in Hong Kong

A diversified fuel mix is crucial for energy security and maintaining a balance between meeting emissions caps requirements and mitigating fuel cost pressure. In 2017, we continued to optimise our diversified fuel mix which consists mainly of coal, nuclear and natural gas.

In March 2015, in the public consultation on future development of the electricity market, the Hong Kong Government announced a new policy objective, which is to increase Hong Kong's percentage of local gas generation to around 50% of the total by 2020. To support this direction, in 2016 CLP obtained Government approval for the construction of a new 550MW gas-fired high efficiency combined cycle generation unit at the Black Point Power Station. Construction work is in progress and we aim to commission the new unit before 2020.

In addition, we continued our discussions with the Government and other stakeholders regarding the proposal to build an offshore liquefied natural gas terminal in Hong Kong waters that will enable us to have direct access to a range of gas sources from around the world and strengthen the reliability of Hong Kong's fuel supplies. The project is in the final stages of its environmental impact assessment study and we target to obtain Government approval towards the end of 2018. We are also proactively engaging with potential suppliers to secure the additional supply of gas needed on a long-term basis. A final investment decision on the project is expected by the end of 2018.

For gas demand in the near term, we are working closely with CNOOC China Limited to link the new Wenchang gas field in the South China Sea to our existing pipeline to bring additional gas to Hong Kong in the second half of 2018.

In January 2017, the Government announced a new carbon intensity reduction target. By 2030, Hong Kong will lower its CO₂ emissions per unit of GDP by 65% to 70% from the 2005 level. According to the Government, Hong Kong will phase down coal-fired electricity generation and increase the use of natural gas and non-fossil fuels in the fuel mix in order to meet this target. CLP will work closely with the Government on the way forward.

Land remediation

The Wallerawang Power Station in New South Wales, Australia is undergoing decommissioning, demolition and rehabilitation (DDR) which will require large areas of land to be remediated. Assets such as ash dams, coal stockpiles and asbestos repositories will be remediated to an agreed environmental standard to ensure that the land and associated ground and surface water will be suitable for redevelopment or closure.

A resource recovery project is underway to recycle or redeploy materials from the power station rather than dispose of them to landfill. Environmental impact studies are underway to

determine how the land will be remediated to the required environmental standard. Regulatory approvals are being sought to allow Wallerawang to import capping material (clean fill) that will be needed to remediate the ash and asbestos repositories. In addition, the management of water in and around the DDR site will be crucial to ensuring the long-term success of the land remediation. Modelling of groundwater options to allow for the closure of the ash repositories is currently underway.

GRI Material Topic : Biodiversity

Biodiversity

We manage our biodiversity impacts on a site-specific basis since our operations have different levels of interaction with the local ecosystems, depending on factors such as location, the level of development in the vicinity and the surrounding environment.

Many of our work on biodiversity across the Group have become ongoing activities such as the vegetation management work along our transmission lines in Hong Kong, the fish management regime in place at our Jiangbian hydro power station in Mainland China, as well as the bird cataloguing work by Paguthan Power Station in India.

For our transmission and distribution network in Hong Kong, biodiversity within protected areas is particularly material. Protected areas include country parks, marine parks and the Mai Po Nature Reserve (a RAMSAR site), which are identified as having high biodiversity value. We have a total of about 104 km of 400kV overhead lines in designated country parks and the Mai Po Natural Reserve (about 52 km in length). A series of ordinances regulate and guide our design, construction and decommissioning work and the equipment used in these areas to minimise impact to the surrounding ecosystems.

In Australia, there is a Progressive Rehabilitation Plan and a Conservation Management Plan for the Yallourn Mine that specifies the actions and plans for the life of the Mine and its final rehabilitation. This considers and requires a net biodiversity gain for losses due to mining. Our biodiversity offsets have generally scored a net gain although some areas were significantly affected during the Feb 2014 fires and are slowly recovering.



The mine is located in a predominantly industrial area which is recognised as a modified ecosystem. The habitats protected or restored include Plains Grassy Woodland, Swampy Riparian Woodland, Riparian Scrub and Wetland Complex. The species included flora and fauna in the IUCN Red List and national conservation lists, including Strzelecki Gum (*Eucalyptus strzeleckii*) which is listed as “vulnerable”, and the Great Egret which is of state significance.

Our Mt Piper and Wallerawang Power Stations also have a Biodiversity Offset Management Plan which sets out the establishment of native vegetation to benefit the land and native wildlife. In December 2017 around thirty volunteers from the power station planted up to 500 trees and shrubs at Thompsons Creek Dam which was built to supply water to Mt Piper. The Large-eared Pied Bat and Eastern Bent-wing Bat are listed as threatened species in the area, so the plants sourced from the local nursery were chosen to provide additional habitat for the bats.



Monitoring emerging regulations

Environmental regulatory requirements are becoming more stringent in many locations. We are monitoring these developments closely and seek to voluntarily follow standards that go beyond the minimum legal requirements.



Most Material topic: Economic performance

Environmental regulatory compliance

For the year ending 31 December 2017, there were no environmental non-compliance incidents resulting in fines or prosecution at any of our operating sites. In 2016, some environmental and forestry land damages occurred relating to the construction of the Sandu I Windfarm in Guizhou province. All site environment restoration and seasonal revegetation works were completed in 2017.

In 2017, there were 13 licence limit exceedances for particulate emissions at Jhajjar in India, which were minor incidents that did not result in any penalties. This was related to the significantly greater use of Jhajjar during the year and overall, Jhajjar has reduced its particulate matter emissions per unit of electricity sent out.

	2017
Environmental regulatory non-compliances resulting in fines or prosecutions	0
Environmental licence limit exceedances & other non-compliances	13

Key emerging environmental regulations

We carefully track emerging environmental regulations in order to prepare for compliance as far ahead of time as possible.

Mainland China

In May 2017, National Ministry of Environmental Protection and National Development and Reform Committee (NDRC) jointly released the "Guideline on Designation of Ecological Protection Zone", requiring all provinces finalise their provincial ecological zoning plan by the end of 2018, which controls project development in the designated Protection Zone. We have assessed potential impacts across our asset base and formulated an action plan to monitor the development of provincial ecological zoning plans.



Australia

An emerging issue in Australia relates to the legacy use of a group of manufactured chemicals called perfluorooctane sulfonic acid (PFOS) and types of per- and polyfluorinated alkyl substances (PFAS). In October 2017 the Federal Government released a Regulation Impact Statement on options for a national phase out of PFOS, as Australia is party to the Stockholm Convention but has not yet ratified. Draft National standards for the management of PFAS have been finalised but are not yet incorporated into State legislation. The State environmental regulators have provided guidance on the use of the draft PFOS standards, recommending their immediate application. EnergyAustralia is currently assessing the extent and risk profile of PFAS impacts at our sites.

The Victorian State Government amended its coal mine rehabilitation bond policy in July 2017, increasing Yallourn's rehabilitation bond from A\$11.4 million to A\$148 million.

India

A set of new statutory limits applicable to coal-fired power plants in India have been announced in a phased manner, with Jhajjar being expected to operate fully using the flue gas desulphurisation (FGD) units with effect from 31 January 2019. The new limits cover particulates, nitrogen oxides, sulphur dioxide, and mercury. There is also a water use intensity requirement. Jhajjar is already equipped with environmental control systems to comply with most of these limits, and a cross functional team has been formed to prepare Jhajjar for meeting these new requirements before the deadline.

International and national standards

We monitor developments in key environmental standards to ensure we are well prepared for full compliance with local and international laws when they become effective.

Mainland China

China's environmental protection tax law has taken effect from 1 January 2018. Environmental protection taxes are levied on air pollutants, water pollutants, solid waste and noise, replacing pollution discharge fees which have been introduced for about 40 years. Corresponding tax rates are being finalised by respective provincial government.

For both phases of Fangchenggang, achieving the ultra-low emission requirement in 2018, we do not anticipate any significant impact to our operations.

India

India tightened emission and water usage norms for thermal power plants. Accordingly to these recent changes, our Jhajjar power plant needs to ensure that our PM, NO_x, SO₂ and Mercury emissions do not exceed 50, 300, 200 and 0.03 mg/Nm³ respectively, while water consumption needs to be below 3.5 m³/MWh for Jhajjar power plant.

Although the Central Pollution Control Board (CPCB) has granted us time until 31 January 2019 and 31 December 2019 to meet requirements of SO₂ and NO_x respectively, we are already meeting the requirements related to PM, mercury and water. We are also meeting NO_x requirements most of the time during our operations. Our ability to comply with these new norms immediately is the outcome of our approach to choose efficient and environment friendly technologies such as super critical technology, Flue Gas Desulphurisation (FGD) unit, low NO_x burners and high quality Electro-Static Precipitators (ESP).



To further improve our environmental performance and avoid any instances of non-compliance, we are implementing a combustion optimisation solution and overhauling the FGD system, with the expectation that this will be completed during 2018.

Australia

The Victorian State Government legislated a Victorian Renewable Energy Target in October 2017. This requires 25% of Victoria's generation be sourced from renewable energy by 2020, and 40% by 2025. If met the target will lead to a significant increase in renewable energy, challenging the financial future of Yallourn and subsequently challenging Victorian energy reliability, whilst placing upwards pressure on electricity prices. The Emissions Reduction Fund, the Safeguard Mechanism and the Renewable Energy Target continue to operate as mechanisms to reduce Australia's emissions, while consideration of an alternate national policy the "National Energy Guarantee" (NEG) is underway. The NEG is designed to reduce emission in the electricity sector, whilst guaranteeing a level of reliability and would be a key policy to enable Australia to meet its international climate change commitment of a 26-28% reduction in emissions by 2030 from 2005 levels.

Human Capital

A skilled and sustainable workforce is the engine of value creation for our stakeholders. We are therefore committed to provide a safe, healthy and fulfilling work environment for our employees, with fair remuneration, fair management and opportunities for learning and professional development.

1 ENSURING HEALTH AND SAFETY

Fatalities in 2017: 4 **Lost Time Injury Rate (LTIR) in 2017: 0.13**

We were deeply saddened by two fatal incidents that happened in February and July 2017, involving four contractor workers. Therefore, our focus in 2017 was on reducing the exposure to serious injuries or fatalities (SIFs).

The initiatives that we have implemented to date include:

- CLP Life Saving Rules, implemented across assets under CLP's operational control in the first quarter of 2017
- Reporting and investigation of potential SIF events with tracking of follow-up actions and application of hierarchy of controls
- Behavioural Based Safety



2 MANAGING OUR WORKFORCE

As at 31 December 2017

7,542 full-time staff across the Group

4,269 Hong Kong electricity and related businesses

2,978 Businesses in Mainland China, India, Southeast Asia and Taiwan, and Australia

295 CLP Holdings.

Our voluntary turnover rates are generally lower than local market averages



Effective 1 January 2018 in HK we increased

- Maternity leave to **16 weeks**
- Marriage leave to **5 days**
- Introduction of adoption leave

DIVERSITY AND EQUAL OPPORTUNITY 3

3 gender diversity targets - by 2030, we aim to:

- Women in Leadership:** Achieve gender balance in our leadership positions
- Women in Engineering:** Increase the number of female engineers to 30%
- Gender Pay Equity:** Ensure equal pay for work of equal value is maintained, and any gender pay equity gap for females is eliminated



HUMAN RIGHTS 4

- Completed our pilot due diligence exercise focused on the use of contractor labour in Hong Kong and India
- Will focus on our highlighted priorities on policy commitments, working hours and living wage for the next step

CAPABILITY BUILDING 5

Employee Training of Our Workforce (average hours) by Professional Category in 2017:



117 technical trainees hired across the Group

23.9% female, 76.1% male

835 new hires across the Group in 2017



Interview with Roy Massey, Chief Human Resources Officer of CLP Group

“In the face of increasing complexity and uncertainty, flexibility and agility are critical to our being able to adapt quickly to different scenarios. A key contributor to ensuring flexibility and agility is diversity.”

What were the highlights for you in 2017?

In 2017, we reinforced our commitment to our gender diversity priorities by setting quantitative targets for women in leadership and women in engineering. These targets also reflect our commitment to the UN-SDGs.

By 2030, we aim to achieve gender balance for women in leadership positions (compared to 22% at the end of 2016) and increase the percentage of female engineers to 30%, from 9% at the end of 2016.

In 2017, as a proactive measure, we commissioned an independent review of gender pay equity in our Hong Kong workforce, using the recently introduced UK disclosure methodology. At this point no comparable disclosure requirement exists in Hong Kong.

The results of this review confirmed that, based on median pay, we have no female gender pay gap in our Hong Kong workforce. In comparison, based on disclosures up to October 2017 the median gender pay gap in the UK is 18.4%. This outcome is reassuring and reflects the fact that we have a higher percentage of females in professional and managerial positions than in support and operational roles, and are careful to ensure equal pay for work of equal value.

To enhance the transparency of the total human resources required to operate and manage our business, and help us manage the risks presented by the extensive use of contractors, from 2018 we will disclose the number of contractors we use in addition to disclosing our employee numbers.

What are the key challenges we face?

Our social and business environment is characterised by increasing complexity and volatility, and is undergoing transformational changes. This creates significant strategic uncertainty and makes future workforce planning an increasingly challenging process.

Demographic trends have to be factored into our planning. In Hong Kong, this includes an ageing society, our own retirement projection, and increasing competition for fewer numbers of young people.

The transformation of the energy industry to low carbon also has an impact on future demand for staff and skills. Subject to suitable investment opportunities, more staff will be required in Renewable Energy and energy efficiency services. Conversely relatively fewer will be needed in conventional energy.

Adding to the complexity, but potentially a counter-weight to demographic trends, is the impact of artificial intelligence (AI) and robotics on the utility industry. The ultimate impact of this is uncertain and speculative, but informed commentators predict significant displacement of basic administrative and operational roles, offset by the creation of new jobs at higher levels of skill. Given the nature of our industry, the potential safety dividend from AI and robotics is also significant.

The broader social and economic impact of these changes could be very significant, and as a responsible corporate citizen we will ensure we do our part to prepare staff for these changes and manage the impact in a prudent and considered manner, taking account of the opportunity for natural adjustment in our workforce provided by our long term retirement projection.

How can we prepare for the future?

In the face of increasing complexity and uncertainty, flexibility and agility are critical to our being able to adapt quickly to different scenarios. A key contributor to ensuring flexibility and agility is diversity, both in terms of the composition of our workforce and our sources of recruitment.

Consequently we will need to increase external recruitment at all levels, and also recruit talent from more diverse sources. In parallel we will continue to evolve our HR policies to ensure we are able to attract and retain a more diverse pool of talent.

We will also need to be more agile in reallocating resources and skills around our business. As traditional activities need less resources and new business models emerge, we will take advantage of opportunities to allocate highly skilled staff to areas of business growth, and reskill staff where this is necessary and practicable.



Topics covered in this chapter

Ensuring health and safety

GRI **Material**

- Occupational Health and Safety

Managing our workforce

GRI **Most Material**

- Employment

GRI **Material**

- Market Presence

Promoting diversity and equal opportunity

GRI **Most Material**

- Diversity and Equal opportunity
- Non-discrimination

Respecting human rights

GRI **Most Material**

- Human Rights Assessment

GRI **Material**

- Child Labor
- Forced or Compulsory Labor
- Security Practices

Maintaining labour relations

GRI **Most Material**

- Labour/ Management Relations

GRI **Material**

- Freedom of Association and Collective Bargaining

Building capability

GRI **Most Material**

- Training and Education



Ensuring health and safety

Safety is always our number one priority. We are committed to protecting people's health and ensuring people can go home safely.

GRI Material Topic : Occupational Health and Safety

Safety performance in 2017

In 2017, the total number of days worked by contractors and sub-contractors was approximately 2.6 million man days, assuming a nine-hour work day.

Safety is an absolute priority for us. We do everything we can to keep our employees and our contractors safe at all times and to promote a comprehensive safety culture throughout the Group. We were deeply saddened by two fatal incidents which happened in February and July 2017, involving four contractor workers in Hong Kong.

In February 2017, an accident at Castle Peak Power Station saw the passing of a contractor worker. We worked closely with the contractor company to ensure the family of the worker received the appropriate assistance following the incident. In addition to our internal probe, we also continue to provide full support to the investigation undertaken by the Government.

In early July, a severe industrial accident resulted in the death of three contractor workers who were working at an underground cable tunnel in Hung Hom, Hong Kong. We made prompt arrangements to provide support to the families of the deceased workers to relieve their financial needs. We conducted thorough investigations into the incidents and set up an internal panel to look into their causes and to review our safety standards and procedures.

The following charts show the safety performance of all CLP employees and contractors in the Group and individual regions in terms of Lost Time Injury Rate (LTIR) and Total Recordable Injury Rate (TRIR) in 2017. Our injury rates saw a notable rise in 2017 because of a number of incidents in Australia and Hong Kong. Both regions have since undertaken safety improvement activities to address their injury performance.



CLP Group Safety Performance by Region in 2017							
	Employees / Contractors						
	CLP Holdings	Hong Kong	Mainland China	India	Australia	Southeast Asia and Taiwan	Total
Fatalities	0 / 0	0 / 4	0 / 0	0 / 0	0 / 0	N/A	0 / 4
Fatality Rate	0.00 / 0.00	0.00 / 0.07	0.00 / 0.00	0.00 / 0.00	0.00 / 0.00	N/A	0.00 / 0.03
Number of Lost Time Injuries	0 / 0	1 / 9	0 / 0	0 / 1	10 / 6	N/A	11 / 16
Lost Time Injury Rate (LTIR)	0.00 / 0.00	0.02 / 0.16	0.00 / 0.00	0.00 / 0.03	0.43 / 0.62	N/A	0.13/0.14
Total Recordable Injury Rate (TRIR)	0.00 / 0.00	0.08 / 0.29	0.00 / 0.06	0.00 / 0.20	0.60 / 1.85	N/A	0.21/0.36
Number of Days Lost / Days Charged (employees only)	0	47	0	0	205	N/A	252
Number of Occupational Disease (employees only)	0	0	0	0	0	N/A	0

Behaviour-based safety programme

Due to the higher risks posed by project-related activities, the safety performance of projects remains a key focus. In 2017, we observed an increasing trend in both employee and contractor injury rates that were not related to major construction activities. A Group Safety Forum was carried out in 2017 and a series of actions have been implemented across the Group, with an aim to heighten our awareness and controls on high risk activities or tasks that might result in fatalities and serious injuries if not controlled properly.

We launched our first Behavioural-based Safety Observation programme in India at Jhajjar in July 2017, which included workshops and training. Similar safety programmes have been adopted in other regions. Ongoing safety support to various renewable projects continued, including the HSSE-related workshops, reviews, and regular safety visits to those renewable project sites.



Improving safety management

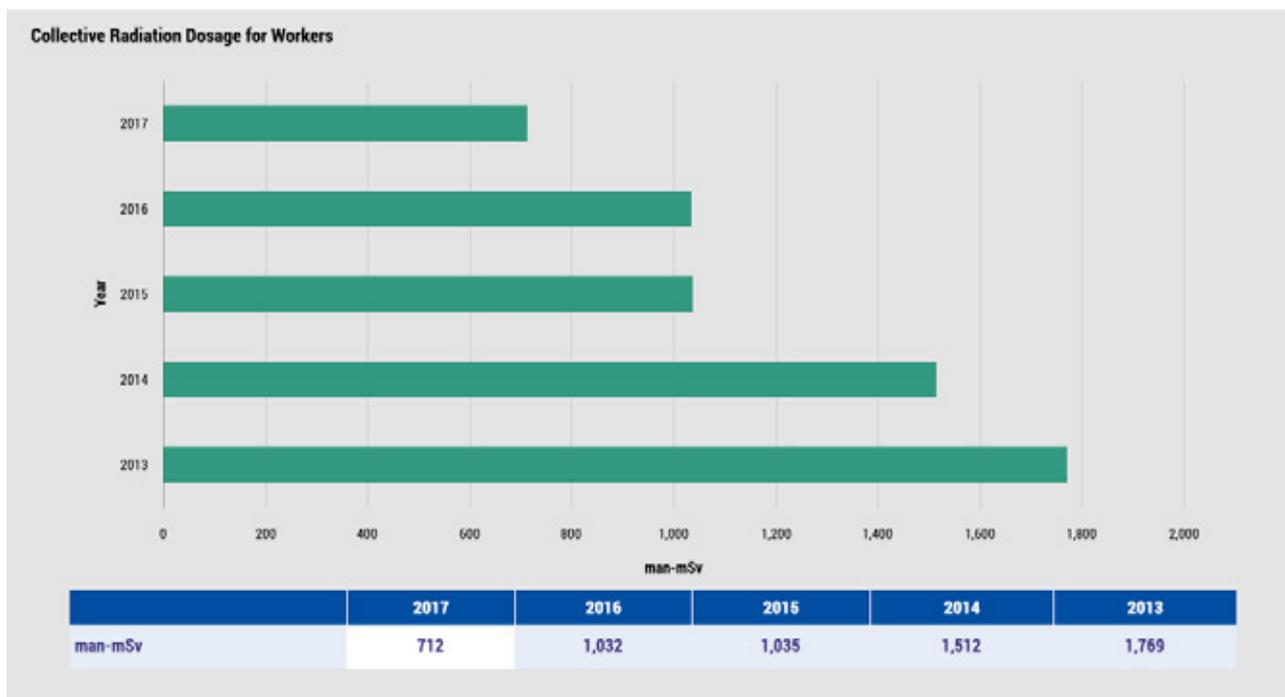
Following each serious safety incident, an Accident Investigation Panel (AIP) which is chaired by senior members of staff not from the business units in which the accident occurred will be formed, to conduct a thorough investigation. AIP reports are also critically reviewed by the Group COO and regional MD to ensure we understand fully the root causes and contributing factors, to ensure the solutions are robust and actionable.

Reviewing our safety performance over the last ten years, and referencing recent analysis and developments in safety performance globally, we noticed that while fatalities have only marginally improved, overall injuries have reduced significantly. However, by reviewing the data all over the world, the study also found that amongst the overall injuries, around one-fifth have potential to become serious injuries or fatalities (SIF). Therefore, our focus in 2017 and 2018 is on reducing the

exposure to SIFs by identifying the high-risk situations in which management controls are either absent, ineffective, or not complied with and to address the risks by bringing in corresponding protection.

Through the analysis of SIF, we have identified interventions that are more effective, and have based our plan for improvements in our safety management systems on these findings. A few initiatives that we have implemented to date include:

- CLP Life Saving Rules, which have been implemented across assets under CLP's operational control in the first quarter of 2017; and
- Reporting and investigation of potential SIF events with tracking of follow-up actions and application of hierarchy of controls.



Safety and nuclear power

Nuclear can be a reliable, cost-effective and virtually emission-free electricity source. CLP has partnered with CGNPC on the Guangdong Daya Bay Nuclear Power Station (GNPS) since 1994. GNPS continued to operate smoothly in 2017, and there was no Licensing Operational Event.

A collective radiation dosage lower than 2016 was registered in 2017 as there was one planned outage in 2017 compared to two in 2016. Radiation dosage quantity is typically associated with the number of planned outages which require inspection and maintenance activities in radiation-controlled areas.

For radiation-related work at GNPS, the 2017, collective radiation dosage of 712 man-mSv translates into an average of less than 0.4 mSv per person per year, compared to the annual radiation dosage received in Hong Kong of 2.4mSv per person per year from the natural environment and about 3mSv per person per year from all sources.

[Read more about nuclear power safety](#)



Managing our workforce

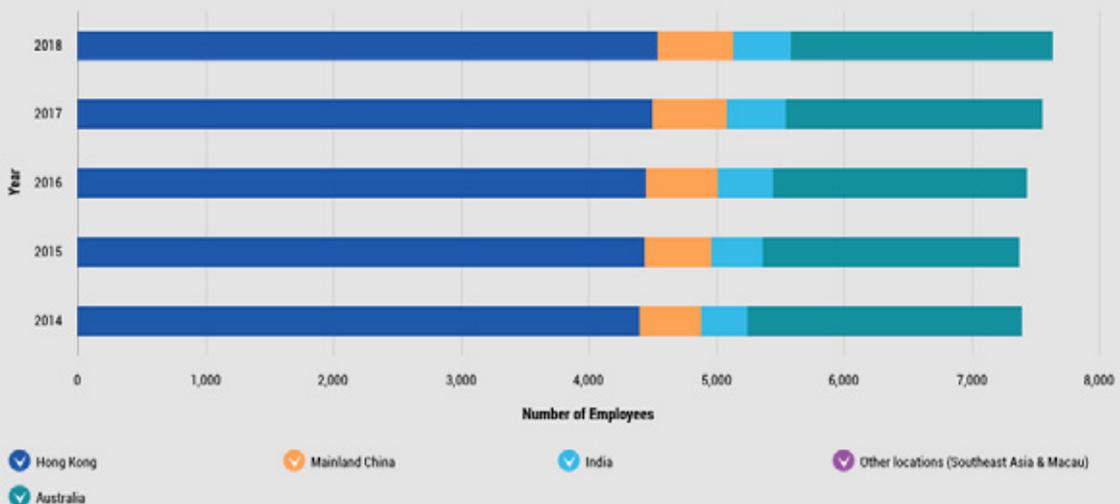
We view our people as our greatest asset and being key to the sustainability of our company – the team work and collegiate nature of our talented multi-disciplinary employee base is a source of great pride.

Our workforce

We operate in a complex and rapidly changing business environment. Major trends with implications for our Human Capital are the energy transition to low carbon economy and the impact of digitalisation on the energy sector, demographic trends and the social and economic consequences of ageing populations, and the future impact of AI and robotics on jobs.

At the end of 2017, the Group employed 7,542 people compared with 7,428 in 2016. A total of 4,269 were employed in the Hong Kong electricity and related businesses and 2,978 by our businesses in Mainland China, India, Southeast Asia, Taiwan and Australia, with the remaining 295 employed by CLP Holdings. Total remuneration for the year ended 31 December 2017 was HK\$5,573 million compared with HK\$5,151 million in 2016, including retirement benefit costs of HK\$561 million compared with HK\$440 million in 2016.

Regional Distribution of Full-time Employees



	2018	2017	2016	2015	2014
Hong Kong	4,538	4,504	4,450	4,438	4,405
Mainland China	596	577	560	527	480
India	458	463	435	397	359
Australia	2,042	1,998	1,983	1,998	2,143
Total	7,634	7,542	7,428	7,360	7,387



Material Topic : Market Presence

Competitive and sustainable benefits

Contributions paid in 2017 to defined contribution schemes, including GPFS and MPF as required under the Hong Kong Mandatory Provident Fund Schemes Ordinance, totalled HK\$396 million (2016: HK\$288 million). Staff employed by Group entities outside Hong Kong are primarily covered by defined contribution schemes in accordance with local legislation and practices and such total contributions amounted to HK\$165 million (2016: HK\$152 million). Out of total retirement benefits costs of HK\$561 million (2016: HK\$440 million), HK\$140 million (2016: HK\$106 million) was capitalised.

We comply fully with any local legal requirements with respect to minimum wage. In practice, our remuneration and benefits often significantly exceed local legal requirements. We place great importance on treating employees fairly, which includes ensuring a fair wage, fair benefits, fair working hours, and fair treatment regardless of gender, race or other attributes recognised by the laws of the countries in which we operate. In Hong Kong we are currently reviewing our policy on remuneration and benefits for part-time staff.



Effort to enhance staff's retirement recognised

In 2017, CLP's Group Provident Fund Scheme won the inaugural Best Asian Private Pension Fund award from Asia Asset Management, in consultation with National University of Singapore Business School's Centre for Asset Management Research and Investments. The award recognises our efforts in making a marked improvement for the benefit of our members and beneficiaries, particularly over the last year. Other criteria in selecting the award included: having made the most outstanding mark in the retirement savings industry in the past 5-10 years; ensuring a secure and adequate retirement for its members through a prudent investment scheme during their working years; having a strong corporate governance and high membership participation; and being sensible, sustainable and durable over its members' lifecycle.

Implementing family friendly policies

We reviewed our family friendly leave policies in Hong Kong and announced a number of changes effective 1 January 2018. These include an increase of maternity leave to 16 weeks, enhancement of marriage leave to 5 days, and the introduction of adoption leave.

100% of our employees were entitled to parental leave in accordance with local statutory requirements.





GRI Most Material Topic : Employment

Enhancing employee wellbeing

Subject to respect for individuals' confidentiality, we work with health professionals to use aggregate employee health data to identify common health issues affecting our workforce, so that fact-based prevention measures can be identified.

We recognise that employee wellbeing extends beyond physical health to mental health. In 2017, 84 managers in Hong Kong attended briefing sessions on the importance of mental health in the workplace.

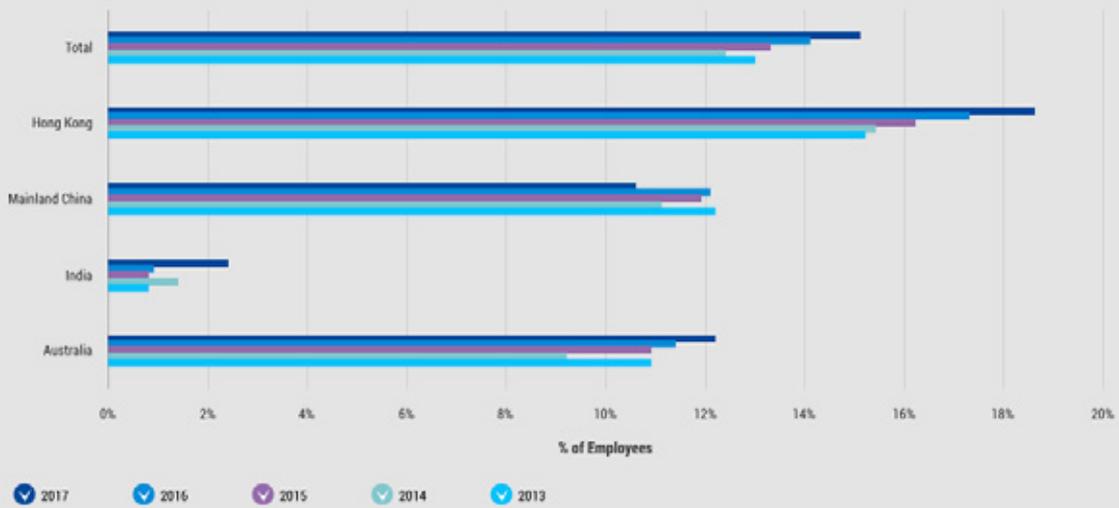
In our 2017 independently administered Employee Opinion Survey, we asked 3,794 staff in Hong Kong, their opinions on whether our health and wellness programmes have encouraged them to live a healthier lifestyle. The percentage of staff who agreed or strongly agreed was 28 points above the Hong Kong norm.

EnergyAustralia has continued their efforts in 2017 with a focus on employee wellbeing, offering resilience training to all employees, along with targeted training in the areas of mental health and supporting employees impacted directly or indirectly by family violence. In addition, a pilot programme in conjunction with the Brotherhood of St. Laurence to offer employment within the Geelong Call Centre to refugees commenced, with the first person being placed.

In India, an employee assistance programme was launched across all locations and awareness sessions were conducted.

Our ability to retain staff is reflected in voluntary turnover rates that are generally lower than local market averages. The charts on the right present figures for voluntary staff turnover and average length of service of our employees.

Employees Eligible to Retire in the Next Five Years ^{1,2}



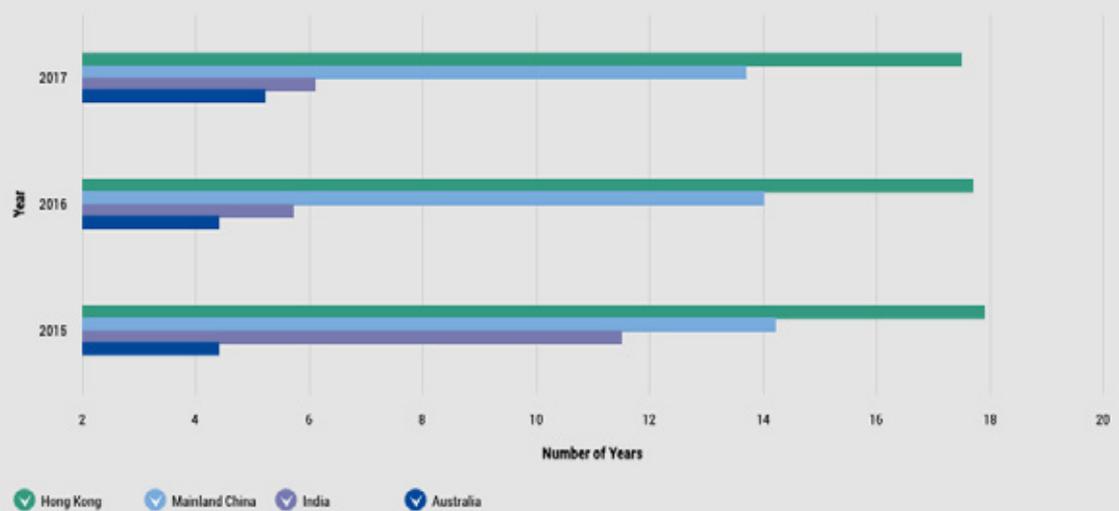
Notes:

¹ Given our high retention rate, we have modelled that our retirement projection will continue to increase for a number of years. There will then be a transition as employees start to retire and are replaced with younger staff, and the projection will reduce.

² The percentages given refer to full-time permanent staff within each location, who are eligible to retire within the next five years.

	2017	2016	2015	2014	2013
Hong Kong	18.6%	17.3%	16.2%	15.4%	15.2%
Mainland China	10.6%	12.1%	11.9%	11.1%	12.2%
India	2.4%	0.9%	0.8%	1.4%	0.8%
Australia	12.2%	11.4%	10.9%	9.2%	10.9%
Total	15.1%	14.1%	13.3%	12.4%	13.0%

Average Length of Service Years



	2017	2016	2015
Hong Kong	17.5	17.7	17.9
Mainland China	13.7	14.0	14.2
India	6.1	5.7	11.5
Australia	5.2	4.4	4.4



Promoting diversity and equal opportunity

A sustainable workforce requires a broad base of recruitment and diversity supports innovation capability.



Most Material Topic : Diversity and Equal Opportunity

Diversity, inclusion and gender equality

The most significant and common issue we face as a Group is gender diversity. Demographic trends confirm the business case for this. As gender equality is embedded in the United Nations Guiding Principles on Business & Human Rights and in the United Nations Sustainable Development Goals (SDGs), the social and economic case for making it a priority is equally strong.

A range of gender related initiatives were undertaken in 2017, examples include:

- Introduced a requirement for executive search firms to provide 50% of female candidates in the longlist for senior level searches to strengthen our Women in Leadership pipeline;
- Organised the Annual CLP mentoring programme for female engineering students; and
- Continued our annual Group-wide female engineering network event to broaden female engineers' exposure and network.

In our 2017 independently administered Employee Opinion Survey, we asked 3,794 staff in Hong Kong, their opinions on whether CLP is committed to the fair treatment of all employees regardless of age, race, ethnic background, gender, religion, sexual orientation or disability. The percentage of staff who agreed or strongly agreed was 37 points above the Hong Kong norm.

We have also strengthened our efforts in attracting females to join the company. For example in India, special recruitment drives were conducted for hiring females as graduate engineer trainees, and half of the graduates hired were females.

In EnergyAustralia, following on from the commitment made in 2016 by the Managing Director, Catherine Tanna, to recruit female operators and apprentices, 6 female operators and 4 female apprentices were recruited into the Yallourn Power Station. More information on gender ratio of our graduate trainees and apprentices intakes, please see section on [Building Capability](#).

As a proactive measure, we commissioned independent consultants to analyse gender pay equity in our Hong Kong workforce using the recently introduced UK disclosure methodology. We are pleased that the results of this confirmed there is no female gender pay gap, a significantly better result than the currently reported UK and Hong Kong averages.

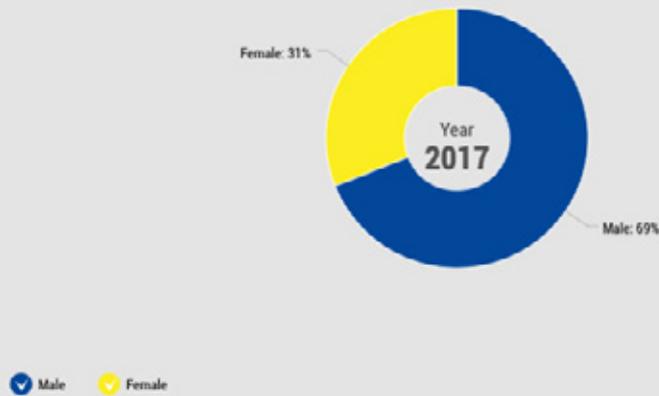
On top of our efforts in driving gender diversity, EnergyAustralia also continued their focused diversity and inclusion program aimed at building an inclusive culture so that everyone can bring their whole selves to work and have a sense of belonging, with a key achievement of being awarded the most improved organisation in the Australian Workplace Equality Index as part of their focus in the lesbian, gay, bisexual, transgender and intersex (LGBTI) Community.



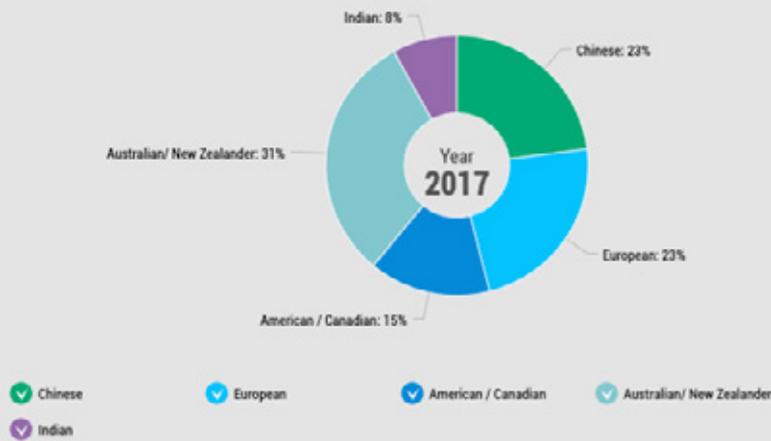
Read more about Board Diversity

Diversity of Group Executive Committee (GEC)

Diversity of Group Executive Committee (GEC) members by Gender



Diversity of Group Executive Committee (GEC) members by Nationality

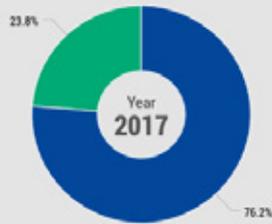


Notes:
Nationality is based on passport, and does not necessarily reflected ethnic origin.

	2017	2016
By Gender		
Male	69%	69%
Female	31%	31%
By Nationality		
Chinese	23%	23%
European	23%	23%
American / Canadian	15%	15%
Australian / New Zealander	31%	31%
Indian	8%	8%

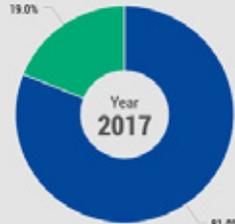
Gender Distribution by Region

Gender Distribution in Total (% of Employees)



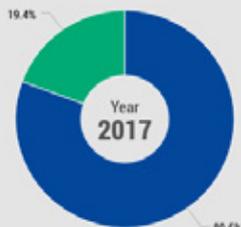
Male Female

Gender Distribution in Hong Kong (% of Employees)



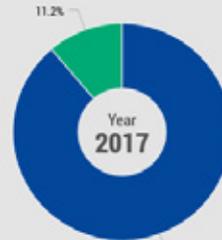
Male Female

Gender Distribution in Mainland China (% of Employees)



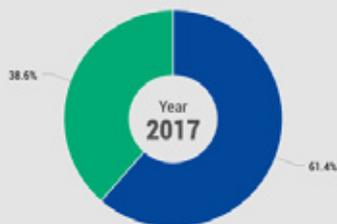
Male Female

Gender Distribution in India (% of Employees)



Male Female

Gender Distribution in Australia (% of Employees)

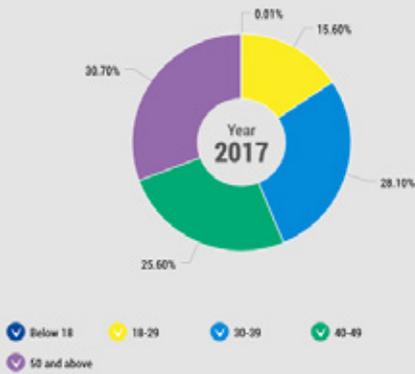


Male Female

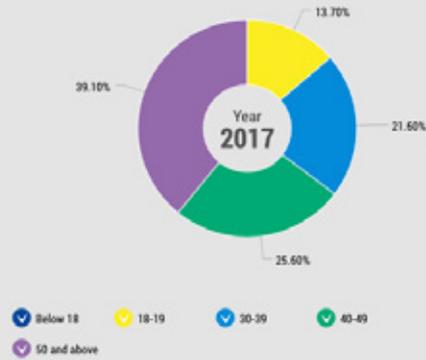
	2017		2016		2015	
	Male	Female	Male	Female	Male	Female
Hong Kong	81.0	19.0	81.5	18.5	82.2	17.8
Mainland China	80.6	19.4	79.5	20.5	79.3	20.7
India	88.8	11.2	88.7	11.3	90.2	9.8
Australia	61.4	38.6	61.3	38.7	57.4	42.6
Total	76.2	23.8	76.4	23.6	75.7	24.3

Age Distribution by Region

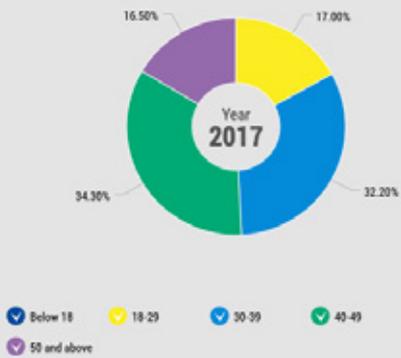
Age Distribution in Total



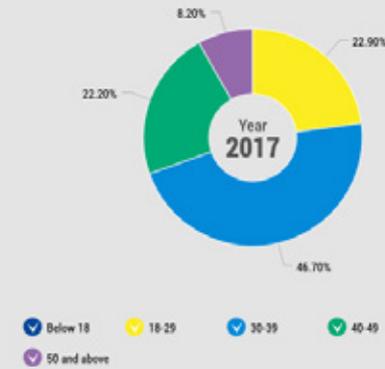
Age Distribution in Hong Kong



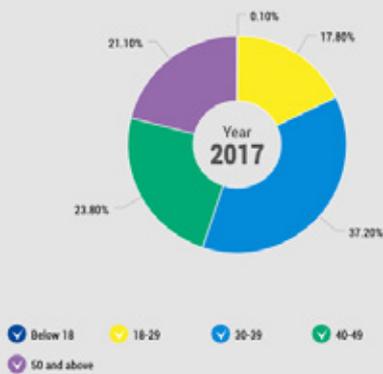
Age Distribution in Mainland China



Age Distribution in India



Age Distribution in Australia



	2017					2016					2015				
	Below 18	18-29	30-39	40-49	50 and above	Below 18	18-29	30-39	40-49	50 and above	Below 18	18-29	30-39	40-49	50 and above
Hong Kong	0%	13.7%	21.6%	25.6%	39.1%	0.1%	13.2%	21.2%	26.1%	39.4%	0.1%	12.3%	20.7%	27.4%	39.5%
Mainland China	0%	17%	32.2%	34.3%	16.5%	0%	17.7%	29.5%	37.1%	15.7%	0%	18.8%	27.9%	38.3%	15%
India	0%	22.9%	46.7%	22.2%	8.2%	0%	23.9%	45.7%	22.1%	8.3%	0%	32%	42.1%	19.4%	6.5%
Australia	0.1%	17.8%	37.2%	23.8%	21.1%	0%	22.2%	35.8%	21.2%	20.8%	0%	25%	34.5%	20%	20.5%
Total	0.01%	15.6%	28.1%	25.6%	30.7%	0.03%	16.6%	27.2%	25.4%	30.8%	0.05%	17.3%	26.1%	25.8%	30.8%


Most Material Topic : Non-discrimination

Discrimination and harassment

Compared to the previous years, the relatively higher number of breaches in 2016 and 2017 reflected the improved identification and stricter enforcement of work place behaviour requirements.

With respect to complaints about discrimination and harassment, we have clear policies in place, supported by employee training. Our Group-wide Harassment policy sets a common framework of principles and our detailed policies in each country are fully compliant with local legislation.

In the case of any employee having concerns, we follow established procedures to address grievances. We investigate all complaints of discrimination and harassment. These procedures ensure fairness and independence in the investigation process, and respect for the confidentiality of the parties involved.

To demonstrate our commitment to a harassment and discrimination free work place, in 2017 over 160 managers and HR professionals in Hong Kong attended a training course in inclusive leadership delivered by independent consultants.

Substantiated Complaints
No. of substantiated complaints

	2017	2016	2015
Harassment	3	4	1
Discrimination	2	0	0
Human Rights Grievances	0	0	0



Respecting human rights

We support and respect the protection of internationally proclaimed human rights across our value chain.



Most Material Topic : Human Rights Assessment



Material Topic : Security Practices

Human rights

Working in partnership with the independent Danish Institute for Human Rights (DIHR) in 2017, we completed a pilot due diligence exercise focused on the use of contractor labour in Hong Kong and India. Hong Kong is our largest operational location, where we have experienced some employee relations issues in the contractor workforce. We also make extensive use of contractor labour in India, where issues have been raised in areas including safety performance.

The objectives of this exercise were to identify any salient human rights issues, and to build our organisational capability to manage human rights issues proactively and systematically.

The work carried out by the DIHR included confidential interviews with a sample of contractor employees to ensure independence. As a result of this exercise, DIHR recommended that we focus on three priorities for improvement:

- **Policy commitments:** Whilst we include respect for internationally proclaimed human rights in our Value Framework, DIHR recommended us to provide more clarity on our commitments including reference to internationally recognised human rights standards.
- **Working hours:** Whilst we meet all applicable local laws and regulations with regard to working hours for our employees, we do not have a policy to specify expected working hours for contractors in our operations. Given working hours is one of the basic labour rights, DIHR recommended that we consider developing a group-wide commitment on working hours across CLP operations to meet international standards.



- **Living wage:** Whilst we meet all applicable local laws and regulations with regard to minimum wage, DIHR recommended that we conduct a living wage study for Hong Kong and other significant markets of operation.

We recognise that we are taking the first step on a journey to embed human rights considerations into our policies and management processes, and the due diligence exercise is intended to be a foundation for future initiatives.

Use of contractor labour

The extensive use of labour hired through external contractors presents a number of risks:

- Whilst use of contractors is necessary to meet seasonal or other variations in workload, the habitual and consistent reliance on contractors, risks a lack of transparency and control over the real headcount required to manage our normal business operations;
- Risk of outsourcing our core capabilities;
- Poor safety performance of our contractors when compared to our permanent employees;
- Potential security risks; and
- Human rights and employee relations risks.

Given our extensive use of contractors and the associated risks, strengthening our understanding and reporting of our use of contractor labour is a priority. We will begin to report our utilisation of contractor employed labour with effect from 2018. As contractors are not our direct employees, this presents significant data collection and validation issues, and it may therefore take more than one reporting cycle to be able to report fully and completely.



Material Topic : Child Labor



Material Topic : Forced or Compulsory Labor

Child and forced labour

We have put an increasing focus on due diligence activities in relation to human rights, and engaged independent consultants to conduct risk assessment in our contractor workforce. In 2017, no such violation has been discovered.

In 2017, we did not identify any operation or supplier as having significant risk of child labour, young workers exposed to hazardous work, or forced or compulsory labour. There was no breach of the laws and regulations in relation to child and forced labour across our Group in 2017.



Maintaining labour relations

We maintain positive labour relations through open and direct communication with our workforce through a range of consultative mechanisms.



Most Material Topic : Labor / Management Relations



Material Topic : Freedom of Association and Collective Bargaining

Maintaining labour relations

102-41

In Australia we engage in collective bargaining with approximately 1000 employees via certified Enterprise Bargaining Agreements. These agreements include both notice period and provisions for consultation and negotiation.

EnergyAustralia achieved agreement at Yallourn and at the Geelong Contact Centre for the renewal of both Enterprise Bargaining Agreements in 2017. The agreement at Yallourn provides EA with the capability to put in place the early retirement scheme approved by the Australian Taxation Office (ATO). EA has had 75 applications for the scheme and the turnover that will result will provide increased employment opportunities in the Latrobe Valley at the same time as providing an opportunity to improve the demographic profile of the workforce.

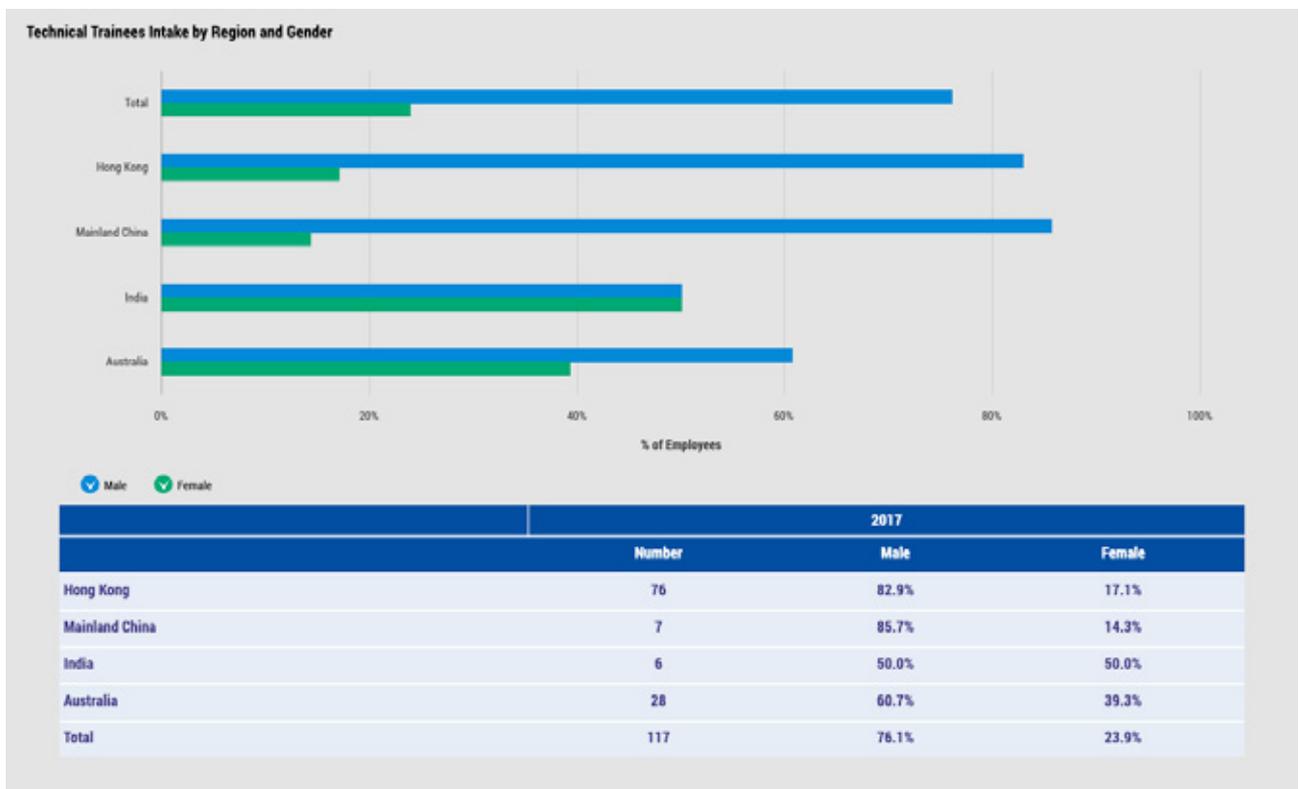
In 2017, we did not identify any operations in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk.





Building capability

The pace of digital disruption is increasing as is our capability to adapt and respond to this.



GRI Most Material Topic : Training and Education

Training and development

In 2017, we recruited over 100 apprentices, technicians and graduate engineers across the Group. Over 20% of these technical trainees intake are females. Below shows the breakdown by region and gender.

We also recruited a number of senior level staff globally for different functions including Renewable Energy, Innovation and Big Data to enhance our strategic capabilities. We also broadened our recruitment channels to hire young engineering talent to strengthen the Engineering talent pipeline. We collaborated with a number of overseas universities to provide

industrial placement opportunities for engineering students. For example, six engineering students from the University of New South Wales started their placements in Hong Kong in December 2017.

In addition to our ongoing management development programmes, we have focused our efforts on the areas of innovation and new technologies to build the capabilities of our workforce to stay aligned with our changing business environment. For example, design thinking workshops were launched to introduce a systematic thinking process of generating user-centric innovation for 40 key staff in Hong Kong.

Our capabilities are also extended and broadened by leveraging external strategic partnerships. Some of the programmes with our strategic partners École polytechnique fédérale de Lausanne (EPFL) and the International Institute for Management Development (IMD) included:

- An online programme on the impact of Digital Disruption provided by IMD for 22 senior staff;
- An executive development programme with EPFL for 20 employees on the impact of new technologies;
- Industrial placements for three MSc students from EPFL to work on complex technical challenges as part of their MSc studies;

- Technology-related briefings on topics including solar energy and digital transformation provided for senior management and the non-Executive directors by experts from EPFL and on energy harvesting using graphene by the University of Manchester Graphene Centre.

Through our structured Performance Management System (PMS), 100% of our employees annually set individual objectives, review achievements and review performance ratings which determine remuneration and other incentives.

CLP Power Academy

In Hong Kong, we launched the [CLP Power Academy](#) in 2017. This professional training institution provides high quality and recognised training programmes for young people who want to pursue a career in the power industry. It cooperates with a variety of educational institutions to offer professional diploma courses and other advanced programmes, covering technical training including generation engineering, electrical engineering, operational safety, and management.

By working with a variety of tertiary institutions, the CLP Power Academy aims to develop more engineering diploma courses and degree programmes in the future to further raise industry standards and nurture the talent we need for future growth.

The Power Academy has developed advanced training facilities to enhance the technical capabilities of our skilled workforce, including adoption of Virtual Reality (VR) and Augmented Reality (AR) technology, providing zero-risk training through the simulated experience of transmission tower climbing and overhead line maintenance work.



Social and Relationship Capital

Our business powers the growth of not only our community for this generation, but also the next. Building trust and nurturing long-term relationships is critical for the sustainability of our company.

1 A NEW BRAND

The brand idea "connections through energy" and new tagline "Energy for Brighter Tomorrows" reflects the energy we provide, the bonds we form across the grid with partners and communities and our determination and commitment to continually innovate and improve.

Customer satisfaction score in Hong Kong increased to **71** out of 100 (70 in 2016)

94% of respondents in Hong Kong consider CLP a "trustworthy" corporation, (89% in 2016)



2 SUPPORTING OUR CUSTOMERS

We have Customer Service Centres across Kowloon and the New Territories

- YUEN LONG
- TAI PO
- TUEN MUN
- SHAM SHUI PO
- MONGKOK
- KWUN TONG

2,421,000+ calls handled by EnergyAustralia Call Centre



3 NURTURING OUR YOUNG PEOPLE



We have a range of programmes and tools for school students to raise awareness about conserving energy and caring for the environment.



Collaboration with universities and professional bodies to promote engineering careers.



Our CLP Power Academy offers accredited professional programmes for electrical and mechanical tradespeople and those aspiring to a career in the power industry. Next year we'll launch diploma and degree programmes. We'll also provide full-time and part-time Continuing Professional Development (CPD) courses for trade practitioners to refresh and advance their knowledge.



Professor Charles Ng, Chair Professor at Hong Kong University of Science and Technology's Department of Civil and Environmental Engineering, has been named CLP Holdings Professor of Sustainability.

4 EMPOWERING COMMUNITIES



647 community programmes



439,000+ people and **451** organisations directly benefited from our community initiatives



5 FACILITATING INFORMED ENGAGEMENT



We sponsored the 5th International Symposium on Regional Air Quality Management in Rapidly Developing Economic Regions held in Guangzhou, Mainland China.



We signed our fifth Scheme of Control Agreement with the government and prepared easy-to-understand explanations for the 14 District Councils we serve.



Interview with Quince Chong, Chief Corporate Development Officer of CLP Group

“Digitalisation not only helps us engage our stakeholders more efficiently and effectively, but can lead to a digital transformation of our business.”

What were the highlights for you in 2017?

2017 was a very busy year where many of our projects were themed around history and education. This is not a coincidence. As an energy utility and one of Hong Kong's oldest companies, we have been part of the city's fabric for over a century. And we know that there is no better way to build brighter tomorrows and to pass the torch to the next generation than learning from history.

Sir Michael Kadoorie, chairman of CLP Holdings, often says that history is the basis of our shared heritage, culture and values. It helps us appreciate our past and shape our future. It is for this reason CLP commissioned the production of “A Century of Power” documentary to chronicle our contribution to the development of Hong Kong. Through the film, which was launched last year, we hope to ignite the interest of young people in the fascinating history of Hong Kong, to encourage them to learn from the past and cultivate a positive vision for the future.

In another initiative aimed to inspire the younger generation to understand more about their home, we took part in “Lumieres Hong Kong”, HK's first light festival integrating heritage with culture as their Energizing Partner. Through creative light installations, art pieces and video projections exhibited at 16 iconic landmarks across both sides of the Victoria Harbour, the event encouraged our youth to discover and remember their heritage from the past, as well as to stimulate innovation for their future.

What trends do you see affecting stakeholder engagement?

There are social and demographic changes that are creating increasingly polarised views and expectations within and among communities. Hence, striking a balance that is acceptable by all stakeholders, especially on the more complicated issues, is becoming very challenging. We need to be able to communicate complex messages in a simple and effective manner and help to inform stakeholders of the facts from all sides.

Technological advances in communications have enabled more people to access more information at any time. This in turn

seems to heighten everyone's expectations in many areas including corporate responsibility and so businesses need to stay ahead of these new channels of engagement. However, we should not just see the risks posed by these new technologies, but also the potential opportunities. Digitalisation not only helps us engage our stakeholders more efficiently and effectively, but can lead to a digital transformation of our business whereby new ways of engaging stakeholders, new revenue streams or business models become available. CLP is well prepared to capitalise on the opportunities these trends provide.

Why is CLP focusing on education?

For many years, the utility sector has benefited from a remarkably stable workforce. People entered the industry and stayed for many years. In recent years, power engineering industries, similar to other major industries, are facing a shortage in technical professionals, due to retirement waves and the lack of interest of the younger generation to join the industry. At the same time, we are keenly aware of a rising tide of youth discontent, which is often linked to the perceived lack of upward mobility in our society.

We believe it is our responsibility to contribute solutions. By launching various educational initiatives, we not only provide the younger generation with opportunities to learn about our industry and offer them more career opportunities, these programmes also help ensure a pipeline of talent for us.

Apart from continuing to support education on energy, environment and sustainability from kindergarten to university, we launched the CLP Power Academy in Hong Kong in 2017. This professional training institution offers professional diploma courses and other advanced programmes for young people who want to pursue a career in the power industry. The Academy has been hugely popular and we have recorded multiple oversubscriptions at every recruitment so far. More programmes will be launched in 2018/19 for interested students with different academic backgrounds.



Topics covered in this chapter

A New Brand

Supporting our customers

GRI Most Material

- Customer Privacy
- Socioeconomic Compliance

Nurturing our young people

Empowering communities

GRI Most Material

- Local communities

GRI Material

- Access
- Right of Indigenous People

Facilitating informed engagement

How we manage Social and Relationship Capital

> Our Management Approach

GRI Most Material

- Public Policy



A New Brand

Our refreshed CLP Group Brand positions us for future success, and emphasises the important role that we play in delivering energy to support everyday lives. We are here to make lives brighter for today and tomorrow.

“Energy for Brighter Tomorrows“

In 2017, we have launched a new brand identity focusing on the idea “connections through energy”. When CLP was founded in 1901 in Hong Kong, electricity was a luxurious rarity; over the century, we have been expanding steadily, serving our customers with highly reliable services in the Asia Pacific region. But there is no room for complacency. Innovative technologies are upending every sector of society and the transition to a low carbon world brings enormous challenges, but also opportunities to energy companies.

As we embrace these changes, and building on our heritage, regional presence and power expertise, we refreshed and renewed our brand last year to respond to the changing landscapes and support the Group’s vision. We recognise the fundamental role we play in people’s day-to-day lives. Our new brand idea not only reflects we are here to provide energy services, but also the bonds we form, across the grid, through strong relationships with our partners, and the investments we make in our communities to build a brighter future for everyone.



94%

Percentage of respondents to our 2017 Public Perception Survey, who considered CLP a “trustworthy” corporation, up from 89% in 2016.

Growing with Hong Kong

A refreshed brand by no means implies we forget our heritage. Our success today is built upon the hard work of generations of predecessors, and the belief of the founding family of CLP in ensuring the social and economic wellbeing of their fellow citizens. Since 1901, CLP has experienced all the ups and downs with Hong Kong, playing a vital part in Hong Kong's development from a small fishing village.

To pay tribute to the city and inspire the younger generation to appreciate history, CLP commissioned the production of "A Century of Power", a documentary by acclaimed producer Elaine Forsgate Marden. It chronicles CLP's contribution to the economic and social development of this beautiful city we call home, as well as other markets in the Asia Pacific region where we operate. It also recounts the CLP story and our long-standing commitment to the communities we serve through valuable old photographs and oral history interviews, along with interviews and footage shot in Hong Kong, Mainland China, India and Australia over the past two years.

> [Watch here "The Century of Power"](#)



"History provides the basis of our shared heritage, culture and values. It helps us appreciate our past and shapes our future. I hope we can all learn more about Hong Kong and CLP through 'A Century of Power' and be inspired to build a better home for the generations to come."

The Honourable Sir Michael Kadoorie
Chairman, CLP Holdings

Engaging our stakeholders in new ways

The refreshed brand is more than the brand visual system. We are also seeking to communicate with and engage our stakeholders through new social media channels, catering to the preferences of the new generations:

- The revamped [CLP Power Hong Kong website](#) offers a one-stop online platform for customers to manage their electricity accounts, payment and billing anytime, anywhere;
- The [CLP Information Kit](#) is available on the website to provide background information about CLP's Hong Kong businesses and keep stakeholders abreast of the company's operations and development;
- Our corporate facebook page "[CLP](#)" makes it even easier to contact us; and the "[CLP Eco Living](#)" page provides eco-living tips not only on energy efficiency, but also on different aspects of our lives;
- Our [LinkedIn page](#) provides information to prospective staff, current staff as well as our business partners alike; and



- The [CLP YouTube Channel](#) is a library of videos covering a wide range of topics, from fun facts about Hong Kong, highlights of corporate events, to educational videos related to the power industry.

> [Read more about our approach to Stakeholder Engagement](#)



Energising the city through Lumieres Hong Kong

We joined hands with other organisations in supporting Lumieres Hong Kong, to celebrate our city's dynamic energy, as well as our rich heritage and culture. As a long supporter of the development of arts and the appreciation of history, we were proud to be the Energizing Partner of the event, hoping to show the different sides of Hong Kong in a fun and creative way.

Drawing inspirations from *Fête des Lumières de Lyon* in France, the world's oldest light festival, *Lumieres* Hong Kong was held in late November 2017. International and local artists shared their fascinating stories and artistic views of Hong Kong with their creative light installations, art pieces and video projections at 16 iconic landmarks across both sides of the Victoria Harbour. Various activities including performances, workshops and a 4D light show were held in different areas of Hong Kong to interact with the public.

We feel strongly connected with the festival's recognition of Hong Kong's rich heritage and culture, as this is part of CLP's roots too.

Find out more on [Lumieres Hong Kong's website](#).



Supporting our customers

We actively engage with our customers, and support them through personalised services; in so doing our role has evolved to become a partner and solution provider in relation to electricity services.

Customer engagement

We understand the importance of listening to our customers, and their opinions can help us to continuously improve our services. In addition to [our day-to-day means of communications with customers](#), we have additional engagement channels in place.

We measure customer satisfaction through an annual telephone interview survey conducted by an external marketing research consultant. We have [dedicated channels](#) to handle customer enquiries and complaints. In 2017, our Customer Interaction Centre (CIC) and Customer Service Centres (CSC) received thousands of customer enquiries and two justified cases of complaints in Hong Kong.



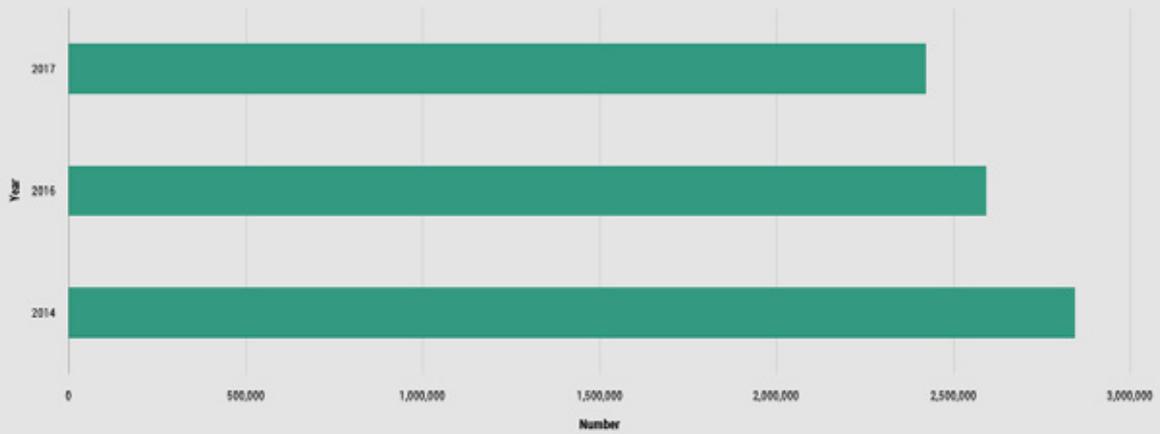
Australia

We continued to reduce calls taken in the past three years. Our year-end call contact rate was at 7.28%. "My Account" customers continued to grow and initiatives were in place to move traffic from traditional phone channels to self-service interactions and digital channels.

We saw a 24% increase in the total number of complaints received by EnergyAustralia in 2017, made up of a 34% increase in internal complaint volumes and a 10% increase in ombudsmen complaints. The increase cannot be attributed to one key complaint theme in 2017. However, customer sensitivity particularly around billing and pricing was exacerbated by media, with regulatory and political attention on energy being evident drivers for the rise in overall volumes.

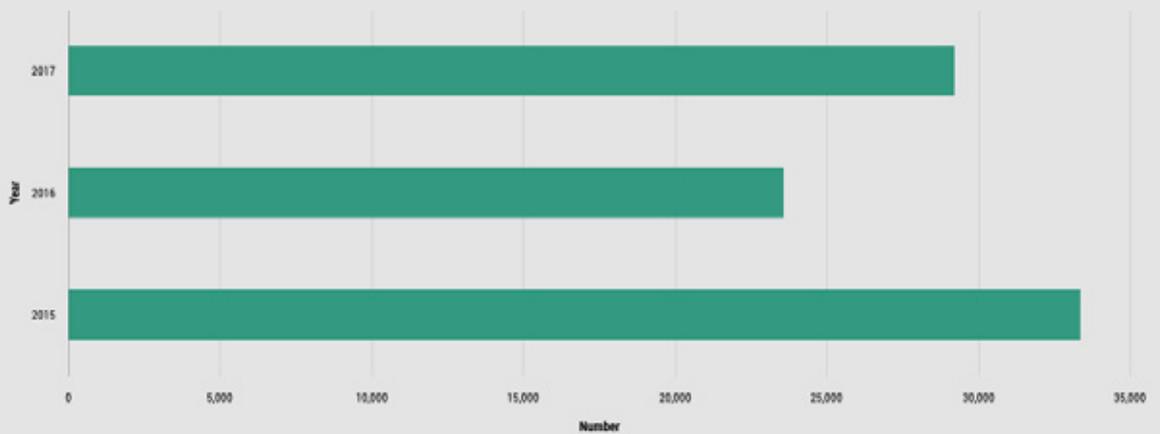
Ombudsmen complaints per 10,000 customers has also been impacted, with 41 in 2017 (from 37 in 2016).

Customer Service - Calls handled by the EnergyAustralia call centre



	2017	2016	2014
Number	2,421,816	2,590,868	2,843,495

Complaints Received by EnergyAustralia



	2017	2016	2015
Number	29,180	23,536	33,339

Personalised services

Under our Value Framework, we are committed to effectively respond to customer needs and preferences in relation to our products and services. Read more about our [customer portfolios](#) and [how we meet their needs](#).

In this digital era, our customers today are demanding more customised user experience, more digitalised solutions and more choices. We strive to improve our customer-related infrastructure to meet these expectations.

Hong Kong

Our Hong Kong business continued to enhance its digital retail platforms. We offer convenience to our customers through a wide variety of channels:

- The Customer Interaction Centre (CIC) operates a 24-hour hotline.
- The CLP Mobile App is a brand new mobile platform that provides residential customers with green living ideas, an easy way to manage their electricity accounts, and a shopping platform for energy efficient appliances.
- Online assessment tools for customers to understand their electricity consumption pattern and benchmark with similar families or similar scale companies, e.g. Eco Power 360 is designed for residential customers, and GREENPLUS Energy Billboard for business customers.
- Our customer service centres, Eco Homes and business centres are conveniently located in our supply area to provide assistance to our customers, from basic account management and enquiries to professional services for small and medium-sized businesses. The new Smart Energy Experience Centre, opened in 2017, showcases smart home devices and business solutions that make use of innovative technology developed by local start-up companies.
- Other enhanced communication channels including power incident SMS Notification Service for Estate Management Office (EMO) and Incorporated Owners, "CLP-EMO Direct" WeChat Channel, and WeChat Communication Platform for hearing-impaired customers.
- Based on weather information, Meter Online is an innovative energy management tool that provides a nine-day energy forecast to commercial and industrial customers, to help them better manage their power consumption.

Energy Efficiency & Conservation Support for Customers

- Conducted free energy audits for our commercial and industrial customers to save electricity usage.
- Launched the "Supporting SME with Energy-Saving Rewards" campaign to help small and medium-sized businesses to explore energy saving solutions and reduce operating cost.



Eco Building Fund

- Provided subsidies to residential building owners to enhance the energy efficiency of the communal areas of their buildings.
- Approved 135 applications, with total funding reaching HK\$60.3 million since launch.

Australia

In Australia, our objective is to enable our customers to be able to access information on our products and services in a timely and efficient manner and we continue to evolve our digital channels to allow them to do so. Our customers can access the information through our regular customer communication channels, such as:

- The EnergyAustralia website;
- Customer correspondence such as the Welcome Pack and Billing Information; and
- Call Centre staff and Account Managers.

We also communicate with customers via email and provide access for customer engagement via MyAccount and WebChat – enabling customers to communicate with us when and how they choose.



Customer satisfaction

We conduct customer satisfaction surveys on a regular basis to gauge the performance of our retail business.

Hong Kong

We measure customer satisfaction through an annual telephone interview survey conducted by an external marketing research consultant. The customer satisfaction score considers overall satisfaction towards the utility and relative rating against an ideal utility in Hong Kong. The score is benchmarked against all public utilities in the energy sector and public service organisations (i.e. public utilities in the energy sector plus Hong Kong Post and the Water Supplies Department).

Australia

EnergyAustralia is committed to making our customers' lives better and simpler through the services they need and value and delivering on what we promise. To measure our effectiveness in delivering on these values, EnergyAustralia has been measuring our Strategic Net Promoter Score (NPS) to assess customer satisfaction across all our customers since 2012. This is measured monthly using an online survey amongst a representative group of customers.

In addition to the Strategic NPS, we have also been measuring a Transactional Net Promoter Score, which tracks customer satisfaction in relation to specific customer interactions (for example, following a phone call with the contact centre or web chat with the digital team), which provides more direct feedback for our frontline staff.

In 2016, after experiencing significant improvements from previous years in our Strategic Net Promoter Score, we had forecasted a stepped improvement in our performance. However, unprecedented negative media and Government focus on the industry has driven negative sentiment amongst our customers and the broader market. In light of this, our stable performance in 2017 is viewed as a positive outcome, as we hold on to our previous improvements.

We expect the challenging external environment to continue to weigh on our performance, and therefore forecast a marginal improvement for 2018.



Energy efficiency and conservation

Our role has evolved to become more than an electricity supplier; we are promoting energy saving and eco-living through various energy measurement tools and community programmes. We want to be a partner and smart solution provider in helping homes and businesses alike to become energy efficient.

Leveraging on our expertise in the power industry, we encourage our residential and business customers and the community at large to use energy more efficiently and to change their behavior so that they can save more energy and help to create a better environment.

The diagram summarises our four-pronged approach in changing people's habits and helping them reduce their energy consumption:

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

[Read more about how we promote energy efficiency through demand-side management](#)

[Read more about our Go Neutral programme in Australia](#)

Customer privacy

We take protection of customer privacy and information seriously, as indicated by our CLP Privacy Policy Statement, which stipulates measures to respect and protect the personal data we receive. In 2017, our Hong Kong retail business received a privacy complaint lodged to the Privacy Commissioner of Hong Kong relating to a disclosure of excessive information to the representative of a customer when handling a service enquiry. After investigation, the Commissioner concluded the case as an isolated case and closed the file without further action.

Our EnergyAustralia retail business received a total of 60 privacy complaints relating to information being provided to unauthorised parties. Of these privacy complaints, three were received from the Australian Privacy Commissioner regarding potential breaches of customer privacy. Following investigation of the complaints, however, the Commissioner closed all files on the basis that EnergyAustralia had not interfered with the customer's privacy. EnergyAustralia resolved the remaining complaints.



[Read about how we manage Customer Privacy](#)



Nurturing our young people

CLP Power Hong Kong devises and implements a comprehensive public education plan on climate change, energy efficiency and conservation and the power industry, covering the entire education pathway from kindergartens to universities.

Promoting energy efficiency in schools

Investing in education is in line with our interest as we want to equip our next generation with the knowledge and skills necessary to understand the complexity of the energy business. Local education is the foundation for shaping one's learning, hence we work with local education systems and partners to strategically utilise our resources. We have different programmes that cover the whole education pathway from kindergarten to university students. Some of the key programmes in 2017 were:

- POWER YOU Kindergarten Education Kit – The education kit, with an iconic character – Power Kid, comprises story books, finger puppets, a board game and worksheets, was designed to teach students about the electricity journey and energy efficiency. Since its launch in 2016, the kit has been provided for free to over 180,000 students from 1,000 kindergartens in Hong Kong. Our Graduate Trainees have paid visits to schools, reaching over 2,600 students so far. In addition, CLP Power Hong Kong also organised The Please Come and Save the Earth Music Contest, which drew a total of 170 enrolments with over 1,700 contestants from different nationalities, social background and ages.

- Green Elites Campus Accreditation Programme – At the primary school level, CLP Power Hong Kong continued to provide energy saving assessment checklists, education tools, visits, talks and workshops under the programme to over 9,000 students from 12 Po Leung Kuk primary schools in 2016/17 academic year. In 2017/18 academic year, we target to reach 13,000 students in 17 primary schools and encourage them to put green ideas into practice.

- Engineer in School – This school outreach programme was designed to educate students about energy issues and inspire them to pursue careers in power engineering. CLP young



engineers guide junior secondary students through a series of interactive and innovative activities, including school talks, technology workshops and an engineer experience tour.

- Green Studio – Our mobile classroom has been touring primary schools and community venues to arouse attention on climate change and environmental protection since 2009. To date, it has welcomed over 150,000 visitors. In 2017, the Green Studio was joined by our first multi-purpose truck to spread the green message to a wider audience in schools and amongst the local communities. 4D movie and educational Augmented Reality games featuring energy saving tips are available on board to encourage visitors to adopt a green lifestyle.



Find out more about our Green Education programmes in Hong Kong

In Australia, we encouraged more women and girls to study to become engineers through collaborating with the non-profit Power of Engineering. In addition to financial assistance,

EnergyAustralia provided support in-kind including media advice to promote related events and staff to host workshops aimed at encouraging female high school students to consider engineering careers.

EnergyAustralia employees volunteer as mentors for disadvantaged youth, helping them develop confidence and interview skills. This programme helps to keep the students

engaged in school, broadening their exposure to people outside their local communities by providing mentoring from a professional business person – someone who is not their parent or teacher.

Our community grants programme supports a variety of organisations providing services in education and social inclusion.

Collaborating with universities and professional bodies

Collaboration with universities and professional bodies is critical, as that is where most engineers receive their training to prepare them for, and throughout, their career in the field. In addition to our structured internship programmes as well as various scholarships on offer, other initiatives included:

- Professorship in Sustainability – We established a professorship in sustainability at the Hong Kong University of Science and Technology (HKUST) – the first of its kind at a local university. The professorship, which focuses on climate change and sustainable energy, will serve to nurture skilled and innovative talents for Hong Kong and CLP. HKUST's Associate Vice-President for Research and Graduate Studies and Chair Professor of the Department of Civil and Environmental Engineering Professor Charles Ng (centre) was named CLP Holdings Professor of Sustainability in November 2017.

- CLP Power Low Carbon Energy Education Centre – CLP Power Hong Kong Limited collaborated with City University of Hong Kong to establish the center on CityU's campus, which has been opened to the public since October 2017. The Centre introduces visitors, especially students, to the challenges posed by climate change and demonstrates the importance of low carbon energy sources through interactive multimedia exhibits.



- Professional workshop and Symposiums – In November, the CLP Research Institute co-hosted an international workshop with the International Electric Research Exchange to discuss how technologies, Big Data, and their intelligent applications can enhance people's lives in smart cities. CLP Power Hong Kong also hosted the fourth Green Building Symposium in Hong Kong, where over 300 executives were introduced to some of the latest energy saving technologies and solutions that suit business needs.

Promoting engineering careers

To further strengthen its youth initiatives, CLP recently set up a dedicated office to focus on initiatives that would promote upward mobility for young people, raising the professional image of technical workers in the electrical and mechanical trades, and providing opportunities to young people through education, training and career development, hence help them take a positive outlook on life.

These initiatives also come in response to the acute demand for manpower in the industry in Hong Kong because of the large number of infrastructure projects planned or underway in recent years, combined with an ageing population. It is estimated that the industry needs more than 2,000 new recruits each year but it is currently receiving only around half that number. To help meet the industry's skills shortage, CLP teamed up with the Electrical and Mechanical Trade Promotion Working Group in September to welcome more than 800 apprentices into the Electrical & Mechanical Engineering sector.



[Read more on the trainings offered by CLP Power Academy](#)



Empowering communities

We engage and enhance the wellbeing of the communities where we are present. Earning and maintaining the acceptance and trust of our communities strengthens our social licence to operate.



Most Material Topic : Local Communities

Our contributions

Over the years, we have developed and invested in a wide range of initiatives to serve our communities. Our community initiatives focus on four pillars: Environment; Education and Development; Community Wellbeing; and Arts and Culture.



Find out how we manage community investment

In 2017, we initiated, sponsored or donated to 647 programmes for the four pillars. We invested both money and time into our community.

	2017	2016	2015
Amount donated for charitable and other purposes (HK\$ million)	14.47	12.65	14.52
Volunteering hours* (hours)	19,945	13,302	11,675
Programmes implemented (number)	647	574	547

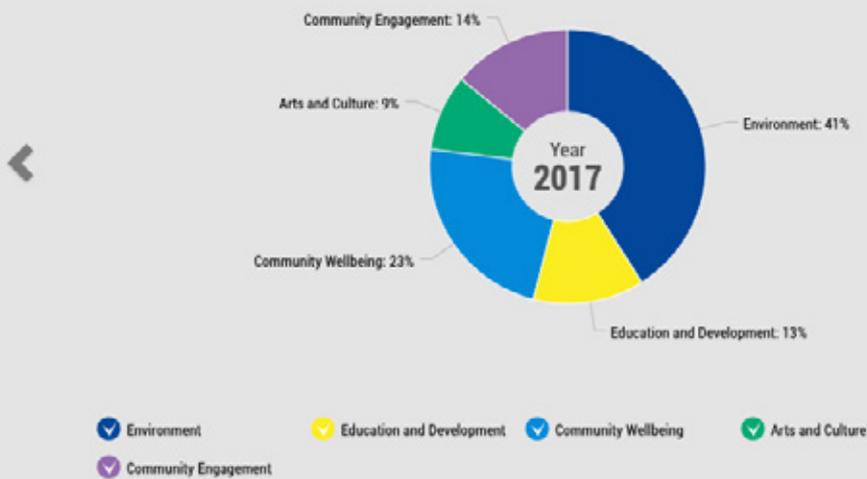
Note:

2017 figure refers to volunteering hours by CLP staff and family members; the other figures refer to volunteering hours by CLP staff only.

Our community spending by theme and by geography are summarised in the charts on the right. Our biggest community spending was on Environment (41%), while our focus on Community Wellbeing (13%) to improve quality of life for the communities we operate in by supporting initiatives that serve the need of the socioeconomically disadvantaged, was our second biggest spending. With Hong Kong as our home, over 80% of our community spending was in Hong Kong. The amount we donated for charitable and other purposes was HK\$14.47 million.

In addition to contribution in the form of donation and sponsorships, we also continue our engagement through participation in and support of lectures, seminars and conferences, covering topics from innovation to climate change. We hope to raise awareness on these issues, share our experience, and promote collaboration if possible. CLP senior executives continued their active participation in external conferences and forums. For example, CEO Richard Lancaster and CLP Power Managing Director TK Chiang spoke at the Business Environment Council's EnviroSeries Conference in Hong Kong on smart city. Senior Director – Innovation Austin Bryan shared his insights on digital transformation and the opportunities available at the CIO Leadership Forum in Hong Kong. At the United Nations Climate Change Conference COP23 in Bonn in November 2017, Director – Group Sustainability Dr Jeanne Ng spoke about CLP's

Our Community Spending by Theme



Notes:
¹ Figures include rounding adjustments.

	2017	2016
Environment	41%	39%
Education and Development	13%	15%
Community Wellbeing	23%	32%
Arts and Culture	9%	2%
Community Engagement	14%	12%

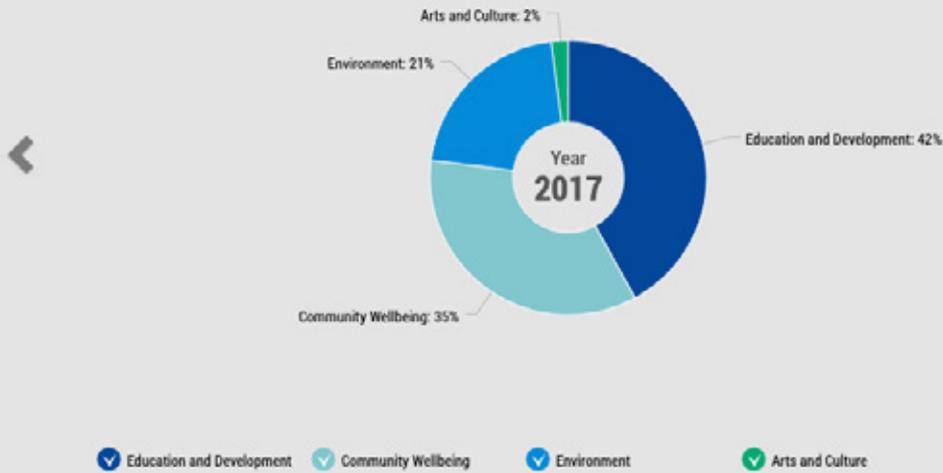
Our Community Spending by Region



Notes:
¹ Figures include rounding adjustments.

	2017	2016
Hong Kong	81%	77%
Mainland China	2%	1%
India	8%	13%
Australia	9%	9%

Our Beneficiaries By Theme



Notes:

¹ Figures include rounding adjustments.

	2017	2016
Education and Development	42%	60%
Community Wellbeing	35%	31%
Environment	21%	8%
Arts and Culture	2%	1%

sustainability efforts at Energy Day.

Our impact

The focus areas of our community programmes are chosen because they are closely linked to our business nature, or can help address the social issues faced by the communities in which we operate, and thereby contributing indirectly to economic improvement and creating positive indirect economic impact on society. Our programmes benefitted 439,000+ people in 2017, compared to 359,000+ in 2016.

In 2017, Education and Development and Community Wellbeing accounted for the majority of direct beneficiaries in our community initiatives. Education continues to be a key focus as we see it as the most powerful investment in our future. We believe that by raising awareness of the industry and providing appropriate training and job opportunities, this will help young people advance their career and achieve upward mobility.

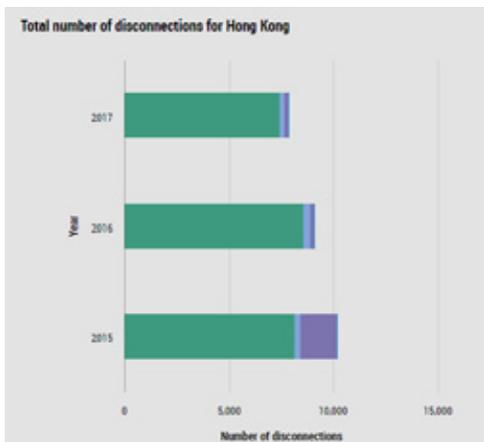
	2017	2016	2015
Direct beneficiaries	439,000+	359,000+	176,000+
Organisations benefitted	451	373	369



Material Topic : Access

Access to electricity

Electricity is an essential service and we work hard to ensure all members of our community have access to reliable and affordable electricity. We have services in place that ensure most challenges including language, culture, literacy or disability do not prevent people from accessing and using our products and services. In both our Hong Kong and Australian retail businesses, we avoid disconnection of our accounts by trying to work out special arrangements for non-payments. We also seek to alleviate poverty through special programmes.



Hong Kong

In our Hong Kong retail business, we have special arrangements for non-payment customers including programmes to help customers who might be at risk of supply disconnection. Payment deferral or interest free payment by instalment is offered for demonstrated cases of hardship.

People who live in sub-divided units are among the least fortunate in Hong Kong. Despite their poor living conditions, they face the lack of adequate social protection. To ease their financial burden, CLP has relieved their electricity costs through donations made available by the Power Your Love programme. In 2017, around 10% of beneficiaries of the programme were people who lived in sub-divided units. CLP also supported the Community Housing Movement championed by the Hong Kong Council of Social Service by providing underprivileged households with energy efficient electrical appliances.

We also provide a number of customer caring services for those with special needs. We support different languages including Cantonese, English and Putonghua, and offer different means of communications including:

- Braille bill and Accessible Green Bill (screen readers) – to enable visually impaired customers to understand their electricity bill statement in a more convenient manner.
- Concessionary Tariff for the Elderly – offered to customers aged 60 or above who live either alone or with other similarly qualified elderly, and who are relying on or entitled to Comprehensive Social Security Assistance.

Australia

EnergyAustralia's 'EnergyAssist' vulnerability programme assists our customers experiencing financial difficulty in many ways, including tailored payment solutions, payment matching, debt waivers, appliance replacements and energy efficiency advice (over the phone and in-home visits).

EnergyAustralia's foundation Financial Inclusion Action Plan (FIAP), which is currently underway with 12 actions completed and another 7 in progress, is working to:

- Improve our understanding of why and how our customers can face financial exclusion, particularly those who are over-represented.
- Understand how we can improve our products, services, policies and practices to better support vulnerable customers.
- Help our employees better understand financial inclusion, the issues that affect it and how they can best support our customers.

Find out more about [EnergyAustralia's FIAP](#)

On 8th June 2017, EnergyAustralia publicly announced it would commit an additional A\$10 million to financial and other support for some of its most vulnerable customers, at a time of rising electricity and gas prices. In the announcement, EnergyAustralia committed to consulting on how best to apply the additional funds, with an emphasis on energy efficiency and measures that provide lasting, long-term relief and stated that some of the funding will also support initiatives arising from its FIAP. We provide the following services for customers with special needs in Australia: Interpreter services for those who have a first language other than English; Webchat and Telephone Typing Services (TTS) machine for hearing-impaired customers; and for the vision impaired, we have a number of services, such as Braille billing and large format bill print.

Disconnections for EnergyAustralia

Credit and Collections increased their focus on pre-disconnection collection activities throughout 2017, resulting in a reduction of customers being disconnected for non-payment by approximately 30% in 2017 (15,021) compared to 2016 (20,525). We provide the following pre-disconnection treatment:

- Introduction of a pre-disconnection SMS;
- Credit strategies to reduce the cost and improve the effectiveness of our pre-disconnection activities;
- Hardship Triage Initiative; and
- Various Ad-hoc Outbound Collections Campaign targeting customer's nearing Disconnection due to non-payment.

Information on these services is easily accessible on the EnergyAustralia website and on customers' bills.

Our programme highlights

Different communities have different needs. Our local teams have the best knowledge of local priorities and are hence able to work with local governments and organisations to provide solutions that best match their needs. They are given the flexibility to organise programmes that address the needs of the local communities, keeping sensitivity in relation to local cultures, traditions and values in mind. Highlights from each of our business units are included here.



Hong Kong

The sustainable success of our business is closely aligned with the wellbeing of the communities we serve. We work closely with non-governmental organisations and community groups to identify society's evolving needs and develop programmes that help meet those needs. Our community initiatives focus on three areas: environment, youth and education, and community wellbeing.

Throughout the year, we initiated and supported 425 community projects in Hong Kong.

CLP's Education Programmes

- Distributed a POWER YOU Kindergarten Education Kit to about 1,000 kindergartens for free with subsequent visits by graduate trainees to share basic knowledge of energy and safety, and to promote energy efficiency and conservation (EE&C).
- Green Elites Campus Accreditation Programme helps primary school students develop green lifestyle.
- Around 8,400 secondary school students took part in the Engineer in School programme to learn about energy issues and career prospect in engineering.
- A new multi-purpose promotion vehicle joined CLP's Green Studio mobile classroom to deliver EE&C messages to schools and communities.
- CLP Power Academy and Vocational Training Council jointly launched the Professional Diploma in Power Engineering, attracting more than 170 applications for 40 available places.
- CLP Power Low Carbon Energy Education Centre was opened at the City University of Hong Kong.
- Professor Charles Ng was inaugurated as first CLP Holdings Professor of Sustainability at the Hong Kong University of Science and Technology.
- LS-energy.hk is Hong Kong's first one step e-Learning portal to support the senior secondary Liberal Studies programme.

Community Wellbeing

- Three Hotmeal Canteens have provided over 430,000 hot meals to people in need since 2011.
- More than 3,000 elderly people have celebrated festivities with CLP volunteers since the Sharing the Festive Joy programme was launched in 2014.
- A record 17GWh of electricity saved in the Power Your Love programme by more than 410,000 customers, equivalent to the annual electricity consumption of 4,000 households.
- HK\$6 million donated from CLP shareholders' fund helped ease pressure from electricity costs for 20,000 underprivileged households.

Volunteering

- More than **1,600** CLP volunteers contributed nearly **15,000** hours of community services.

Mainland China

In 2017, community initiatives were conducted at different sites with an emphasis on promoting safety awareness and community wellbeing.

Education & Development

- Sponsored 5 schools in Yunnan and Guangdong to upgrade their facilities, benefitting more than 3,100 students.
- About 1,400 students from 20 schools benefitted from CLP's Support-a-student and Support-a-school programmes.
- Over 3,800 students in Guangdong, Guangxi and Shandong participated in our education programmes to learn about electricity and safety.

Community Wellbeing

- Donated daily living necessities to over 1,700 impoverished villagers, seniors in elderly homes and children in need in Jilin, Jiangsu, Sichuan and Guangxi.
- Improved the living conditions of over 11,300 villagers in Guangdong, Guangxi and Jiangsu.

Volunteering

- CLP volunteers contributed close to 2,100 hours to help organise charity events and visit schools and elderly homes.

India

We believe that the best form of celebration is giving back to society. Consequently, to mark CLP India's 15th anniversary, in 2017 we organised 15 community events near our sites across the country. The initiatives, ranging from hospital visits and HIV awareness training to laptop donations, directly benefitted around 1,000 people. At the same time, we continued to run our regular initiatives for the benefit of the communities we serve.

Community Wellbeing

- Constructed 14 water structures around our renewable business locations to improve quality and quantity of drinking water.
- Finished constructing a 50-bed secondary care hospital and donated to the local government in Jhajjar.
- Expanded our mobile health van medical outreach programme to Veltoor, Sipla and Bhakrani, benefitting an estimated 55,000 people every year.

Education & Development

- Funded school meals for **5,000** children in 27 schools near our Harapanahalli wind site through the Akshaya Patra Foundation.
- Provided financial and mentoring support to 100 young people for their vocational and graduation studies in Chandgarh, Tejuva, Jhajjar, and Paguthan through the CLP India scholarship scheme.

Australia

In 2017, EnergyAustralia announced partnerships involving two of Australia's best-known iconic structures – the Sydney Opera House in New South Wales and the Melbourne Cricket Ground in Victoria. These programmes are aimed at assisting the icons to achieve their sustainability targets, while developing technologies and approaches that may one day be used in homes across the country.

Meanwhile, EnergyAustralia continued with its Reconciliation Action Plan (RAP) to increase engagement with Aboriginal and Torres Strait Islander peoples, cultures and communities. Similarly, more work was done on our Financial Inclusion Action Plan (FIAP), including engaging with external stakeholders on how we might improve support for vulnerable customers.

In addition, EnergyAustralia won the Achievement Award for most improved organisation at the annual Australian Workplace Equality Index awards which celebrates LGBTI inclusion in the workplace.

Community Wellbeing

- Helped pack almost 100 tonnes of food that was distributed to 215 charity partners. This equates to 195,405 meals to people in need.
- With the extension of the community grants programme to Geelong, EnergyAustralia offered grants for projects and community supporting initiatives at **6** sites.

Education & Development

- **31** students successfully completed their school studies for the year under our ongoing collaborative programme with the Aboriginal AFL Academy. 12 of them graduated and will go onto further education or seek employment.

Volunteering

- Around **300** employees participated in almost **2,000** hours of volunteering services.

Recognition of our community efforts

Social Enterprise Award Scheme – “Friends of SE” Award

In 2017, CLP Power Hong Kong was awarded a “Social Enterprise Award Scheme - Friends of SE” Award, which was jointly organised by the Home Affairs Bureau (HAB) and the Social Enterprise Advisory Committee. The Award commends the efforts of CLP Power Hong Kong in supporting social enterprises to encourage cross-sectoral collaboration for promoting the development of social enterprises.

Appreciation Awards for Volunteer Service

CLP Power Hong Kong was awarded a Gold Award for Volunteer Service (organisation) by the Social Welfare Department to recognise the CLP Volunteer Team's contribution of 11,300 hours volunteer service to the community in 2016. The CLPV Team also received an Award of 10,000 Hours for Volunteers Service from the Steering Committee on Promotion of Volunteer Service, Social Welfare Department, in appreciation of its contribution.



15 Years Plus Caring Company Logo

CLP Power Hong Kong has been awarded a Caring Company logo by The Hong Kong Council of Social Service for the 15th consecutive year, in recognition of our commitment towards caring for the Community, our Employees and the Environment. The 15 Years Plus Caring Company Logo is a new accolade and CLP Power Hong Kong is one of the 115 organisations to receive the recognition.

Other than recognition of community-related initiatives, we also receive other types of awards and recognitions. See the list [here](#).



Facilitating informed engagement

We are committed to contributing to the development of sound government policies and laws that balance the social, economic and environmental needs and support the long-term development of the communities we serve.



Most Material Topic : Public Policy

Public policy positions

Although CLP operates in a heavily regulated industry, we are not associated with any government body. CLP is a publicly held company listed on the Hong Kong Stock Exchange.

None of the companies in the CLP Group receives any significant financial assistance from the government outside of those financial incentives or subsidies, which are in place to encourage market participants to behave in certain ways. Examples of such incentives include tax holidays and preferential tariffs for renewable investment or financial assistance from export credit agencies.

The power sector has been and continues to be a heavily regulated sector. Hence, we maintain regular communications with governments and regulators. Communications traditionally focused more on operational compliance, however, there is an increasing need to communicate and discuss new emerging challenges that require more strategic and even deep-rooted systemic changes in the energy sector. As a result, our engagement with governments and regulators is imperative to delivering on sustainable low carbon energy systems for the future.

Our responses to public policy consultations as well as our key company positions, such as on climate change, are all published and accessible on our company websites.



It is our policy to remain politically neutral and to avoid making political contributions. For public policy developments which apply to the electricity industry, we take public policy positions and participate in the discussions. We feel that in bringing our industry expertise to the table, we can add value to the discussion on how best to structure rules for our industry going forward, as both technology and public demand for our product evolves.



Find out how we protect indigenous rights and manage community relations

Collaborating with industry and professional organisations

We understand that to engage our stakeholders on matters that are important to them, they need to have a good understanding of the issues, and an assessment of the pros and cons, to get the most out of the engagement. We hope our public education to promotion activities, sometimes in collaboration with or through industry and professional organisations, would facilitate informed engagement.

We engage with industry and professional organisations and experts to share knowledge, information, experience and best practice, as well as to stay abreast of current and emerging developments, trends and opportunities for our business.

Although we often adopt international standards and practices, we do not easily endorse international charters and principles due to the fact that we take these initiatives very seriously and do not adopt them unless we are certain we can meet all the relevant criteria or requirements robustly. If we do not officially adopt them, we still do often follow or reference best practices included in such charters since we are always looking to continuously improve.

As part of our international engagement activities, we are members of several international business organisations. See a list of memberships in industry and professional organisations [here](#).



International Symposium on Regional Air Quality Management in Rapidly Developing Economic Regions

CLP Holdings sponsored the 5th International Symposium on Regional Air Quality Management in Rapidly Developing Economic Regions, which was held in Guangzhou from 16-19 November 2017. Organised by the Institute for Environmental and Climate Research of Jinan University, the symposium promoted collaboration and exchange of ideas between different sectors, regions and academic disciplines in air quality management for the benefit of the community. It gathered over 700 scientists, academics, policymakers and business representatives from Mainland China, the United States, the United Kingdom, Germany, Australia, Italy, Canada, Finland, Sweden and Singapore, amongst others. CLP Power Hong Kong Senior Director – Planning & Development presented the company's measures to lower emissions and help customers move towards net zero carbon at the Clean Air Forum for Guangdong-Hong Kong-Macao Greater Bay Area as part of the conference.

 [Click to see our industry and professional memberships](#)

Intellectual Capital

Given today's fast changing business environment, a company cannot be sustainable without innovation. Our capability needs to evolve with time to keep pace with technology developments and societal changes.



1 SMART ENERGY PLATFORM

A smart energy platform to integrate CLP's energy applications into a consolidated ecosystem that will manage data and secure connectivity, provide technology infrastructure and foster innovation by allowing participants and developers to collaborate.



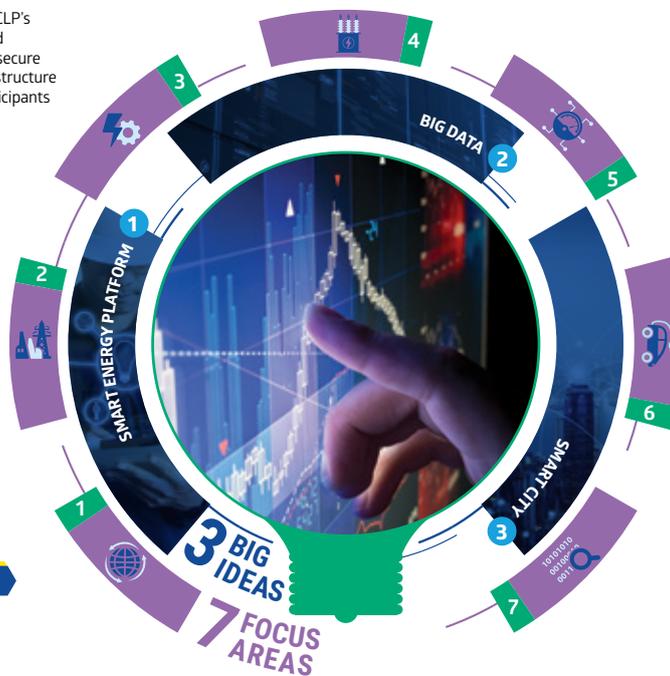
2 BIG DATA

A data-driven company that enables individuals to access insights about business performance which in turn drives better, faster and more valuable decision making.



3 SMART CITY

A smart city to enrich the lives of residents and retailers through services such as smart city lighting, community solar energy and smart home controls.



NEXT GENERATION RENEWABLES 1

Next generation renewables such as floating solar and wind, and bifacial solar are enabling the transition to a lower carbon economy by converting energy more efficiently using less materials to reduce costs and accessing renewables resources more effectively.

DISTRIBUTED ENERGY 2

Multinational companies and the residential sector are choosing distributed energy solutions that may or may not be connected to the grid for three reasons: to enhance reliability, reduce fixed and variable grid connection/usage charges and obtain future pricing certainty.

ENERGY MANAGEMENT SYSTEM 3

An energy management system can operate at various levels – for componentry, for systems, at the grid and for multi-utility applications. Typically, rule sets can be established and reprogrammed at any time during an asset's life.

ENERGY STORAGE 4

Energy storage has the ability to solve intermittency, increase the amount of locally consumed renewable energy and reduce the cost of flexibility. It will also disrupt current business models by transferring roles, control and revenue streams from the traditional utility to the end consumer.

MICROGRIDS 5

Microgrids comprise multiple forms of power generation, storage, heat, chill and supply that are able to act autonomously from the main grid, if required, and serve commercial, industrial and residential customers. They can be based on distributed thermal generation or distributed renewables generation or both.

ELECTRIC VEHICLE INFRASTRUCTURE 6

An electrification of the transport sector is underway and CLP has Smart Charge, its own joint venture in Hong Kong.

DATA INSIGHTS 7

Digital transformation has impacted every major industry and is now impacting the world of energy. Real-time data analytics can play a pivotal role in achieving higher efficiency gains in how we use start-up fuel and operate plants.



Interview with Austin Bryan, Senior Director -
Innovation of CLP Group

“Great innovation thrives on ambiguity and pace while also bringing determined attention to detail and excellence in delivery.”

What were the highlights for you in 2017?

For a company like CLP, which has such a long history of providing stable and reliable electricity at affordable prices, as well as ensuring stable returns for its shareholders, embracing the ambiguity and pace of innovation in the digital era is undeniably different. However, one thing is very clear, standing still is not an option for a company like ours. There is much talk about innovation requiring more risk-taking than traditional business activities. We argue that it's about taking “more better risk”. Great innovation thrives on ambiguity and pace while also bringing determined attention to detail and excellence in delivery.

With this context in mind, I am therefore excited by the progress we have made in 2017. At a practical level, we have developed an approach for systematically tracking and assessing the possible opportunities and relevant risks for potential new revenue streams. With this approach in place, our Senior Management team have taken it upon themselves to champion innovation across the company, inspiring performance improvement at the operational level through data science application right up to exploration of new innovative business models, partnerships, collaborations across the different business units.

During the year, we made commitments to join Venture Capital Funds in different parts of the world, that have each committed to investing US\$75 to 100 million in new tech and early stage digital energy companies. We also partnered with other companies and organisations for new innovative projects. Examples included working with the Hong Kong Science and Technology Park (HKSTP) for Sustainable Energy Solutions, and the Smart City Consortium in Hong Kong as well as Siemens for smart grid and smarter city solutions. We also struck an MoU with the Israel Electric Corporation to collaborate on the extremely important topic of cyber security.

What are the key focus areas of innovation for CLP?

Taking into consideration our history and strengths, together with the global trends of technological advancements, climate

change and social and demographic changes, we have landed on seven focus areas. These are: next generation renewables; distributed energy; energy management systems; energy storage; microgrids; electric vehicle infrastructure; and insights from data science tools.

To bring this to life, we are pursuing new capabilities through the three big ideas of: a smart energy platform, that integrates energy applications into one ecosystem, allowing participants to collaborate on delivering new solutions; big data, which provides deeper insights about business performance, driving improvements through more informed decision-making; and the smart city, which contributes to the convenience of residents and retailers in terms of smart homes and systems. Our vision is to become a preferred partner for delivering smarter city infrastructure and services in each of the markets and regions where we operate.

Do you believe CLP is moving fast enough?

I believe CLP is moving faster and that we must always strive to move even more briskly. In fact, although I only joined in mid-2016, I expect 2018 to be the year for the delivery of scalable models for new potential revenue streams. I am very encouraged to see that SDG 9 – Industry, Innovation and Infrastructure is one of CLP's four core SDGs, with innovation stated as the focus. The fact that we intend to develop 2030 targets for this new area hopefully by 2019, is a sign of the importance of innovation to CLP's future business and the expectation for the speed to continue unabated.

There is no doubt in my mind that we have begun to run at the front of the pack. Now we're focusing on where it is appropriate for CLP to provide both thought and execution leadership. I am confident CLP is capable of moving nimbly enough to capitalise on the potential opportunities most appropriate to sustaining its successful business. We have the commitment of our Senior Management team and Board to move ahead in this area and so it is a certainty that the positive momentum will continue.



Topics covered in this chapter

Being the change

Safeguarding cyber security

Building research and development capability

How we manage Intellectual Capital

> Our Management Approach

 **Material**

· Research and Development



Being the change

Against a fast-changing environment, our capability needs to evolve with time to keep pace with technology developments and societal changes.

A tradition of pioneering

We live in a volatile world where changes are happening in unprecedented magnitude and pace. Climate change, technological breakthrough and demographic and social change continue to be the three most influential **emerging global trends** for us. To manage the risks and seize the opportunities presented by these changes, we need to innovate at all levels to ensure our sustainability: using technologies to improve process, developing new products and services, and formulating long-term business strategies that prepare ourselves for future trends and customer needs.

Founded in Hong Kong over a century ago, by embracing new ideas and technologies along the way, we have grown to a leading energy service provider in Asia-Pacific. We have taken the lead in investing in advanced power generation technologies available at the time, ventured into new markets and developed up-to-date operational processes and services that could help spearhead our business strategy and growth:

- In the 1980s, we introduced foreign nuclear power into Mainland China with our investment in Daya Bay Nuclear Power Station, China's first large-scale commercial nuclear power project
- In 1996, our Black Point Power Station went on stream and became the first gas-fired power generating plant in Hong Kong.
- Our Lopburi Solar Farm that came into service in 2012 is Thailand's first utility scale solar power project.
- Today, our renewable energy capacity stands at 2,700MW and we are one of the largest foreign investors in wind power in India and Mainland China.



In 2017, given that our core business is to deliver sustainable energy infrastructure to serve current and future generations, SDG9 - Industry, Innovation and Infrastructure was identified as one of four priority SDGs. We have begun to explore potential relevant metrics and targets for SDG9 and will report on them once they have been developed.

Strengths and foresight

We are keenly aware that the industry is constantly evolving and we must continue to seek improvement in our operations and adapt in order to stay ahead of the competition. Over the years, we have internalised the best available and proven technologies that could enhance efficiency and improve our operation performance. We share the view that instead of constantly seeking to reinvent the wheel, we can achieve the best outcomes by combining our expertise with the application of technological advancements.

For example, we have implemented boiler optimisation programmes at our Castle Peak Power Station to help reduce NO_x emissions and increase boiler efficiency. We introduced a nine-day load forecast and alert services based on weather modelling, enabling our customers with large air-conditioning loads to reduce their electricity usage and demands.

Such a mindset also helps shape how we plan and implement our investment decisions. As energy investments run for decades, we plan for the long-term, taking into account the changing regulatory requirements and evolving market trends. With our predictions of the future, we are able to make futureproof investments that can stand the test of time and save costly investment down the road. One such example was our decision in 2009 to install flue gas desulphurisation (FGD) technology at our Jhajjar power plant in Haryana, India – a significant investment although the technology was not required by Indian environmental regulations at the time. But by 2017, FGD was no longer an option but rather a standard mandated for coal-fired power plants in India under the country's new and more stringent emissions regulations.



Our focus areas

We took pride that we have achieved excellence in many areas of our operations. Our supply reliability in Hong Kong is among the best in the world, for instance. The fact we are an established energy company with businesses spanning the entire energy value chain means that we have over the years accumulated a wealth of experience and expertise in what we do. Such capabilities and insights are highly valuable assets for any energy company trying to navigate through today's challenging and ever-changing environment.

The digital age enables the energy landscape to change even faster. Along our innovation journey, we notice three big ideas are shaping the energy sector of the future, and they together support development in several focus areas, as summarised [here](#).

- **Smart Energy Platform** – integrates our energy applications into a consolidated ecosystem that will manage data and secure connectivity, provide technology infrastructure and foster innovation by allowing participants and developers to collaborate. For instance, we have been making use of such system to [enhance operational efficiency](#).



- **Big Data** – enables an individual to access insights about business performance which in turn drives better, faster and more valuable decision making.
- **Smart City** – contributes to enriching the lives of residents and retailers through services such as smart city lighting, community solar energy and smart home controls. Our vision is to become a preferred partner for delivering smart city infrastructure and services in each of the markets and regions where we operate.



In 2017, given that our core business is to deliver sustainable energy infrastructure to serve current and future generations, SDG9 - Industry, Innovation and Infrastructure was identified as one of four priority SDGs. We have begun to explore potential relevant metrics and targets for SDG9 and will report on them once they have been developed.



Safeguarding cyber security

Cyber security has become a key concern for critical infrastructure including power generation and transmission. We have a strategic, unified best practice approach in place to mitigate cyber security risk.



Safeguarding cyber security

Like other utilities around the world, we are facing increasing security risks as assets are becoming smarter and more connected. In addition, more personal information is being stored on electronic devices and online. In 2015, a power grid in Ukraine was crippled by a malware attack, causing blackout in over 100 cities in the area. Similar attacks have happened although few have drawn public attention, hence ensuring cyber security becomes a priority.

Awareness of cyber risks and readiness against cyber-attacks are critical for infrastructures such as power grids and generation plants. The physical asset that generates and delivers energy to our communities depends increasingly on the security of the operational technology that supports it. Any disruption to that technology poses a significant threat to our operations. To maintain CLP's cyber resilience, we continue to build our operational technology security programme and policy, as controls currently applied in information security might not be practically applicable to operational technology. Embedding a strong cyber safe culture across our daily business operations works towards a secure and sustainable future for Hong Kong.

We have continued our focus on the most significant risks of network intrusion resulting in disruption of energy supply, and potential theft of sensitive data leading to regulatory breaches (e.g. data privacy law) and brand impact. At the staff level, we also place strong emphasis on targeted attack emails or fraud emails against CLP, some of which relate to cyber-criminal fraud, and others could cause infection of CLP's computers. Examples of how we enhance cyber security includes:

- Raising staff awareness through cyber security programmes. Since 2014, we have been holding the annual cybersecurity awareness campaigns across all regions;
- Applying different technologies to manage network perimeter defense, data loss, cyberspoofing, distributed denial of service attack, mobile devices and monitor suspicious cyber activities with regular testing and verification of controls by third parties; and
- Ensuring segregation between CLP's IT network and any asset information systems.

As the technology - on both the attack and defense sides - is highly specialised and is advancing rapidly, we need to look up and look out to ensure we are abreast of the latest developments. This is where we highly value the power of [partnership and collaboration](#) to learn from our peers as well as experts in the field.



Staying vigilant

Given the “clear and present” threats of cyberattacks, the proper risk management approach is no longer just about how we keep cyber criminals out, but also how we know when our assets or systems are compromised, and how we recover in the shortest time possible with the smallest impact.

In 2017, we have been working to establish a threat detection capability for our industrial control systems. Meanwhile, we have made progress in establishing a brand monitoring and protection service at the Group level including digitally managed online asset protection.



Building research and development capability

Against a fast-changing environment, our capability needs to evolve over time to keep pace with technological developments and societal changes.

Internal capability

The only limit to how far we can go along the innovation journey is our capability. The synergy between new skills such as data science and industry knowledge may not be readily available in the market. Hence it is important for us to build our internal capability.

Like everyone else, one area that is of particular importance to our innovation drive is data. By unlocking the immense potential of data, we can better manage our operations using analytics, seize and realise new business opportunities, and deepen our relationships with customers and stakeholders.

In 2017, we set up a new team of big data experts and allocated resources to boost our analytic capabilities. At the same time, we have collaborated with external partners to launch trials and pilots, which apply analytics tools to improve the operational efficiency of our assets and develop our ability to detect anomalies in performance or potential failure. We have also carried out a pilot of a smart data platform to [optimise the operational performance of our wind and solar plants](#).

By investing in our data capability, we aim to develop an energy ecosystem that orchestrates the flow of data and applications throughout our business, which will provide a foundation for new products and services, as well as drive operational innovation.



Partnership and collaboration

We have actively sought for improved or new ways to capitalise on our existing strengths and capabilities and allocate more resources into developing a new competitive edge. The worldwide pursuits of a 'smart city' have accelerated in recent years. There are now thousands of smart city projects and pilots underway around the globe. While some of these grandiose schemes have begun to take shape, others are still in their infancy stage.

In 2017, we conducted learning visits to cities that are recognised as front runners in the field and where energy companies are playing a significant role in the development. The experiences of the world's leaders helped inform the formulation of CLP's position as a smart city orchestrator. Our vision is to become a preferred partner for delivering smart city infrastructure and services in each of the markets and regions where we operate.

For instance, in Hong Kong, we signed a Memorandum of Understanding (MoU) with Siemens Limited in November 2017 to develop smart city solutions. We are also supporting the Energising Kowloon East Project's Smart Energy Community, pursuing a micro-grid project with Hong Kong Science and Technology Park, and exploring opportunities to equip data centres with smart energy and efficiency capabilities.

Meanwhile, EnergyAustralia has committed to deliver 50MW of demand response reserve capacity as part of a pilot programme by the Australian Renewable Energy Agency and the Australian Energy Market Operator to keep lights on at times of peak demand such as extremely hot days by reducing energy consumption. The capacity will be made available using technologies like remote monitoring systems and battery storage.



On cyber security, which is one of the fastest changing areas and where the need to keep up is critical, in June 2017, we signed a MoU with Israel Electric Corporation, a well-known industry leader on cyber security, for exchanges and collaborations. In the same month, we leveraged upon the Guangdong, Hong Kong and Macau Power Industry Summit platform to organise a symposium on cyber security issues with our regional partners including China Southern Power Grid, China General Nuclear Power Corporation and Companhia de Electricidade de Macau (CEM).

We value ideas from outside organisations and recognise the value in forging new strategic partnerships that help enrich our knowledge and deepen our insight, while exploring new markets and areas that we have yet to tap into. All of these are part of a journey of innovation that will allow us to stay ahead in the competition.



New Horizons - A Platform to Share Intellectual Capital

One way to understand and keep track of the emerging issues affecting the industry is to encourage new ideas and experience sharing. Launched in 2015, CLP's New Horizons website provides a platform for industry experts to share their latest insights on market trends and innovations in the energy sector and facilitates discussion on how we can work together to achieve a more sustainable energy future.

[CLP's New Horizons website](#)

Our management approach

We manage a range of capitals as the basis of our value creation model. Our ability to utilise and transform these capitals is the key to creating value for our stakeholders over time.





Our management approach

<p>> Corporate governance</p> <p>On the board, compliance and Code of Conduct</p>	<p>> Risk management</p> <p>Our risk management framework and governance</p>	<p>> Materiality assessment</p> <p>Defining the key content of this Report</p>	<p>> Managing Financial Capital</p>  <p>Financial strategy and economic value distribution</p>
<p>> Managing Manufactured Capital – HSSE</p>  <p>Overarching standard on Health, Safety, Security and Environment</p>	<p>> Managing Manufactured Capital</p>  <p>On asset management and how we deliver to our customers</p>	<p>> Managing Natural Capital</p>  <p>On emissions, resource use and minimising our impact</p>	<p>> Managing Human Capital</p>  <p>On employment practices, training and development, and human rights</p>
<p>> Managing Social and Relationship Capital</p>  <p>On stakeholder engagement, community investment, customer relations</p>	<p>> Managing Intellectual Capital</p>  <p>Our innovation capability and cybersecurity policy</p>		

Corporate governance

Corporate governance is, above all, a matter of culture – a conscious decision to do the right thing as a company.

Corporate Governance Framework and Code

The [CLP Corporate Governance Framework](#) identifies all the key participants in the responsible governance of the CLP Group, the ways in which they relate to each other and the contribution each makes to the application of effective governance policies and processes.

To achieve the goal of good governance, we are committed to: disclosing our corporate governance principles and practices openly and fully; and continuously improving our principles and practices considering our experience, regulatory requirements, international developments and investor expectations.

We have a set of [corporate governance policies and guidelines](#) contributing to the high standard of corporate governance that we have achieved over the years, which includes:

- the [CLP Code on Corporate Governance \(the CLP Code\)](#);
- our well established and documented Corporate Governance Framework; and
- a corporate culture of good governance.

The [Corporate Governance Report](#) of the Annual Report discloses our governance performance in detail, including on the following topics:

- Disclosure of conflicts of interest;
- Training and development programmes;
- Board evaluation;
- Board Diversity Policy; and
- Process for appointing a Director.

The Human Resources & Remuneration Committee Report includes the main elements of CLP's remuneration policy.



CLP Board and Board Committees

Our [Board](#) plays more than a key role in our Corporate Governance Framework. Under the leadership of our Chairman, the Board cultivates good governance as the cornerstone of our corporate culture. To achieve this, the Board actively promotes the success of the Group by directing and supervising its affairs in a responsible and effective manner.

Our [Board Diversity Policy](#) sets out the principles to maintain a Board with a diversity of Directors. We assess the diversity of the Board based on aspects of independence, gender, nationality and ethnicity, skills and experience, as well as the age and length of service on the Board.

The Board discharges some of its responsibilities through delegation to the respective [Board Committees](#) and the two Board Committees most involved in sustainability-related matters are the [Sustainability Committee](#) and the [Audit & Risk Committee](#).



Code of Conduct

Our [Code of Conduct](#) is available to the public and applies across the entire CLP Group of Companies including CLP Holdings, its wholly owned subsidiaries, and joint ventures or companies in which CLP holds a controlling interest. All employees of CLP, irrespective of their positions and functions, are expected to fully adhere to the principles contained in the Code. In the case of joint ventures or companies in which CLP does not hold a controlling interest, the representatives concerned are expected to act in accordance with the Code themselves 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 CLP's Code of Conduct for the duration of their contract with CLP.

Monitoring and follow-up

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

The [General Representation Letter \(GRL\)](#) process is one of the means where non-compliance with the Code can be reported. The process reinforces personal responsibility for good governance and controls at all levels within CLP, whereby key managers in the Group are required to sign the Code of Conduct Compliance Statement on an annual basis. Business practices are reviewed and fraud risks in different areas are assessed as part of the process, and irregularities or exceptions are reported for Senior Management's attention.

We also have a [Whistleblowing Policy](#) to encourage and assist whistleblowers to disclose information relevant to misconduct, malpractice or irregularities through a confidential reporting channel (to the extent possible). Please read more [here](#).



Operational responsibilities

All potential violations of the Code are investigated by GIA, except for human resources-related potential violations, which are investigated by Group Human Resources (GHR). Only GIA and GHR assess whether an issue is a violation of the Code of Conduct. Management is responsible for the discipline of their employees who violate the Code. Management's proposed disciplinary action is reviewed for consistency by the Group Code of Conduct Committee.

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

In 2015, a separate Code of Conduct Committee was established for EnergyAustralia to provide quicker turnaround on Australian Code of Conduct violations. The EnergyAustralia Code of Conduct Committee acts only for non-senior EnergyAustralia employees. Cases involving senior EnergyAustralia's employees will continue to be brought to the Group Code of Conduct Committee.

In 2017, a separate Internal Complaints Committee was established for CLP India to handle complaints of sexual harassment at the workplace in accordance with Indian law.



Material Topic : Anti-competitive Behavior



Most Material Topic : Socioeconomic Compliance



Material Topic : Rights of Indigenous Peoples



Most Material Topic : Socioeconomic Compliance

Regulatory compliance

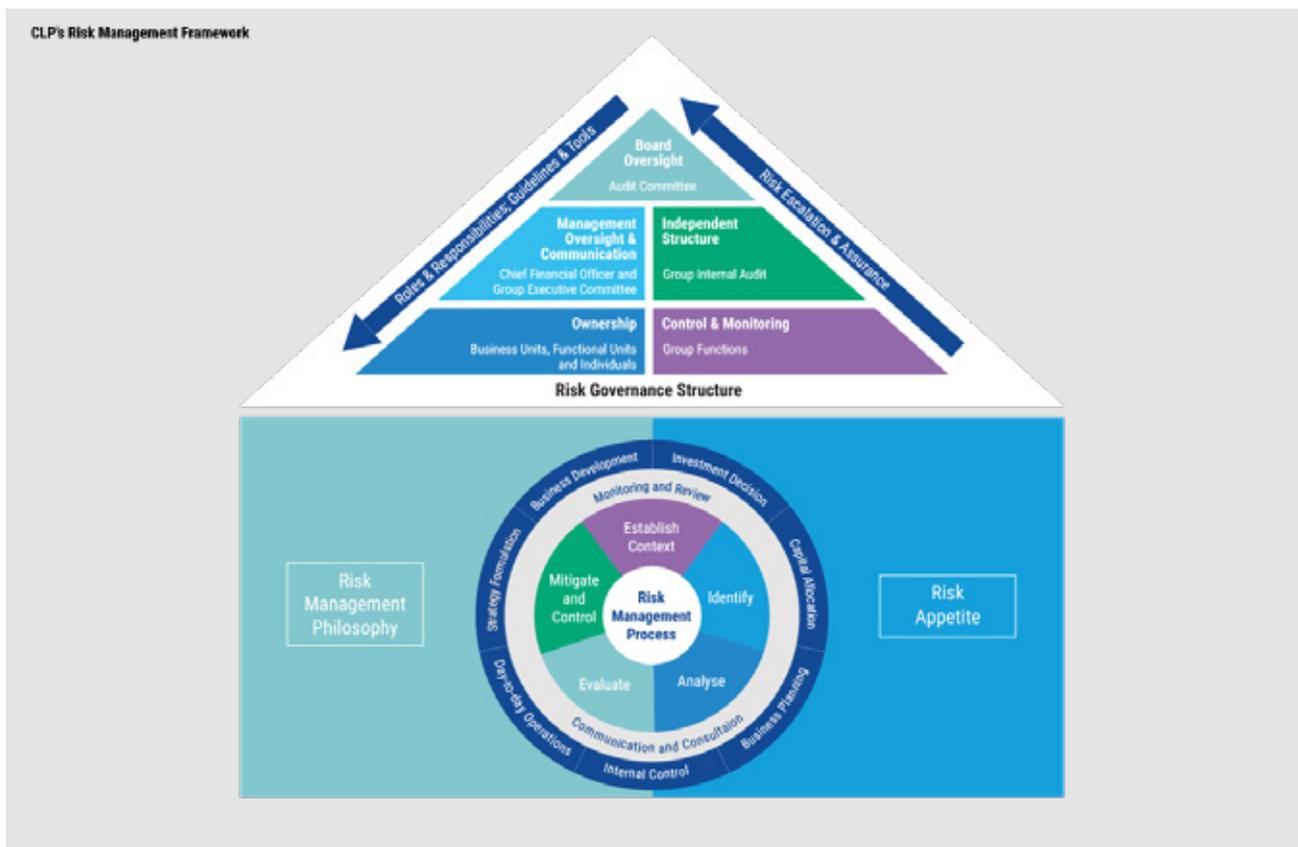
Compliance with all laws and regulations is the basic requirement for maintaining the social license to operate. Our commitment to comply with laws and regulations is specified in our Code of Conduct. There are also policies for specific key areas such as CLP Group Competition Policy Statement Policies, Environmental Policies, CLP Privacy Principles, Human Resources Policies, as discussed in the relevant sections.

Monitoring and follow-up

One of the responsibilities of the Board-level Audit & Risk Committee is to ensure that CLP is satisfying its compliance principles as laid out in the Value Framework and the CLP Code, as well as compliance with applicable legal and regulatory requirements including the Listing Rules, the Companies Ordinance and the Securities and Futures Ordinance. It also reviews regulatory and legal cases. Every six months, the Group Legal Affairs department compiles a "CLP Group Key Regulatory and Legal Compliances Issues Report", covering key regulatory compliance issues as well as legal cases in which CLP is a named defendant for the Board-level Audit & Risk Committee.

Risk Management

We are committed to continually improving our risk management framework, capabilities and culture across the Group to ensure the long-term growth and sustainability of our business.



Risk Management Framework

Risk is inherent in CLP's business and the markets in which we operate. We aim to identify risks early on so that they can be understood, managed, mitigated, transferred or avoided. This demands a proactive approach to risk management and an effective Group-wide risk management framework.

CLP's risk management framework comprises four key elements:

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

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

In light of this, CLP's Risk Management Objectives is two-tier:

Strategic

At a strategic level, CLP focuses on the identification and management of material financial and non-financial risks inherently associated with the pursuit of the Group's strategic and business objectives. In pursuing growth opportunities, CLP aims to optimise risk/return decisions as defined and quantified through diligent and independent review and challenge processes.

Emerging risks

As we consider the potential impacts or implications of the global trends on our business, we can identify important risks that are applicable to the Group, although the pace and significance of them will vary depending on the jurisdiction.

See [Trends and Drivers](#) about the global trends, risks and opportunities, and our actions taken.

Operational

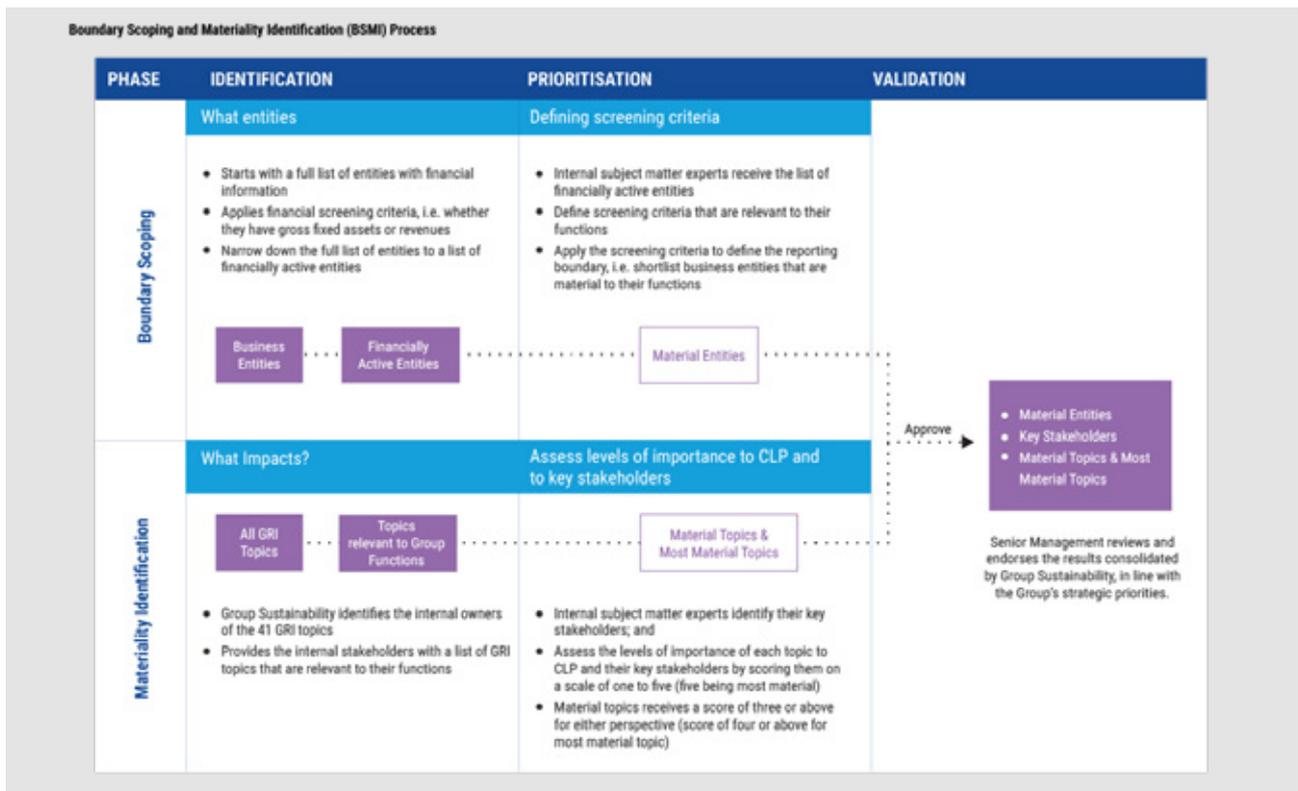
At an operational level, CLP aims to identify, assess, evaluate and mitigate operational hazards and risks in order to create a safe, healthy, efficient and environmentally-friendly workplace for its employees and contractors while ensuring public safety and health, minimising environmental impact, and securing asset integrity and adequate insurance.

 [Read more from CLP's Risk Management Report](#)



Materiality Assessment

We conduct our materiality assessment to identify the material topics, as well as to ensure all material business entities relevant to these topics are included in this report.



Our approach

102-46

Our Boundary Scoping and Materiality Identification (BSMI) assessment defines the key content of this report.

We developed the BSMI methodology to define the topics that matter to our business and to our key stakeholders, as well as the reporting boundaries of these topics.

The objectives of BSMI is to not only meet external reporting (e.g. GRI Standards, HKEx ESG Guide) and internal requirements (e.g. Internal Control, CLP Value Framework), but also to help drive CLP's sustainability performance in response to changing internal and external stakeholders expectations.

The development of the BSMI is a journey in itself. Since we first developed it in 2013, it has matured through the following milestones:

- 2013 - developed to prepare for the transition of our reporting from using the GRI G3.1 to G4 Guidelines
- 2014 - fully rolled out as we reported in accordance with the G4 Guidelines
- 2015 - improved the prioritisation of the most material topics
- 2016 - adopted the topics from the new GRI Standards and engaged Senior Management for validation

The BSMI results are validated by our Senior Management in line with the Group's strategic priorities as part of the governance process. The effectiveness of our approach to determining materiality for this report is tested by: annual internal controls testing of the BSMI process; internal audit of our Sustainability Reporting process every three years; and annual external independent assurance of a portion of our most material Environmental, Social and Governance (ESG) data.

Materiality Identification

The Materiality Identification part identifies the sustainability topics that are important to CLP and to our key external stakeholders. Our approach relies on internal assessment performed by our internal subject matter experts who draw on feedback from regular engagements with their key stakeholders during their daily operations, to help deliver more relevant and appropriate results. This approach helps integrate our operational, business strategy and reporting objectives, as well as minimise what some of our stakeholders refer to as "engagement fatigue". A topic is considered material if it is material to either our business or our stakeholders.

The following factors were considered during assessment:

- Materiality of risk – whether the topics could result in material consequences on our business or our external stakeholders are likely to happen;
- Business efficiency – whether the topics affect the efficiency of our systems and processes from strategy formulation to day-to-day operations, which could in turn affect our customers, investors and the environment for example; and
- License to operate – whether the topics have substantial impacts on our ability to obtain and maintain legal and social licences to operate.

Boundary Scoping

The Boundary Scoping part defines the reporting boundaries of the sustainability topics to ensure the scope of relevant material business entities included is complete. Different topics may have different reporting boundaries as what business entities or activities are most material for one topic can differ from another. We believe that the discipline of applying subject matter-related expertise and criteria to determine the reporting boundary by topic or metric, helps to strengthen our capability to monitor and manage potential emerging ESG risks, particularly when there is a change in our investment portfolio.

Managing Financial Capital

We commit to maintaining long-term stability and growth in shareholder value, in recognition of the importance of social and environmental issues to our shareholders and our shared values.



Most Material Topic : Economic Performance

Financial performance

We continued to generate economic value by powering the sustainable development of society and contributing to the economic health of our stakeholders.

In our Value Framework, we have published our [Commitment](#) to the responsible management of our investment and business risks and investing to build on and preserve the value of our assets, capabilities and relationships.

The power industry is known for its high investment costs, capital intensity and long payback periods with compounding risk factors. The ability to arrange timely, cost-effective, diversified, multiple-tenured and sustainable funding is a critical factor in managing and expanding our business.

With our growing, cross-border portfolio of businesses, we are exposed to multiple risks of liquidity, financing and refinancing, foreign exchange, interest rates, counterparties and compliance. Risk management is a key component in CLP's Financial Framework. A holistic risk management framework with effective implementation helps CLP protect profit and improve the reliability of cash flows to contribute to the financial strength of CLP and create value for shareholders.



PDF

[Read more in our Annual Report](#)

Indirect economic performance

We create economic value not only for our shareholders, but also for our other stakeholders. CLP generates revenue by selling electricity and gas to our customers. The economic value generated is then [redistributed to our various stakeholders](#) – suppliers and contractors, employees, capital providers, governments and the community. The indirect economic value that we create is an important part of what makes our business sustainable. Specifically for the community, we create positive indirect economic impact on the society as many of our community programmes are geared towards education, better health care and quality of life improvement in rural areas, all of which are known to contribute indirectly to economic improvement.



Communicating with shareholders

The [Shareholders' Communication Policy](#) forms the basis for extensive and effective ongoing engagement with our shareholders and the investment community. We have different means of two-way communications, including general meetings such as Annual General Meeting, financial and sustainability reports, announcements, CLP website, investor meetings and analysts briefings. We regard these means as important channels to properly inform our shareholders of CLP's performance and clarify the company's future direction where appropriate.



[Read more about our Shareholder Services](#)

Anti-competitive behaviour

CLP is committed to compliance with competition and antitrust laws in force in all countries in which we operate – in line with our Code of Conduct and the CLP Group Competition Policy Statement. All CLP directors, officers and employees are expected, in his or her conduct of the company's business, to observe and comply with competition laws.



Managing Manufactured Capital – HSSE

Integrating Health, Safety, Security and Environment (HSSE) elements into our assets and processes helps achieve our goal of safe, secure and environmentally responsible operations.



Health, Safety, Security and Environment

Our commitment to protect people’s health, prevent incidents and injuries and minimise adverse environmental impact is set out in our [Value Framework](#). Our Group Health, Safety, Security and Environmental (HSSE) Management System Standard helps us to deliver on our commitments, by organising ourselves in a planned and systematic way.

The standard:

- is executed through a set of Standards and Guidelines to meet the requirements of the Policy Statements set out in the CLP Values Framework;
- enables our regional organisations to incorporate HSSE requirements into their business programme; and
- promotes and encourages compliance with the international standards for Health & Safety and Environmental Management such as, OHSAS18001 and ISO14001.

The Standard contains 15 Elements, each supported by a set of expectations which encourage excellence in HSSE performance across the CLP Group, whilst allowing some flexibility for implementation at a regional level. See the diagram on the right that summarises how the 15 elements fit into the Plan-Do-Check-Act cycle of continual improvement.

[PDF](#) **Download the HSSE Management System Standard**

Goals and targets

A HSSE plan has clear targets, objectives, programmes, timeline, quantifiable key performance indicators (KPIs), suitable allocated resources that include sufficient HSSE professionals and budget to ensure safe operations.

Operational responsibilities

The Group HSSE Committee, chaired by the CEO, has the highest executive responsibility on HSSE related issues. Reporting to it is the cross-regional Operations HSSE Coordination Committee, chaired by the Group COO, which meets monthly to coordinate, monitor and share knowledge and experience in HSSE practices across the Group, with a special focus on achieving an overall higher level of safety performance.

We also have various Committees established to engage people at all levels, also involving partners and contractors. HSSE professionals facilitate the overall HSSE effort and give advice on HSSE matters, while responsibility for HSSE rests with line management.

[Read more on how we manage environmental performance](#)



GRI **Most Material Topic : Occupational Health and Safety**

Occupational Health and Safety (OHS)

An occupational safety and health management system is in place to meet CLP Group’s safety values, expectations and goals, which is equivalent to international standards such as OHSAS18001.

Other group-level guidelines relating to occupational health include:

- Fitness to Work Guideline
- Medical Emergency Response Plan
- Communicable Disease Management; and
- Hearing Conservation.

[PDF](#) **Download an overview of the safety management systems in our assets**

Monitoring and follow-up

Safety incidents for most of the assets which fall within CLP’s safety reporting scope are collected and centralised via our Group Safety Information System (GSIS).

The CLP Group Performance Monitoring and Reporting Standard (HSSE-STD-14-001) requires us to report our safety performance on a monthly basis, and clearly defines each of the safety performance indicator. We also report on the number of occupational diseases, although we do not have any workers involved in occupational activities which have high incidence or high risk of diseases related to their occupation. All health-related incidents are reported according to the Incident Management Process.

Training and awareness

Ensuring safe operations is essential, therefore personnel will only be asked to do work for which they are capable and competent to handle. This requires the careful selection, placement, training, ongoing competency assessment and authorisation of employees, with third party independent assessment where appropriate. We have a system in place to

identify and deliver the training necessary to ensure individual competence and knowledge to understand the hazards, risks and control measures associated with their work.

To ensure the Group level policy can be implemented effectively, our assets have the flexibility to structure their own Safety and Health organisations and to design their approaches in providing relevant safety and health training, as well as monitoring of the percentage of contractors that have undergone the training. We include safety training requirements in all contracts and expect 100% of our contractors to undergo safety training relevant to their duties. We conduct spot checks to ensure compliance.

We seek to maintain effective, transparent and open communication internally and with our stakeholders, to increase awareness on HSSE and to create a culture that seeks excellence in HSSE performance.

Improvement

In 2017, our focus has been to reduce the exposure to serious injuries and fatalities (SIF). Find out more [here](#).

GRI Material Topic : Plant Decommissioning

Safety and nuclear power

Electricity generated from the Guangdong Daya Bay Nuclear Power Station (GNPS) provides for roughly 30% of the power supplied to our customers in Hong Kong. Safe operation is always the top priority for us and its management is also covered by our HSSE Management System Standard. At GNPS, the **defence-in-depth principle** (application of multiple independent and redundant layers of protection) is applied across a full spectrum of areas ranging from plant design to operational procedures to ensure robust safety back up support.

In line with good business practice, Guangdong Nuclear Power Joint Venture Company, Limited (GNPJVC), the entity which owns GNPS, has made a provision for the expenses associated with the decommissioning of GNPS as required under the joint venture contractual agreement. The amount of such a provision is commercially sensitive.

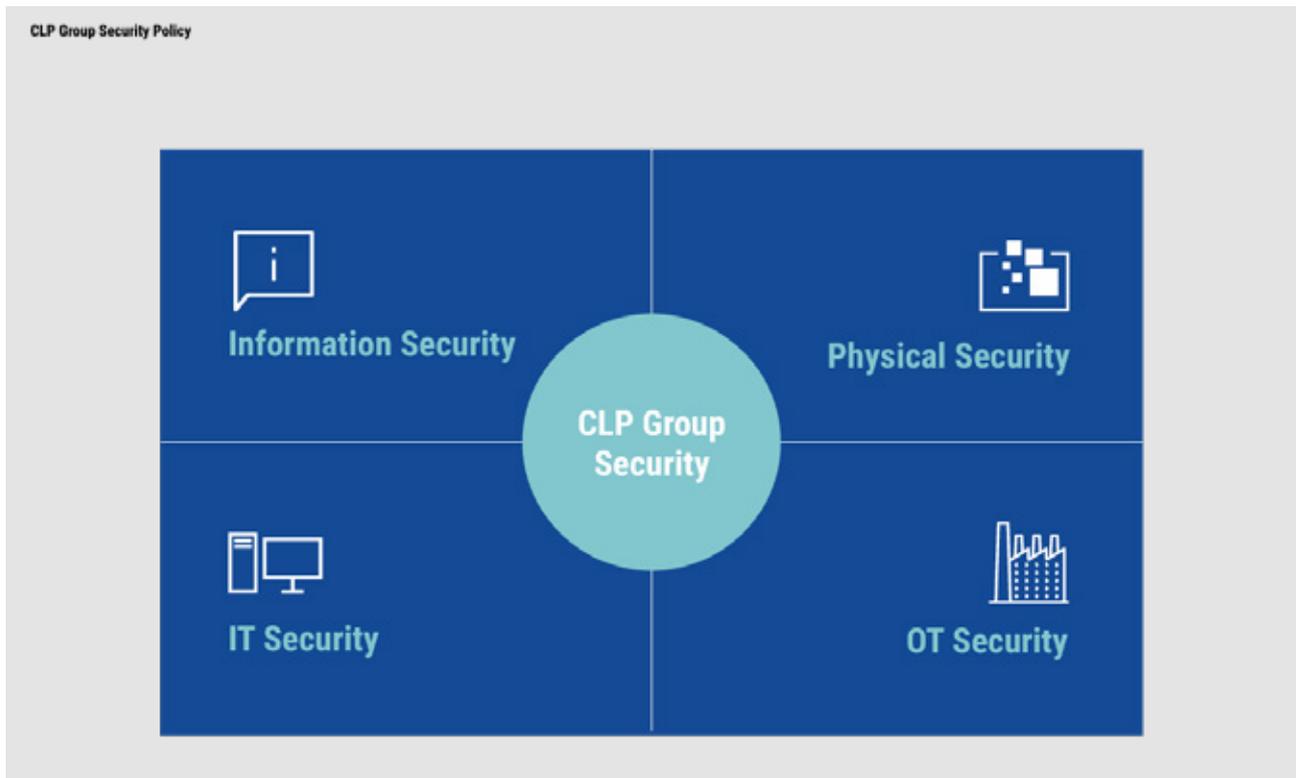
Monitoring and follow-up

Radiation levels that workers are exposed to are closely managed by GNPS both collectively and at the individual level as part of the operating protocols. Most of the radiation dosage of the workers is incurred during planned refuelling outages when much of the work is undertaken at the nuclear generating units. The number of planned refuelling outages in a year as well as the related work involved has been the primary driver of the collective radiation dosage over the years.



Training and awareness

Training is the key element to nuclear safety. On-site training school provides professional nuclear training with a well-established system. The career development is incorporated with stringent training and qualification to ensure the professionalism of nuclear operators. The two years requalification mechanism ensures operators’ competency in plant operation with stringent procedures, nuclear safety and the human error awareness.



GRI Material Topic : Security Practices

Security

Goals and targets

Security Management helps us protect our people, property, information and reputation against associated security risks. The security management process evaluates, in a systematic and risk-orientated way, the security status of any asset operated and owned by CLP. This enables the company to continuously evaluate its security processes and enhance them according to the perceived threat and vulnerability of the site.

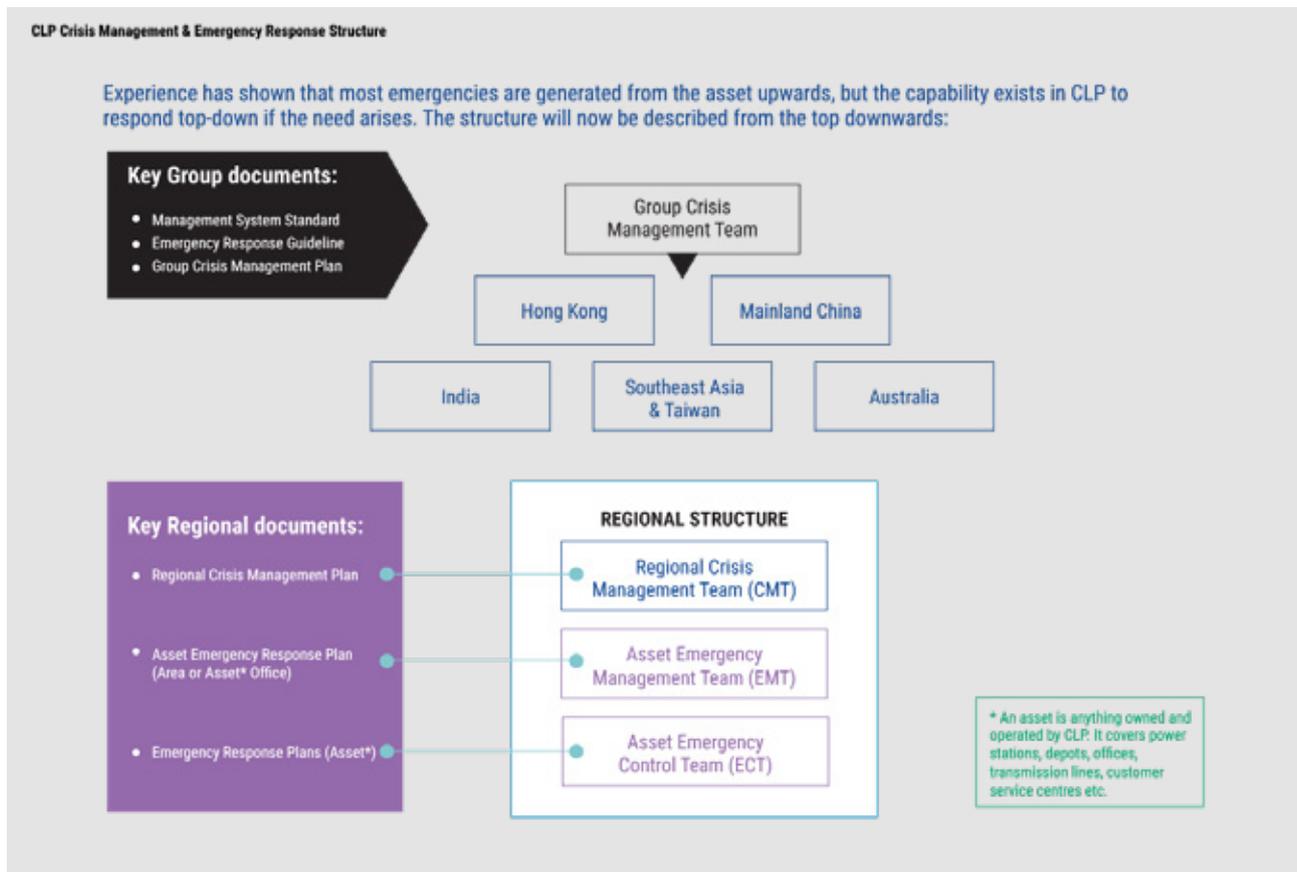
Strategies and procedures

CLP’s approach to security can best be understood using the diagram above. There are in effect four separate lines of activity which together create a coherent approach.

> [Read about how we safeguard cyber security](#)

Training and awareness

On the human rights front, we understand the importance of well-trained security staff in order to prevent harm to our staff and the wider public and their ability to help prevent reputational and litigation risks that arise from inappropriate conduct. Standards of conduct are informed by our Value Framework and Security Management System, which requires each CLP region and their sites to develop an appropriate system to effectively address the threats faced. All of our in-house security staff are required to comply with CLP’s Code of Conduct on an annual basis. In addition to national regulations and site-specific briefings, third-party vendor security staff receive training on CLP’s harassment-free policy, guidance on minimum wage policy and other non-discrimination training during induction before being granted access to the site(s) they are assigned to.



GRI Material Topic : Disaster / Emergency Planning and Response

Emergency management

CLP maintains a robust and well-tested emergency management and response structure which is outlined in the diagram above.

The Group Crisis Management Plan provides the necessary information to enable a crisis to be effectively handled at CLP

Group level:

- It outlines our crisis management organisation, roles and responsibilities, procedures and processes.
- It specifies all the tools needed to ensure our collective response to a Group crisis is well planned, well executed, and fully integrated across our organisation.
- It describes the relationship and interface between the handling of regional and group level crises.
- It details the processes that govern internal and external communication during emergencies. This ensures that the people responsible for managing the crisis have the necessary information to carry out their responsibilities and that key stakeholders are informed.

The Group Crisis Management Plan is supported at the **Regional level** by Regional Crisis Management Plans which mirror the Group document, but are tailored for each region. Allied to this are the highly detailed emergency response plans developed

for each asset. They are designed to be used by first responders and, if the need arises, be supported by asset management.

Training and awareness

As specified in both Group and Regional publications, emergency response drills are conducted at least annually at each site, with smaller scale drills taking place more often to ensure they can be executed as planned during an emergency. Regional and Group Crisis Management plans are tested every three years. Regional Crisis Management exercises are conducted annually. All are looked at as part of our internal peer review process.

Travel Security

Since 2015, increasing emphasis has been placed on supporting our colleagues travelling for business purposes. Protocols and procedures are in place to respond quickly in the event of a travel emergency anywhere in the world.

Managing Manufactured Capital

Pursuing excellence in operating our manufactured assets across the value chain underpins our performance in safety, reliability and cost-effectiveness.



Most Material Topic : Availability and Reliability

Availability and reliability

Electricity is a vital form of energy to society. The availability and reliability of the equipment and infrastructure that generates, transports and delivers electricity are also of the utmost importance. Any material shortfall could tarnish our reputation and financial performance.

We care about performance as specified in our Value Framework, and are committed to delivering world-class energy products and services while striving to continuously enhance business value.

Goals and targets

Availability and reliability are two key performance metrics for CLP 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 variations to plans are analysed and corrective action is put in place where appropriate.

For our generation assets, we monitor the availability factor (defined as the amount of time that the asset is able to produce electricity over a certain period, divided by the amount of time in that period). Typical values range from 70% to 90%.

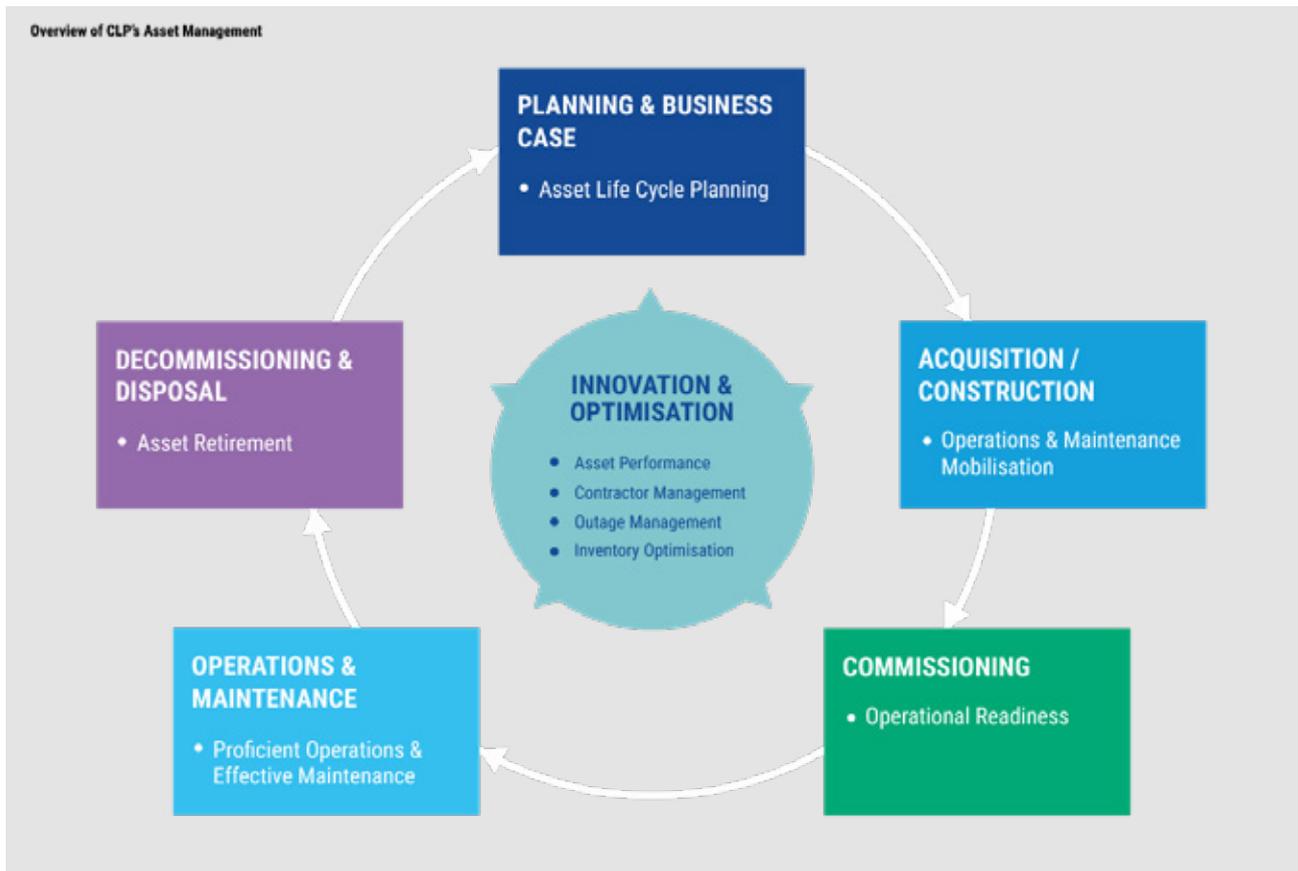
Strategies and procedures

In the regions where CLP operates, Hong Kong is the only market where our business is vertically integrated and regulated under a Scheme of Control (SoC) framework. It requires us to forecast electricity demand and plan for investment to provide a safe and reliable electricity supply. In



Hong Kong, we use various measures to maintain high supply availability and reliability. The measures include:

- Maintaining sufficient generating capacity to meet forecasted demand, planned and unforeseen outages;
- Implementing demand response and other demand side management measures to mitigate demand growth and to improve utilization of our existing assets;
- Upgrading generation and network facilities to meet new electricity demand;
- Adopting advanced technology such as smart grid;
- Improving the quality of power supply to minimise voltage dips; and
- Mitigating the impact of adverse weather by enhancing our power systems.



Asset management

Strategies and procedures

The Asset Management System (AMS) Standard was developed to standardise key practices in asset management across the Group. It sets out a framework to ensure that we follow the industry's best practices based on the ISO 55000 series of standards for asset management as well as the ISO 31000 standards for risk management.

The AMS Standard is integrated with CLP's Health, Safety, Security and Environment (HSSE) Management System and the new Project Management Governance System (PMGS) Standards to manage the complete lifecycle of an asset from the planning stage to decommissioning. The 10 asset management elements and five key stages in the AMS are illustrated in the diagram.

Monitoring and follow-up

We have developed and implemented an in-house non-financial data reporting and assurance standard. Responsibilities are placed specifically on responsible staff at asset, regional and Group level, thus achieving a desired level of check and balance. We also operate an online operational data management platform to facilitate effective and streamlined data collection and approval, thus reducing the chance of human error. Our non-financial data reporting process and timelines are aligned with financial data.

Improvement in System Efficiency

We endeavour to identify opportunities for improvement in operational efficiency of the generation assets in our portfolio, regardless of the fuel sources and the stages of the asset life cycle they are in. Our aim is to operate all of our plants efficiently with minimal environmental impact.

For projects involving a major overhaul of the assets, they undergo stringent technical and financial scrutiny before implementation. Read more about [these projects](#).

GRI Most Material Topic : Demand-Side Management

Demand-side management

Customers want to optimise their energy use in order to reduce their electricity bills and contribute to a greener environment. Our energy system can benefit from shifting energy consumption from peak to non-peak hours, reducing the need for investments in networks and/or power plants for meeting peak demand.

Under our Value Framework, we have published a Customer Service Quality Policy Statement which states that we must support our customers to use our products and services efficiently and effectively.

Goals and targets

In Hong Kong, under the current Scheme of Control we are incentivised with an extra 0.01% return on our fixed assets if we meet the energy efficiency and conservation target of achieving no less than 150 energy audits for commercial and industrial customers and an extra 0.01% for saving at least 12GWh of electricity consumption per year. These targets will be quadrupled under the new Scheme of Control Agreement effective from October 2018, and the incentive will be raised to 0.1% upon achievement of the new energy saving targets and 0.04% for the energy audit target. A New Eco-Building Fund to help customers retrofit or retro-commission to enhance the energy efficiency of the common areas of buildings will be established under the new Scheme of Control. Incentives of up to a 0.12% of additional return for the achievement of set targets will apply. A new CLP Community Energy Saving Fund will also be established to encourage customers to replace or



upgrade end-use appliances to more energy efficient models. If the energy saved from all of these activities exceeds set targets over a 5 year period, an incentive of up to an additional 0.1% return is also provided once every 5 years. We will continue to roll out programmes to help our customers identify energy saving opportunities and better manage their electricity usage. Our efforts focus on the promotion of energy efficiency and conservation (EE&C) through various [green services](#).

In Australia, our customers have access to a range of [complimentary services](#), which include advice and tools to help our customers better manage their energy consumption.

[Find out more about our DSM initiatives this year](#)

GRI Most Material Topic : Customer Privacy

Customer privacy

With the advent of digitalised communications, customers are becoming more educated and aware of about privacy concerns. Failure to protect our customers' personal information would affect customer loyalty and our brand as well as result in legal non-compliance.

Under our Code of Conduct, every employee of the company must safeguard our assets and resources entrusted to our care, including customer information – from loss, theft or misuse. All employees must follow CLP procedures/practices and local regulations in relation to personal data privacy.



Strategies and procedures

We preserve the confidentiality of the personal data provided us in accordance with the [CLP Privacy Principles and privacy practices](#).

Monitoring and follow-up

We monitor and annually document any complaints related to breaches of customer privacy and the loss of customer data.

Training and awareness

Cyber-security is a risk that may have a material impact on our Group and our customers including customer privacy. To manage this risk, we have implemented a cultural change programme to raise staff awareness on the proper handling of customer information. We also continuously review industry threat landscapes and strengthen our controls on managing and monitoring networks, systems and mobile devices, data loss and suspicious cyber activities.



Material Topic : Disaster / Emergency Planning and Response

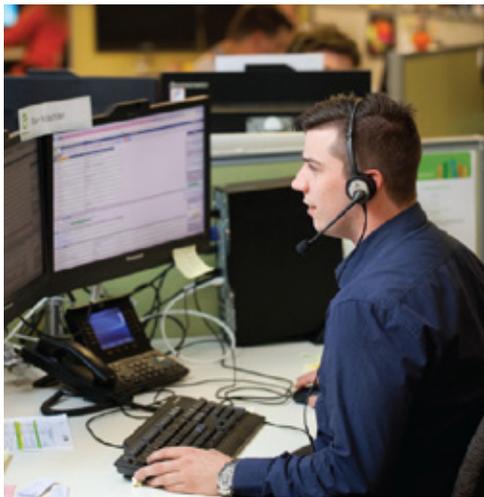
Customer communications



Hong Kong

In our retail business in Hong Kong, we provide customers with product and service information through a number of channels, including:

- Information on our CLP Hong Kong Websites and CLP Mobile App;
- Notices on customers' bills;
- A welcome pack for all new customers;
- Advice provided by customer service professionals at our Customer Interaction Centre which operates 24/7, Customer Service Centres and Business Centres; and
- Dedicated Account Managers, assigned to look after our larger customers.



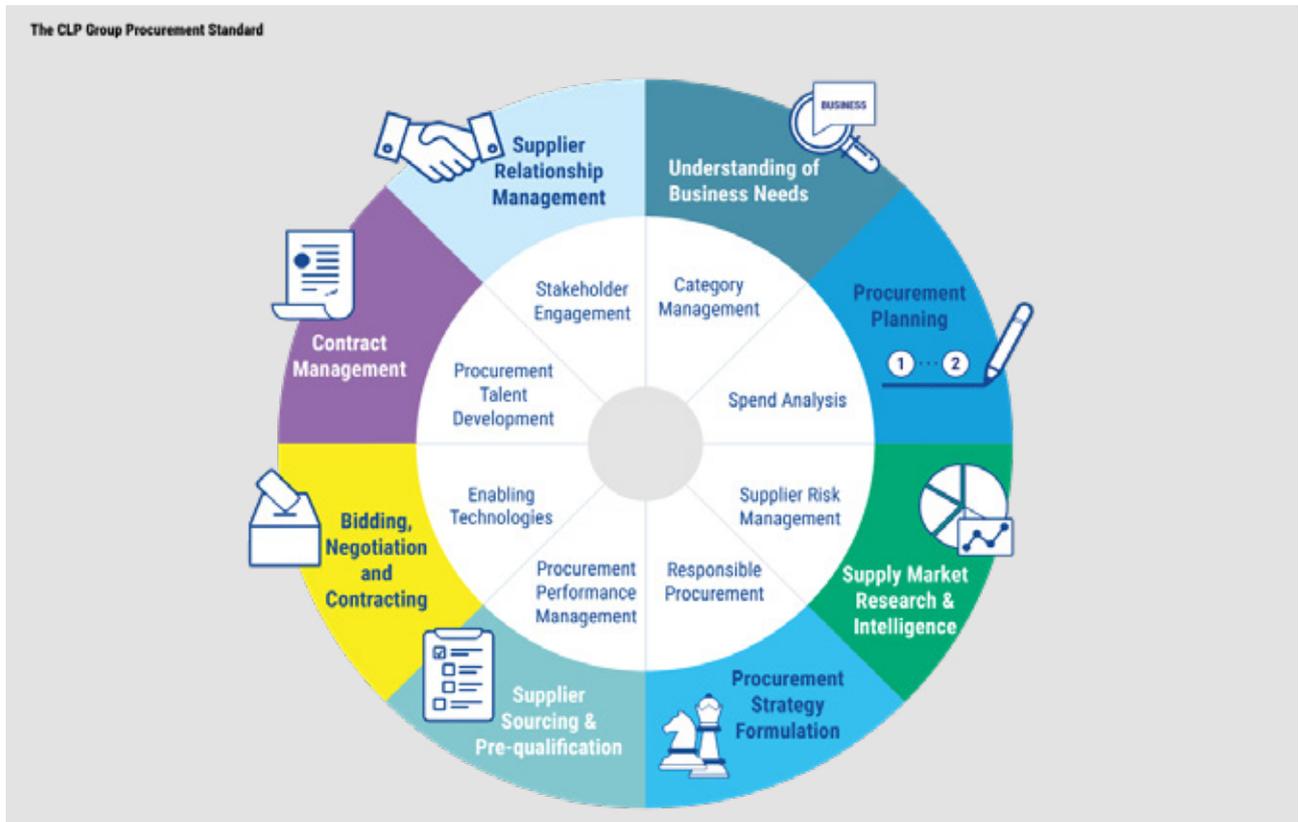
Australia

Our objective is to enable our customers to be able to access information on our products and services in a timely and efficient manner and we continue to evolve our digital channels to allow them to do so.

Our customers can access the information through our regular customer communication channels, such as:

- The EnergyAustralia website;
- Customer correspondence such as Welcome Pack and Billing Information;
- Call Centre staff and Account Managers;
- Comparison websites (government and privately owned); and
- SMS and social media.

We also communicate with customers via email and provide access for customer engagement via MyAccount and WebChat – enabling customers to communicate with us when and how they choose.



- GRI** Material Topic : Procurement Practices
- GRI** Material Topic : Supplier Environmental Assessment
- GRI** Material Topic : Supplier Social Assessment

Procurement practices

All purchases performed comply with CLP’s Code of Conduct, and are guided by CLP’s [Procurement Values and Principles](#) as well as CLP’s [Responsible Procurement Policy Statement](#) (RePPS). Our operation is also guided by CLP’s Whistleblowing Policy and Harassment-Free Workplace Policy. We encourage our suppliers to abide by the above principles and require them to adopt similar standards and practices when doing business with us. Our contract terms and conditions also stipulate RePPS expectations on business ethics and relevant project RePPS requirements.

Strategies and procedures

The CLP Group Procurement Standard (GPS) set key principles for general and fuel procurement for all regions across the Group. It encompasses eight “Process Elements” (covering all stages of the procurement cycle) and eight “Enabling Elements”, as illustrated in the diagram on the right. The GPS was approved in late 2016 and launched in 2017, with the objective of institutionalising each of the Elements across CLP Group companies.

“Responsible Procurement” is one of the designated “enabling elements” with the objective of ensuring the CLP Value Framework is adopted and complied with by our supply chain partners. In particular, it stipulates the expectations that we have on suppliers in terms of their legal compliance, respect for people, ethics and business conduct, and environmental stewardship.

Monitoring and follow-up

The CLP Group Procurement Network (GPN) was established in 2016 to further enhance procurement efficiency and effectiveness across CLP Group companies. This is achieved through the standardisation and adoption of leading practice, the development of shared knowledge and expertise, and the further leveraging and realization of group synergies.

The GPN includes members of CLP Group Operations and regional procurement leadership who meet on a monthly basis to review the progress on the adoption of the various GPS Elements championed by designated cross-regional teams.

The team leading “Responsible Procurement” engages with key internal and external stakeholders with the aim of uplifting supplier capability in meeting CLP’s sustainability requirements.

Managing Natural Capital

We use natural capital efficiently and conservatively and aim to continuously improve our environmental performance in line with technological advances and evolving stakeholder expectations.

Group-wide management approach

Our [Value Framework](#) includes an overarching Group-wide Environmental Policy. It is supported by a suite of standards and guidelines to mandate good practices and align Group-wide practices. The material environmental issues covered include:

- environmental impact assessment
- environmental monitoring
- environmental management system development
- environmental due diligence
- data management systems

Strategies and procedures

Environmental Management System Standard – We require power generation facilities over which we have operational control to achieve third-party certified ISO14001 environmental management systems within two years from commencement of operation or acquisition.

We are pleased to report that in 2017, all generation assets over which we have operational control achieved ISO14001 certification on time, with our Xicun solar plant and Xundian wind farm in Mainland China achieving ISO14001 certification in 2017.

 [Download the environmental management systems and measures in our assets](#)



Monitoring and follow-up

Environmental information is managed using the **Group Operations Information System (GOIS)**, a customised system launched in 2014 which is also used to collect and manage data in relation to asset management, safety and community initiatives. GOIS is the first cloud-based Group-wide reporting system for CLP, and provides a user-friendly environment with a built-in internal data approval sequence and automated presentation and reporting functions.

Environmental Regulatory Non-Compliances

We voluntarily follow other internal standards that go beyond legal requirements. On the business development side, we assess our potential environmental liability before we commit to projects. CLP's Pre-Investment Environmental Risk Assessment process ensures that environmental liabilities are fully considered for every project as part of the approval process by the Investment Committee. We have recently strengthened our environmental due diligence process as part of the pre-investment risk assessment process.

As we enter into operation stage, for all assets under our operational control, when an incident occurs, a record is compiled and each incident is classified and recorded according to notifications from local authorities and based on prevailing regulatory or legal definitions. Each incident is classified and recorded at the time of notification of the fine or prosecution. Instances of Environmental licence limit exceedances and other non-compliances and Environmental regulatory non-compliances resulting in fines or prosecutions, are mutually exclusive.



Material Topic : Materials



Most Material Topic : Emissions



Most Material Topic : Energy

Energy and greenhouse gas emissions

Our stakeholders expect us to use energy more efficiently and opt for renewable energy sources where practicable. As the world is moving towards a low carbon future, it is in our business interest to decarbonise our generation portfolio.

In our Value Framework, our Environmental Policy Statement commits us to use all resources, including fuel, water and other natural resources efficiently and conservatively. We are also committed to develop and implement strategies to address renewable resources and global climate change as key issues for the energy sector.

Goals and targets

Refer to our [Climate Vision 2050](#) for our goals and roadmap on carbon reduction.

Monitoring and follow-up

Fuel Consumption for Power Generation - Fuel consumption calculations for facilities under CLP's operational control depend on the type of fuel. For coal consumption, fuel consumed is calculated based on invoices and receipts for coal deliveries as

well as recorded actual coal used in the combustion process. Gas consumed for electricity generation is based on calculations from meter readings recorded at the respective facility. Oil consumption for electricity generation is calculated based on measurement of changes in the volume of oil storage tanks adjusted for destiny and calorific value. Fuel consumption for power generation is reported in Terajoules (TJ).

Carbon Emissions Intensity – This is an important indicator to track progress against our "Climate Vision 2050". Data is collected directly from most of our facilities but for a few minority-owned facilities where we have difficulty in directly obtaining the data; best conservative estimates are made based upon historical performance data or benchmarking with similar facilities.

Our carbon emissions are tracked at both facility and Group levels under the categories of Scope 1: Direct GHG Emissions and Scope 2: Indirect GHG Emissions as defined by the GHG Protocol. Due to data availability constraints, we include Scope 1 and Scope 2 emissions for those facilities which fall within our Environmental Scope, and Scope 1 emissions only for those facilities which fall outside our Environmental Scope. The Group's carbon intensity calculation is based upon net electricity sent-out from all operating facilities across our portfolio.

Air emissions

Air emissions remain as one of the most material environmental aspects of our generation portfolio. Although our overall air pollutant emissions intensities have reduced because of our expanding nuclear and renewable energy portfolio, the net emissions from our fossil-fuel power stations is still an issue high on our agenda.

Strategies and procedures

Our **Power Plant Air Emissions Standard** stipulates any fossil fuel-based power plant developed after the effective date of our Power Plant Air Emissions Standard is required to operate within CLP's prescribed limits on sulphur dioxide (SO₂), nitrogen oxides (NO_x) and particulates emissions, or to comply with local regulations, whichever is more stringent. This means if there is a lack of local emissions regulations or the levels are not as stringent as our internal standard, we are committed to go beyond the local requirements.

We take great care in conducting our environmental impact assessments (EIA), and are fully committed to fulfilling the requirements and recommendations stipulated in the EIA reports and local regulations. We also go beyond compliance in less developed countries where regulations are not as mature.

Apart from incorporating state of the art air emissions mitigation measures in our power stations, we also design our new power stations with advanced power generation technologies to generate electricity as efficiently as technology allows, thus lowering the amount of emissions.



Monitoring and follow-up

We continuously monitor air emissions (SO₂ / NO_x / Total PM) for facilities under CLP's operational control through real-time systems installed on site. We supplement this approach with stack sampling and mass-balance calculation methodologies, amongst others, accepted by local regulations if and when it is required by regulators or we deem it necessary.



Material Topic : Effluents and Waste



Material Topic : Water

Water

Our power generation portfolio uses water in a variety of ways. At fossil-fuelled power stations, it is used as process water and for cooling. The majority of this water is discharged back to source after appropriate treatment to minimise the environmental impact. Water is also the main element for power generation in hydro power stations. At other renewable energy power stations, such as wind and solar, the use of water is on a much smaller scale, but still essential for some processes, e.g. routine cleaning.

Strategies and procedures

Our operational-controlled facilities monitor their total water withdrawal and discharge. We manage our water resource risks through a number of means. We assess the water availability in the planning stage of projects including the likelihood of water scarcity in the future. During operations, we ensure that all requirements and necessary engagements with local stakeholders are in place to maintain our licence to operate.

Monitoring and follow-up

We conducted an in-depth assessment on water risk throughout our portfolio in 2017. The assessment covered parameters such as water availability, water sensitivity, water stress mapping, potential competing use with other stakeholders, and the management strategies in place in each of our regions. The results of the assessment indicated that we have a sufficiently robust management regime in managing our water risks. We will continue to monitor our water use, and manage this precious resource efficiently.

Our power stations, in particular our fossil-fuel fleet which uses more water, carry out a range of water conservation initiatives depending on site-specific conditions, operational situations and age. We also place high emphasis on sharing initiatives across CLP Group to maximise the benefit of an individual power station's efforts.

GRI Material Topic : Effluents and Waste

Waste

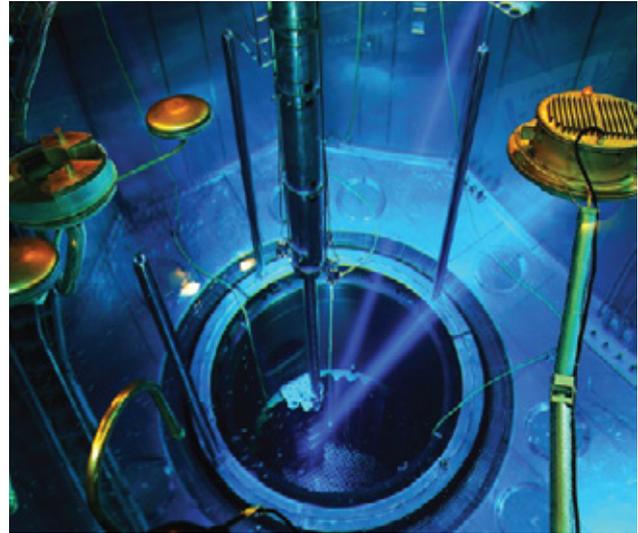
The nature of our power stations, as well as the different stages of our power generation process, produces different types and volumes of waste. We endeavour to reduce the waste we produce and work with qualified parties and partners to reuse or recycle our waste as much as we can. Broadly speaking, the volume of solid and liquid waste we generate is relatively small, and the volumes correlate with our level of activities. Projects that involve demolition and construction will produce more inert waste.

Strategies and procedures

We avoid the use of hazardous materials and use alternatives where possible. We find ways to reduce the volume of waste and recycle and reuse as much as possible. At our coal-fired power stations, the most significant amount of waste generated is coal ash from coal combustion and gypsum from the flue gas desulphurisation process.

Monitoring and follow-up

We monitor our waste generation by tracking the amount of both solid and liquid forms of hazardous and non-hazardous waste produced and recycled by our facilities on a monthly basis.



Nuclear waste in the Guangdong Daya Bay Nuclear Power Station

In accordance with national policy and international practices, Guangdong Daya Bay Nuclear Power Station (GNPS) stores its spent nuclear fuel onsite in a dedicated storage pool for each reactor for a number of years before passing it to a service provider licensed by the Mainland Chinese Government for reprocessing. The operation of the service provider is supervised by the National Nuclear Safety Administration (NNSA) and its environmental impact is monitored by the Ministry of Environmental Protection (MEP). The policy in Mainland China on reprocessing spent nuclear fuel is similar to that of a number of European countries.

Intermediate to low-level solid radioactive waste arises from operational processes and technical maintenance of the systems and equipment at GNPS. The waste is packed and stored in a dedicated facility onsite on an interim basis, and is provided with security to prevent unauthorised access. The waste will be transferred to a final repository operated by a separate service provider away from GNPS, using the shallow burial method, which is commonly adopted in the United States, France and the United Kingdom. The operation of the repository is expected to come under the supervision of the national nuclear regulator according to the relevant nuclear safety regulations.

As a minority shareholder of GNPS, CLP is not in the position to report the mass or inventory of high level radioactive waste (HLW) from reprocessing of the spent fuel from the plant, as this is the responsibility of the licensed service provider. The licensed service provider is obliged to dispose of HLW safely as required by the Chinese authorities.

GRI Material Topic : Biodiversity

Biodiversity

Operational responsibilities

We manage our biodiversity impacts on a site-specific basis since our operations have different levels of interaction with the local ecosystems, depending on factors such as location, the level of development in the vicinity and the surrounding environment.



Strategies and procedures

The regions we operate in face different levels of regulatory controls on biodiversity, from assessment requirements to ecological compensation. In our projects in Mainland China, we have been facing increased attention on biodiversity conservation. We welcome a stronger regulatory regime, as it provides a level playing field for companies such as ourselves who have always tried to move beyond compliance. This is because the additional effort often comes at a higher cost for us. A clearer regime helps reduce regulatory risk especially in a subject such as biodiversity which is often less well understood by the public.

In addition to implementing an internal Environmental Impact Assessment standard that mandates an environmental assessment for all new projects, a Biodiversity Impact Assessment Guideline has been implemented. We believe that to properly address our biodiversity impacts, we need to conduct biodiversity impact assessments in a more systematic and accurate manner. Any new operations that could affect IUCN Red List species and national conservation list species would be flagged well before any investment decision is made.

Managing Human Capital

We attract, motivate and retain high performing employees through competitive pay and benefits, and it is important that this is sustainable.



GRI Most Material Topic : Employment

GRI Material Topic : Market Presence

Employment

To build and maintain a sustainable and innovative workforce, we emphasise diversity, equality of opportunity, competitive benefits, building new capabilities, and respect for human rights.

Our human resources policies and procedures are intended to ensure that we comply with all local laws and regulations in relation to compensation and dismissal, recruitment and

promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and those covering benefits and welfare in the markets where we operate.

Given the technical complexities and ambiguities of some local laws and regulations, the risk of unintended breaches cannot be prevented entirely. We take immediate action to investigate and address any suspected breaches or issues that are brought to our attention.

We also carry out independent audits of our human resources policies and practices to proactively identify any risks of legal non-compliance, and take remedial actions if such risks are identified.

Occasionally there are disagreements with individual employees or unions over the interpretation or application of local laws and regulations. In such cases we will first attempt to resolve any issues amicably within locally determined procedures. If negotiation or conciliation is not successful, we comply fully with the final decisions of any relevant arbitration, tribunal or court.

Competitive and Sustainable Benefits

The ability to attract and retain talent with diverse thinking, background and tenure is essential to maintaining a sustainable workforce. Competitive pay and benefits play a key part in this.

Each year, we use independent external consultants to benchmark our remuneration and benefits with relevant recruitment markets to assess our relative competitiveness. In order to ensure that we balance the interests of both our employees and shareholders as key stakeholders, decisions on

remuneration are subject to our corporate governance process and the approval of the Remuneration Committee.

Retirement benefits are a significant component of total remuneration at CLP. The retirement benefit plans for staff employed by the Group entities in Hong Kong are regarded as defined contribution schemes. The current scheme, the CLP Group Provident Fund Scheme (GPFS), provides benefits linked to contributions and investment returns on the scheme. There are also some legacy defined benefits schemes in EnergyAustralia.

Enhancing Employee Wellbeing

Medical benefits are not only important for attracting and retaining our staff, but also help to maintain a healthy and productive workforce.

Medical cost inflation poses a threat to the sustainability of medical benefits schemes. In Hong Kong, the associated premiums are rising rapidly. Enhancing employee wellbeing is therefore an important measure to help improve the health status of the workforce, manage the cost of medical claims, and reduce the impact of sickness absence on productivity.

 **Most Material Topic : Diversity and Equal Opportunity**

 **Most Material Topic : Non-discrimination**

Diversity and equal opportunity

Diversity of Leadership

The energy sector is facing transformational change. In this complex environment, it is essential for our leadership team to have diverse thinking and background in order to strengthen organisational decision making capability, agility and resilience.

The diversity of our broader workforce is also important, both as a reflection of the different communities in which we operate, and because a sustainable workforce requires us to have a broad base of recruitment.

Workforce diversity, particularly of tenure, has also been demonstrated to support innovation capability in organisations.

How we manage diversity must take into account that we operate in countries with very different social and cultural contexts. This means we must be sensitive to differences in culture, values, traditions and religions, and respect local approaches to the regulation of diversity issues.

Consequently we give flexibility to each subsidiary to develop locally specific approaches to diversity, within a consistent overall framework.

Gender Equality

We focus our efforts on three priorities to improve our gender diversity. These priorities have been chosen because they reflect our business needs, align with the UN SDGs, and support the social and economic empowerment of women.

- First, we aim to increase the number of women in leadership positions in CLP from 22% to gender balance by 2030.
- Second, we aim to increase the number of female engineers from 9% to 30% by 2030 through initiatives that encourage girls to study engineering in schools and attracting female graduates to join the company.
- Our third priority is to ensure gender pay equity.

Discrimination and Harassment

Each of our businesses has an employee grievance procedure in place that reflects our Value Framework and any applicable local legal requirements. For example, our Hong Kong Grievance Resolution Policy encourages employees to discuss any issues freely and openly with their supervisors. They are encouraged to bring issues forward to the Human Resources Department or higher level of management if they think the issues are unresolved or are being unjustly handled. There will be no discrimination, coercion or retaliation for doing so.

GRI Most Material Topic : Human Rights Assessment

GRI Material Topic : Child Labor

GRI Material Topic : Forced or Compulsory Labor

Human rights

In addition to local legal compliance we respect internationally proclaimed Human Rights across our value chain. We recognise that our corporate responsibility to respect human rights extends to our network of suppliers and contractors.

Child and Forced Labour

CLP prohibits the employment of child, forced or compulsory labour in any of our operations. We require all of our operations to ensure that they do not use child or forced labour.

Short-term Employment and Use of Contractor Labour

A flexible resourcing model is necessary for our business but needs to be managed responsibly. Our workforce includes not only our permanent staff, but also short term contract staff, temporary staff, and labour supplied by external contractors.

While short term employment contracts are sometimes necessary to meet temporary resourcing needs, the repeated renewal of such contracts is not an acceptable resourcing strategy. We limit the use of short term employment contracts to a maximum of four years, following which continued employment must be on permanent terms.

It is not our Group policy or market practice to provide the same employment benefits to temporary or part-time staff as to full time or permanent staff. However, the benefits for our temporary and part-time employees are competitive with local market practice and meet or exceed local legal requirements.

GRI Most Material Topic : Labor / Management Relations

GRI Material Topic : Freedom of Association and Collective Bargaining

Labour relations

Whilst our management philosophy is that the most appropriate way to engage with our colleagues is through direct communication rather than through intermediary organisations, our employees have the freedom of association to join organisations and professional bodies of their choice. We respect and comply fully with all legal requirements with regard to union membership and collective bargaining in the countries we operate in.

GRI Most Material Topic : Training and Education

Capability building

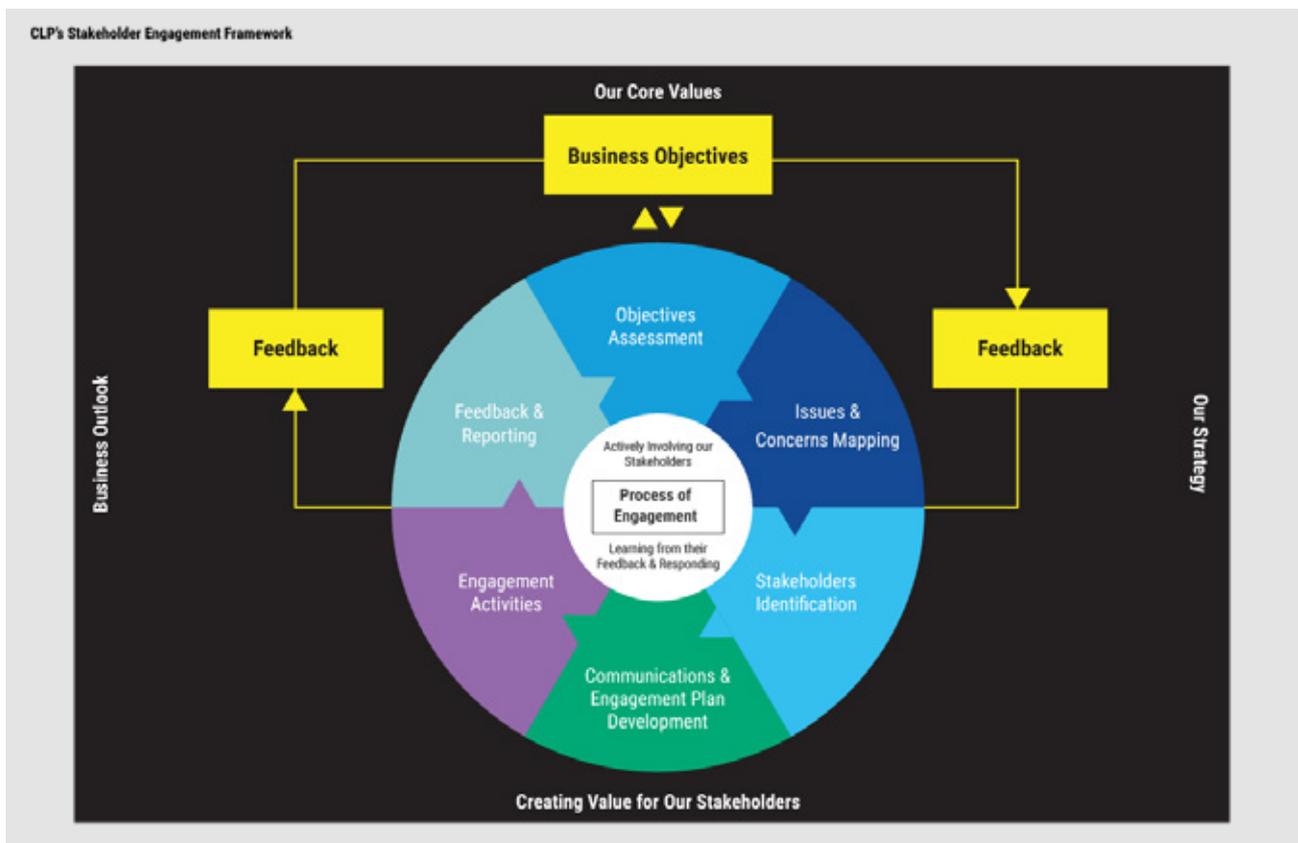
Maintaining our core competencies and building new capability in the areas of new technologies and innovation are essential for us to cope with the challenges brought by energy transformation and digitalization.

We strengthen organisational capabilities through senior level strategic hires, diversifying recruitment channels, strengthening staff deployment and development processes, continuous investment in training and development and leveraging external strategic partnerships with academic institutions.



Managing Social and Relationship Capital

Pursuing excellence in operating our manufactured assets across the value chain underpins our performance in safety, reliability and cost-effectiveness.



Stakeholder engagement

102-42, 102-43

In our Value Framework, we have published our Commitment to communicate regularly with our stakeholders, providing open and transparent channels for their input, reviewing and considering that input and responding in a timely manner to their concerns about our business. All CLP employees are

expected to conduct their engagements with stakeholders in accordance with the Code of Conduct and the Value Framework at all times.

[PDF See "Commitments On Communications and Reporting"](#)

[Read more about our how we ensure socioeconomic compliance](#)

We have a Stakeholder Engagement Framework that guides us through the steps of:

- aligning the engagement objectives with our business objectives;
- mapping issues and concerns;
- identifying relevant stakeholders;
- developing a communications and engagement plan;
- conducting the engagement activities; and
- capturing feedback and reporting on the outcomes.

The effectiveness of our approach to stakeholder engagement is reflected by a wide range of measures, including: stakeholder feedback comments; inputs and outcomes of engagements; positive and/or negative news about the company; brand perception ratings; recognition and awards; and many others.

Strategies and procedures

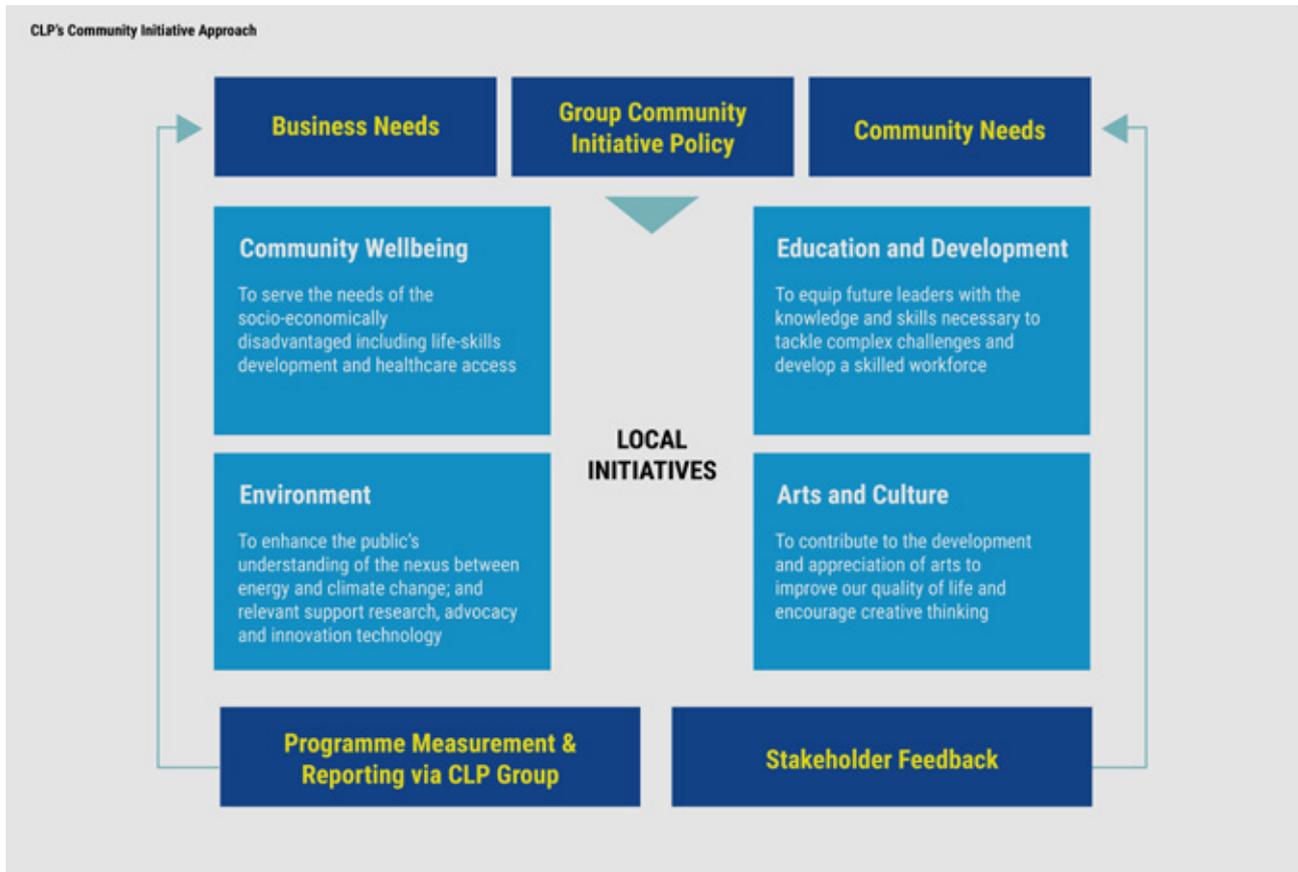
102-40, 102-43

Our business activities involve a diverse range of stakeholders, but we have identified the key stakeholder groups who are instrumental to the success of our business and who are also included in our Value Framework. Here we present who our key stakeholders are, why they are important and how we communicate with them.

We are committed to responding in a timely manner to our stakeholders' concerns about our business, which vary depending on the location and context and therefore require different actions or responses. The main topics arose during the year, as well as the actions undertaken by CLP to address them are reported in the results section in [Materiality Assessment](#).

Key Stakeholders		Material Topics
Provide Capital	<ul style="list-style-type: none"> · Lenders* · Investors / Shareholders 	<ul style="list-style-type: none"> · Annual General Meetings · Annual and Interim Reports · Announcements and Circulars · Shareholders' visit programme · Meetings and roadshows · ESG meetings
Grant License to Operate	<ul style="list-style-type: none"> · Governments & Regulators 	<ul style="list-style-type: none"> · Regular working meetings · Regular performance reporting · Written responses to public consultations
Purchase Fuel, Materials, Equipment & Services	<ul style="list-style-type: none"> · Suppliers & Contractors 	<ul style="list-style-type: none"> · Regular supplier management meetings and engagements (from operational to senior management) · Periodical supplier performance evaluations (Supplier Assessment System)
Operate Our Business	<ul style="list-style-type: none"> · Employees 	<ul style="list-style-type: none"> · Employee Engagement Surveys · Employee feedback channels (forms, suggestion box, Townhall meetings, etc.) · Regular management communications and roadshows · Two-way consultations (e.g. joint consultative committees in Hong Kong) · Employee Newsletters and Broadcasts · CLP Intranet Portal · Daily contact on employee related issues through human resources account management role · Discussion with trade union representatives in locations where collective bargaining power is recognised
Purchase Our Products / Services	<ul style="list-style-type: none"> · Residential Customers · Commercial and Industrial Customers · Electricity Boards and Grid Companies 	<ul style="list-style-type: none"> · Customer Consultative Group, Local Customer Advisory Committees · SME Consultative Group · Customer satisfaction surveys and feedback forms · Customer Service Centres and Customer Interaction Centre · Online service portals · Account managers
Share Knowledge & Build Trust	<ul style="list-style-type: none"> · Academia and Schools · Communities, NGOs and Media · Industry and Professional Organisations 	<ul style="list-style-type: none"> · Working Committees, Advisory Committees, panels and meetings · Seminars, lectures and workshops · Public / community events and partnerships on various initiatives · Community investment programmes

*Lenders include perpetual capital securities holders



GRI Most Material Topic : Local Communities

Community investment

Maintaining strong relationships both internally and externally is critical for the sustainability of our business. To ensure we continue to have a social licence to operate, it is critical that the communities in which we operate not only trust us, but also view our company as one that contributes to the sustainable development of their future.

We strive to build and maintain the trust of the communities that we provide power to and operate in, so that we can continue to contribute to their development into healthy, resilient and sustainable communities.

As enshrined in CLP's Value Framework, CLP Cares for the Community and commits to making significant contributions to programmes that have a positive impact on community development for the short and long term. In line with the recently updated [CLP Group Community Initiatives, Sponsorship and Donation Policy](#) on community engagement, we aim to:

- Support projects or programmes that reflect the needs and expectations of local communities and are sensitive to prevailing cultures, traditions and values;

- Provide support to 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;
- Focus our support on projects or programmes that offer the opportunity for our employees to be involved in the activities; and
- Evaluate regularly, our contributions as well as the outcomes and impacts that have been achieved

Strategies and procedures

Our community initiatives focus on four pillars: Environment, Education and Development, Community Wellbeing and Arts and Culture. These are aligned with some of the United Nations Sustainable Development Goals (SDGs), especially SDG4 Quality Education which aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

Monitoring and follow-up

To better evaluate the social impact of our community initiatives, we have commissioned a benchmarking study of different socio-economic impact measurement tools so that we can identify the most suitable means to evaluate the effectiveness of our contribution in the community and make recommendations for the next step.

A standardised online reporting system was launched in 2016 to improve the integrity of our community-related data across the Group. Information on community initiatives programmes collected includes the theme, partner, spending, beneficiary, volunteer hours and impact. The establishment of the system has enhanced the overall effectiveness and efficiency in reviewing and reporting our community initiatives.

We also conduct surveys to help us understand how well our engagement and social investment activities align with our communities' expectations. In Hong Kong, we conduct a public perception survey every year to understand the public's view on various aspects of the electricity industry as well as the performance of CLP Power Hong Kong. Similarly, since 2014, EnergyAustralia has undertaken community perception surveys to better understand the needs and interests of local stakeholders and communities in which we operate.

Community relations

Managing our effects on community – All our power plants have a potential to impact local communities, in both positive and negative ways. We try to mitigate any concerns through the following measures:

- Communicating with local governments to explain the nature of the project before construction starts and obtain their help in liaising with local people;
- Following all applicable laws and regulations regarding land acquisition and environmental impact;
- Providing employment opportunities where possible;
- Contributing to local services such as schools or hospitals; and
- Offering to receive local people and school children at the plant and explain what we do.

CLP abides by established government regulations on provisions for people who are resettled by government for the purpose of building power stations. While resettlement and compensation are often undertaken by government entities,

CLP assumes an active role in the stakeholder consultation process. On the rare occasion, where displacing or negatively impacting existing local communities or indigenous people is inevitable, we would take care to respect them and make every effort not to violate their rights.

Monitoring and follow-up

Grievance channels – Most markets have regulatory bodies which have formal grievance channels for specific issues, such as the local environmental protection department or agency for environmental-related issues or consumer or energy regulator for customer-related issues. We have a wide range of open/public engagement channels through which we can receive any concerns, interests or feedback at any time during the year. General complaints against the company are handled by relevant departments in consultation with our Public Affairs team who work with the relevant colleagues to resolve the issue at hand. Such feedback is then taken as a consideration and incorporation in operation improvement.

 **Most Material Topic : Public Policy**

Public policy positions

Our industry is heavily regulated so policies and laws are naturally a major influence on our business. Participation in public policy discussions enables us to stay ahead of such developments and can inform our strategic decision-making, as well as support policymakers shape sound policies that balance the often conflicting stakeholder expectations on the economic, social and environmental dimensions of energy.

In our Value Framework, we are committed to contributing to the development of sound government policies and laws that balance the social, economic and environmental needs and support the long-term development of the communities we serve.



Strategies and procedures

It is our policy to remain politically neutral and to avoid making political contributions. For public policy developments which apply to the electricity industry, we take public policy positions and participate in the discussions. We feel that in bringing our industry expertise to the table, we can add value to the discussion on how best to structure rules for our industry going forward, as both technology and public demand for our product evolves.

Our responses to public policy consultations as well as our key company positions, such as on climate change, are all published and accessible on our company websites.

Customer engagement channels



[Read more about how we meet customers' needs](#)

In order to gauge the performance of our retail businesses, we ask our customers how we are doing via customer satisfaction surveys that we conduct on a regular basis. In addition to gauging the performance of our retail business based on satisfaction, we also assess our performance based on the number of customer enquiries and complaints.

Hong Kong

Our skilled and well-trained staff in these centres is at the frontline of handling these enquiries and complaints. The **Customer Interaction Centre (CIC)** provides one-stop shop customer services in order to maintain good customer relationships to help word-of-mouth promotion of CLP services. All enquiries will be resolved by the frontlines where possible. For unresolved issues, cases will be passed to the Customer Care team which is the centre of excellence for handling general customer complaints and specific enquiries regarding high consumption patterns.

CIC has an internal service pledge to follow up verbal complaints within 24 hours and to acknowledge written complaints within two working days. All escalated cases will be studied thoroughly and resolutions developed for the customers.

In 1992, CLP Power Hong Kong pioneered the formation of a customer advisory body, **CLP Customer Consultative Group (CCG)**, which was the first amongst public utilities in Hong Kong in. CCG aims to enhance our relationship with customers, improve customer services, and ensure that the ever increasing demands of customers are addressed. CCG Members regularly review customer written complaints and determine if they are justified and have been adequately dealt with. Over the last 25 years, CCG membership has expanded to represent a wide spectrum of customers, growing from 5 to 14 members.

Subsequent to success of CCG, we set up **CLP Local Customer Advisory Committees (LCACs)** in 1994 to strengthen customer communication. Currently, there are 14 LCACs across all CLP supply areas, and they comprise of representatives from different sectors. We meet with LCAC members quarterly to take their advice on quality and efficient customer service, and seek collaboration opportunities in the respective district.



[Find out more about the CCG and LCACs](#)

Australia

As part of our corporate strategy, EnergyAustralia is committed to making our customers' lives simpler and better by delivering the services they need and value and delivering on what we promise. To measure our effectiveness in delivering on these values, EnergyAustralia has been measuring our Strategic Net Promoter Score (NPS) to assess customer satisfaction across all our customers since 2012. This is measured monthly using an online survey amongst a representative group of customers.

In addition to Strategic NPS, we have also been measuring a Transactional Net Promoter Score, which tracks customer satisfaction in relation to specific customer interactions (for example, following a phone call with the contact centre or web chat with the digital team), which provides more direct feedback for our frontline staff.

GRI Material Topic : Access

GRI Material Topic : Provision of Information

Access to electricity

Electricity is an essential service and we work hard to ensure all members of our community can access our products and services. We have services in place that ensure most challenges including language, culture, literacy or disability do not prevent people from accessing and using our products. In both our Hong Kong and Australian retail businesses, we avoid disconnection of our accounts and try to work out special arrangements for non-payments.



Hong Kong

In our Hong Kong retail business, we have special arrangements for non-payment customers including programmes to help customers who might be at risk of supply disconnection. Payment deferral or interest free payment by instalment is offered for demonstrated cases of hardship.

- Braille bill and Accessible Green Bill (voice-over) – to enable visually impaired customers to understand their electricity bill statement in a more convenient manner.
- Concessionary Tariff for the Elderly for customers aged 60 or above who live either alone or with other similarly qualified elderly, and who are relying on or entitled to Comprehensive Social Security Assistance.
- Just in Time Service at Customer Service Centres, Eco Home and Smart Energy Experience Centre where customers can borrow an umbrella and/or power bank free of charge.

Australia

EnergyAustralia's 'EnergyAssist' vulnerability programme assists our customers experiencing financial difficulty in many ways, including tailored payment solutions, payment matching, debt waivers, appliance replacements and energy efficiency advice (over the phone and in-home visits).

EnergyAustralia's foundation Financial Inclusion Action Plan (FIAP), which is currently underway with 5 actions completed and another 11 in progress, is working to:

- Improve our understanding of why and how our customers can face financial exclusion, particularly those who are over-represented.
- Understand how we can improve our products, services, policies and practices to better support vulnerable customers.
- Help our employees better understand financial inclusion, the issues that affect it and how they can best support our customers.

> Find out more about EnergyAustralia's FIAP

On 8th June 2017 EnergyAustralia publicly announced it would commit an additional A\$10 million to financial and other support for some of its most vulnerable customers, at a time of rising electricity and gas prices. In the announcement, EnergyAustralia committed to consulting on how best to apply the additional funds, with an emphasis on energy efficiency and measures that provide lasting, long-term relief and stated that some of the funding will also support initiatives arising from its Financial Inclusion Action Plan (FIAP).

We provide the following services for customers with special needs in Australia:

- Interpreter services for those who have a first language other than English;
- Webchat and Telephone Typing Services (TTS) machine for the hearing impaired; and
- For the vision impaired, we have a number of services, such as Braille billing and large format bill print.

Information on these services is easily accessible on the EnergyAustralia [website](#) and on customers' bills.

Managing Intellectual Capital

Growing our innovation capability to be prepared for the digital revolution that is changing the face of our industry.

GRI Most Material Topic : Research and Development

Research and development

We continued to monitor and assess emerging technologies and their applicability for us, including climate adaptation, smart cities, solar resources, energy storage, energy management systems, distributed energy and the utility of the future. We also maintained and built an active network of utility peers, researchers and academics focusing on technology, energy, environment, policy and cleantech investments. We continued to nurture innovation, research and knowledge development to build business insights of emerging risks and opportunities.



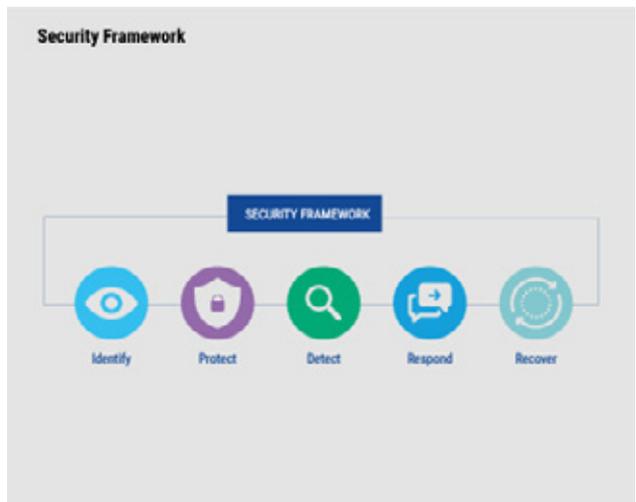
Intellectual property rights

Our employees are obliged to protect the company’s intellectual property rights, as well as complying with all applicable laws and regulations, including observing the intellectual property rights of our suppliers and vendors.

Cyber security

Information security is already embedded in our [Group Operation Security Policy](#). Its focus is on protecting our business information, and the systems processing these information. With the increasing cyber threat, we recognise we need a separate policy that focuses on operational technology cyber security. Hence we have developed the Operational Technology (OT) Cyber Security Policy to ensure the protection of OT operations along our value chain, including generation, distribution and transmission of energy. This policy has come into effect in the first quarter of 2018.

Under the Group OT Cyber Security Policy, we will develop the Regional OT Cyber Security Standards as well as OT Standard Operating Procedures, to provide clear and practical guidance across all levels. The Policy was developed with representatives from different regions, to ensure the policy can meet local regulations and context, and be implementable.



Data and Downloads

Welcome to Data & Downloads, where you can view our quantitative performance data in the Data Table and obtain in pdf format our summary report, asset performance statistics and content indices from the Downloads section.

Key Performance Data

Data Table

Key Performance Data	>
 Human Capital	
 Manufactured Capital	
 Natural Capital	
 Social and Relationship Capital	

KPI summary

We continually improve by managing, monitoring and reporting our performance. These tables present a quantitative overview of our 2017 non-financial performance. The indicators are selected from the Global Reporting Initiative (GRI) Standards as well as other key performance data. All of the 2017 data presented in these tables, except that which is shaded, has been independently assured by PricewaterhouseCoopers.

Note: GRI /HKEx / Notes to the KPI table

	2017	2016	2015	2014	2013	Note:
Governance						
Convicted cases of corruption (cases)	0	0	0	0	0	205-3 / B7.1
Breaches of Code of Conduct (cases)	28	21	6	7	12	

	2017	2016	2015	2014	2013	Note:
Financial Information						
• Economic value generated (HK\$M)						
Revenue	92,073	79,434	80,700	92,259	104,530	201-1
Share of profits of non-wholly owned entities	609	791	10,299	3,820	4,022	⁽¹⁾
• Economic value distributed (HK\$M)						
Fuel costs	15,473	12,785	15,446	14,736	15,350	
Other operating costs	46,325	38,689	41,705	53,870	70,408	201-1
Staff expenses	4,195	3,892	3,649	3,980	3,017	201-1
Finance costs	2,278	2,371	4,183	4,201	6,349	201-1/ ⁽²⁾
Dividends	7,352	7,074	6,822	6,619	6,493	201-1
Taxes	2,094	2,032	1,818	1,571	839	201-1/ ⁽³⁾
Donations	14	13	15	12	8	201-1
• Economic value retained (HK\$M)	14,951	13,369	17,361	11,090	6,088	201-1/⁽⁴⁾

	2017	2016	2015	2014	2013	Note:
Safety						⁽⁵⁾
Fatalities [employees only](number)	0	0	0	0	0	403-2 / B2.1 / ⁽⁶⁾
Fatalities [contractors only] (number)	4	3	0	1	1	403-2 / B2.1 / ⁽⁶⁾
Fatality Rate [employees only] (number per 200,000 manhour)	0.00	0.00	0.00	0.00	0.00	403-2 / B2.1 / ⁽⁷⁾
Fatality Rate [contractors only] (number per 200,000 manhour)	0.03	0.02	0.00	0.01	0.01	403-2 / B2.1 / ⁽⁷⁾
Lost Time Injury [employees only] (number)	11	3	8	4	5	403-2 / ⁽⁸⁾
Lost Time Injury [contractors only] (number)	16	10	8	19	28	403-2 / ⁽⁸⁾
Lost Time Injury Rate [employees only] (number per 200,000 manhour)	0.13	0.04	0.10	0.05	0.06	403-2 / ^{(7), (8)}
Lost Time Injury Rate [contractors only] (number per 200,000 manhour)	0.14	0.07	0.06	0.15	0.22	403-2 / ^{(7), (8)}
Total Recordable Injury Rate [employees only] (number per 200,000 manhour)	0.21	0.11	0.18	0.26	0.23	403-2 / ^{(7), (9)}
Total Recordable Injury Rate [contractors only] (number per 200,000 manhour)	0.36	0.19 ⁽¹¹⁾	0.28	0.51	0.50	102-48 / 403-2 / ^{(7), (9)}
Days lost [employees only] (number)	252	9	199	105	29	403-2 / B2.2 / ^{(8), (10)}

	2017	2016	2015	2014	2013	Note:
Employees						
• Employees based on geographical location (number)	7,542	7,428	7,360	7,387	6,968	102-7 / B1.1
Hong Kong	4,504	4,450	4,438	4,405	4,394	
Mainland China	577	560	527	480	469	
Australia	1,998	1,983	1,998	2,143	1,745	
India	463	435	397	359	360	
• Employees eligible to retire within the next five years (%)	15.1	14.1	13.3	12.4	13.0	EU15 / ⁽¹²⁾
Hong Kong	18.6	17.3	16.2	15.4	15.2	
Mainland China	10.6	12.1	11.9	11.1	12.2	
Australia	12.2	11.4	10.9	9.2	10.9	
India	2.4	0.9	0.8	1.4	0.8	
• Voluntary staff turnover rate (%)						401-1 / B1.2 / ^{(13), (14)}
Hong Kong	1.9	2.3	2.8	2.6	1.9	
Mainland China	3.0	3.4	2.6	2.5	2.6	
Australia	13.8	12.6	13.7	11.6	9.4	
India	3.5	8.4	9.8	13.2	10.1	
Training per employee (average hours)	46.9	49.2	57.2	43.4 ⁽¹⁵⁾	5.5	404-1 / B3.2

	2017	2016	2015	2014	2013	Note:
Environment ⁽¹⁶⁾						
Resource Use and Emissions ⁽¹⁷⁾						
Coal consumed (for power generation) (TJ)	471,976	453,904	450,937	541,865	433,763	302-1 / A.2.1
Gas consumed (for power generation) (TJ)	91,426	86,787	95,591	63,268	73,510	302-1 / A.2.1
Oil consumed (for power generation) (TJ)	5,069	4,162	2,892	2,345	1,973	302-1 / A.2.1
CO ₂ e emissions from power generation (Scopes 1 & 2) (kT)	48,082	46,681	46,723	53,258	44,258	305-1 / 305-2 / A.1.2
CO ₂ emissions from power generation (Scopes 1 & 2)(kT)	47,921	46,518	46,553	53,044	44,076	305-1 / 305-2 / A.1.2 ⁽¹⁸⁾
Nitrogen oxides emissions (NO _x) (kT)	59.3	58.1	56.3	74.6	50.2	305-7 / A.1.1
Sulphur dioxide emissions (SO ₂) (kT)	81.6	71.2	63.4	93.0	50.5	305-7 / A.1.1
Total particulates emissions (kT)	8.3	8.5	9.8	11.5	5.5	305-7 / A.1.1
· Water withdrawal (Mm3)	4,480.8	4,257.0	4,503.0	4,834.0	5,031.3	303-1 / A.2.2
from marine water resources	4,421.7	4,202.3	4,447.6	4,774.5	4,987.9	
from freshwater resources	52.6	48.2	48.8	52.9	37.2 ⁽¹⁹⁾	
from municipal sources	6.5	6.5	6.6	6.6	6.2 ⁽¹⁹⁾	
· Water discharged (Mm3)	4,437.7	4,219.2	4,463.0	4,792.2	5,000.8	306-1
cooling water to marine water bodies	4,421.7	4,202.3	4,447.6	4,774.5	4,987.9	
treated wastewater to marine water bodies	1.6	1.5	1.1	1.3	1.2	
treated wastewater to freshwater bodies	12.3	13.6	12.6	14.5	10.1	
wastewater to sewerage	1.9	1.6	1.6	1.8	1.5	
wastewater to other destinations	0.2	0.2	0.1	0.1	0.1	
Hazardous waste produced (T (solid) /kl (liquid))	857 /1,420	1,302 /1,251	641 /2,832	484 /2,783	337 /1,228	306-2 / A.1.3 / ⁽²⁰⁾
Hazardous waste recycled (T (solid) /kl (liquid))	469 /1,384	260 /1,149	203 /1,176	89 /1,463	34 /981	306-2 / ⁽²⁰⁾
Non-hazardous waste produced (T (solid) /kl (liquid))	20,334 /103	8,317 /84	11,455 /199	21,142 /78	7,700 /0	306-2 / A.1.4 / ⁽²⁰⁾
Non-hazardous waste recycled (T (solid) /kl (liquid))	3,790 /103	2,963 /84	4,414 /199	4,172 /78	1,853 /0	306-2 / ⁽²⁰⁾
Environmental regulatory noncompliances resulting in fines or prosecutions (number)	0	0	1	1	0	307-1
Environmental licence limit exceedances & other noncompliances (number)	13	2	13	3	4	307-1
Climate Vision 2050 Target Performance (Equity Basis) ⁽²¹⁾						
Total renewable energy generation capacity (% (MW))	14.2 (2,751)	16.6 (3,090)	16.8 (3,051)	14.1 (2,660)	16.3 (2,579)	
Non-carbon emitting generation capacity (% (MW))	22.4 (4,350)	19.2 (3,582)	19.5 (3,543)	16.7 (3,152)	19.4 (3,071)	
Carbon dioxide emissions intensity of CLP Group's generation portfolio (kg CO ₂ / kWh)	0.80	0.82	0.81	0.84	0.82	305-4 / A.1.2 / ⁽²²⁾

Carbon Emissions Intensity of CLP Power Hong Kong Electricity Sold					
CO ₂ emissions intensity of electricity sold by CLP Power Hong Kong (kg CO ₂ / kWh)	0.50	0.54	0.54	0.63	0.63
CO ₂ e emissions intensity of electricity sold by CLP Power Hong Kong (kg CO ₂ e / kWh)	0.51	0.54	0.54	0.64	0.63

Notes to the KPI table:

- (1) Represents share of results (net of income tax) from joint ventures and associates netted with earnings attributable to other non-controlling interests.
- (2) Finance costs are netted with finance income and include payments made to perpetual capital securities holders.
- (3) Represents current income tax but excluding deferred tax for the year.
- (4) Represents earnings attributable to shareholders (before depreciation, amortisation and deferred tax) for the year retained.
- (5) The system of rules applied in recording and reporting accident statistics complies with the International Labour Organization (ILO) Code of Practice on Recording and Notification of Occupational Accidents and Diseases. Each year's safety data cover the incidents that happened in that calendar year and are based on the latest information available at the time of publication.
- (6) A fatality is the death of an employee or contractor personnel as a result of an occupational illness / injury / disease incident in the course of employment.
- (7) All rates are normalised to 200,000 worked hours, which approximately equals to the number of hours worked by 100 people in one year.
- (8) An occupational illness / injury / disease sustained by an employee or contractor personnel causing him / her to miss one scheduled workday / shift or more after the day of the injury (including fatalities). A lost time injury does not include the day the injury incident occurred or any days that the injured person was not scheduled to work and it does not include restricted work injuries.
- (9) Total recordable injuries count all occupational injury incidents and illness other than first aid cases. They include fatalities, lost time injuries, restricted work injuries, and medical treatment.
- (10) It refers to the number of working days lost when workers are unable to perform their usual work because of an occupational accident or disease. A return to limited duty or alternative work for the same organisation does not count as lost days.
- (11) A first aid case at CLP Power Hong Kong in 2016 was reclassified as a medical treatment case.
- (12) The percentages given refer to full-time permanent staff within each location, who are eligible to retire within the next five years.
- (13) Voluntary turnover is employees leaving the organisation voluntarily and does not include dismissal, retirement, separation under a separation scheme or end of contract.
- (14) In Mainland China, voluntary staff turnover rates refer to both permanent and short-term employees. In all other regions, voluntary staff turnover rates refer to permanent employees only.
- (15) Training per employee has been reported in average hours of training since 2014. Prior to 2014, training per employee is reported in average days of training.
- (16) Environmental data rounded by facility before aggregation.
- (17) Covers operating facilities where CLP has operational control for the full calendar reporting year.
- (18) Includes CO₂e emissions of Yalourn and Hallett facilities as CO₂ emissions data were not available.
- (19) Data updated to align with reporting definition.
- (20) Waste categorised in accordance with local regulations.
- (21) "Equity basis" includes all majority and minority share facilities in the CLP Group portfolio.
- (22) CGN Wind not included as per the Greenhouse Gas Protocol due to its accounting categorisation since 2013.

All 2017 data above have been independently verified by PricewaterhouseCoopers **except those shaded in blue.**

Human Capital

Data Table

Key Performance Data	
 Human Capital	>
 Manufactured Capital	
 Natural Capital	
 Social and Relationship Capital	

	2017	2016	2015	2014	2013
CLP Group Safety Performance [Employees and Contractors]					
Fatalities (number)	4	3	0	1	1
Fatality Rate (number per 200,000 manhour)	0.02	0.01	0	0.005	0.005
Lost Time Injuries (number of cases)	27	13	16	23	33
Lost Time Injury Rate [LTIR] (number per 200,000 manhour)	0.13	0.06	0.07	0.11	0.16
Total Recordable Injury Rate [TRIR] (number per 200,000 manhour) ⁽²⁾	0.29	0.16	0.25	0.41	0.39
Days Lost / Days Charged [employees only] (number)	252	9	199	105	29
Occupational Disease [employees only] (number)	0	0	0	0	0
CLP Group Safety Performance [Employees / Contractors]					
Fatalities (number)	0/4	0/3	0/0	0/1	0/1
Fatality Rate (number per 200,000 manhour)	0.00/0.03	0.00/0.02	0.00/0.00	0.00/0.01	0.00/0.01
Lost Time Injuries (number of cases)	11/16	3/10	8/8	4/19	5/28
Lost Time Injury Rate [LTIR] (number per 200,000 manhour)	0.13/0.14	0.04/0.07	0.10/0.06	0.05/0.15	0.06/0.22
Total Recordable Injury Rate [TRIR] (number per 200,000 manhour) ⁽²⁾	0.21/0.36	0.11/0.19	0.18/0.28	0.26/0.51	0.23/0.50
Days Lost / Days Charged [employees only] (number)	252	9	199	105	29
Occupational Disease [employees only] (number)	0	0	0	0	0
CLP Group Safety Performance by Region [Employees / Contractors]					
• CLP Holdings					
Fatalities (number)	0/0	0/0	0/0	0/0	N/A
Fatality Rate (number per 200,000 manhour)	0.00/0.00	0.00/0.00	0.00/0.00	0.00/0.00	N/A

Lost Time Injuries (number of cases)	0/0	0/0	0/0	0/1	N/A
Lost Time Injury Rate [LTIR] (number per 200,000 manhour)	0.00/0.00	0.00/0.00	0.00/0.00	0.00/0.83	N/A
Total Recordable Injury Rate [TRIR] (number per 200,000 manhour)	0.00/0.00	0.48/0.00	0.53/0.00	0.00/0.83	N/A
Days Lost / Days Charged [employees only] (number)	0	0	0	N/A	N/A
Occupational Disease [employees only] (number)	0	0	0	0	N/A
• Hong Kong					
Fatalities (number)	0/4	0/0	0/0	0/0	N/A
Fatality Rate (number per 200,000 manhour)	0.00/0.07	0.00/0.00	0.00/0.00	0.00/0.00	N/A
Lost Time Injuries (number of cases)	1/9	0/1	0/4	1/5	N/A
Lost Time Injury Rate [LTIR] (number per 200,000 manhour)	0.02/0.16	0.00/0.02	0.00/0.07	0.02/0.08	N/A
Total Recordable Injury Rate [TRIR] (number per 200,000 manhour)	0.08/0.29	0.00/0.10	0.07/0.17	0.11/0.21	N/A
Days Lost / Days Charged [employees only] (number)	47	0	0	N/A	N/A
Occupational Disease [employees only] (number)	0	0	0	0	N/A
• Mainland China					
Fatalities (number)	0/0	0/1	0/0	0/0	N/A
Fatality Rate (number per 200,000 manhour)	0.00/0.00	0.00/0.03	0.00/0.00	0.00/0.00	N/A
Lost Time Injuries (number of cases)	0/0	0/2	0/1	0/1	N/A
Lost Time Injury Rate [LTIR] (number per 200,000 manhour)	0.00/0.00	0.00/0.06	0.00/0.02	0.00/0.04	N/A
Total Recordable Injury Rate [TRIR] (number per 200,000 manhour)	0.00/0.06	0.00/0.06	0.00/0.16	0.44/0.26	N/A
Days Lost / Days Charged [employees only] (number)	0	0	0	N/A	N/A
Occupational Disease [employees only] (number)	0	0	0	0	N/A
• India					
Fatalities (number)	0/0	0/2	0/0	0/1	N/A
Fatality Rate (number per 200,000 manhour)	0.00/0.00	0.00/0.05	0.00/0.00	0.00/0.03	N/A
Lost Time Injuries (number of cases)	0/1	0/4	2/1	0/7	N/A
Lost Time Injury Rate [LTIR] (number per 200,000 manhour)	0.00/0.03	0.00/0.11	0.54/0.03	0.00/0.21	N/A
Total Recordable Injury Rate [TRIR] (number per 200,000 manhour)	0.00/0.20	0.00/0.30	0.54/0.25	0.71/0.88	N/A
Days Lost / Days Charged [employees only] (number)	0	0	34	N/A	N/A
Occupational Disease [employees only] (number)	0	0	0	0	N/A

• Australia					
Fatalities (number)	0/0	0/0	0/0	0/0	N/A
Fatality Rate (number per 200,000 manhour)	0.00/0.00	0.00/0.00	0.00/0.00	0.00/0.00	N/A
Lost Time Injuries (number of cases)	10/6	3/3	6/2	3/5	N/A
Lost Time Injury Rate [LTIR] (number per 200,000 manhour)	0.43/0.62	0.14/0.46	0.28/0.29	0.14/0.59	N/A
Total Recordable Injury Rate [TRIR] (number per 200,000 manhour)	0.60/1.85	0.37/1.06	0.42/2.14	0.42/1.88	N/A
Days Lost / Days Charged [employees only] (number)	205	9	165	N/A	N/A
Occupational Disease [employees only] (number)	0	0	0	0	N/A
• Southeast Asia and Taiwan					
Fatalities (number)	N/A	N/A	N/A	N/A	N/A
Fatality Rate (number per 200,000 manhour)	N/A	N/A	N/A	N/A	N/A
Lost Time Injuries (number of cases)	N/A	N/A	N/A	N/A	N/A
Lost Time Injury Rate [LTIR] (number per 200,000 manhour)	N/A	N/A	N/A	N/A	N/A
Total Recordable Injury Rate [TRIR] (number per 200,000 manhour)	N/A	N/A	N/A	N/A	N/A
Days Lost / Days Charged [employees only] (number)	N/A	N/A	N/A	N/A	N/A
Occupational Disease [employees only] (number)	N/A	N/A	N/A	N/A	N/A
Collective Radiation Dosage for Workers (man-mSv)	712	1,032	1,035	1,512	1,769
Full-time and Part-time Employees by Region (number)					
Full-time Employees - Total (number)	7,542	7,428	7,360	7,387	6,968
Part-time Employees - Total (number)	209	198	280	182	190
• Hong Kong					
Full-time Employees	4,504	4,450	4,438	4,405	4,394
Part-time Employees	11	18	23	23	25
• Mainland China					
Full-time Employees	577	560	527	480	469
Part-time Employees	0	0	0	0	2
• India					
Full-time Employees	463	435	397	359	360
Part-time Employees	0	0	0	0	0
• Australia					
Full-time Employees	1,998	1,983	1,998	2,143	1,745
Part-time Employees	198	180	257	159	163

Average Length of Service Years by Region (number of years)					
Hong Kong	17.5	17.7	17.9	18.2	18.5
Mainland China	13.7	14.0	14.2	15.0	14.9
India	6.1	5.7	11.5	5.7	5.2
Australia	5.2	4.4	4.4	4.6	6.1
Voluntary Turnover Rate by Region and Gender (% of employees) ^{(3), (4)}					
• Hong Kong	1.9	2.3	2.8	2.6	1.9
Male	1.6	1.8	2.5	2.1	N/A
Female	3.3	4.6	4.7	5.3	N/A
• Mainland China	3.0	3.4	2.6	2.5	2.6
Male	2.4	3.6	2.7	2.4	N/A
Female	5.3	2.6	1.9	2.9	N/A
• India	3.5	8.4	9.8	13.2	10.1
Male	3.2	8.0	9.6	13.6	N/A
Female	6.0	11.5	11.5	9.0	N/A
• Australia	13.8	12.6	13.7	11.6	9.4
Male	12.9	11.2	12.6	11.1	N/A
Female	15.1	14.6	15.2	11.8	N/A
Voluntary Turnover Rate by Region and Age Group (% of employees) ^{(3), (4)}					
• Hong Kong	1.9	2.3	2.8	2.6	1.9
Below 18	0.0	0.0	0.0	0.0	N/A
18-29	2.3	5.4	5.3	5.1	N/A
30-39	3.2	4.0	6.1	4.7	N/A
40-49	2.0	1.6	2.0	1.6	N/A
50 and above	1.2	1.5	1.7	2.0	N/A
• Mainland China	3.0	3.4	2.6	2.5	2.6
Below 18	0.0	0.0	0.0	0.0	N/A
18-29	8.8	12.0	5.9	7.7	N/A
30-39	3.3	1.9	4.1	2.8	N/A
40-49	1.5	1.4	0.5	1.0	N/A
50 and above	0.0	1.2	1.3	0.0	N/A
• India	3.5	8.4	9.8	13.2	10.1
Below 18	0.0	0.0	0.0	0.0	N/A
18-29	4.6	10.5	9.9	17.3	N/A
30-39	3.4	9.9	11.6	13.5	N/A
40-49	3.0	3.4	6.5	10.1	N/A
50 and above	2.9	6.5	8.3	3.5	N/A
• Australia	13.8	12.6	13.7	11.6	9.4
Below 18	0.0	0.0	0.0	0.0	N/A
18-29	22.7	18.3	15.6	14.6	N/A
30-39	13.0	13.1	18.9	10.5	N/A
40-49	10.6	10.9	11.2	10.8	N/A
50 and above	10.5	7.1	5.5	9.1	N/A

Employment Type by Region (% of employees)					
Permanent - Total	86.9	86.3	85.8	86.6	N/A
Short-term Contract - Total	13.1	13.7	14.2	13.4	N/A
• Hong Kong					
Permanent	83.3	82.3	80.8	81.4	N/A
Short-term Contract	16.7	17.7	19.2	18.6	N/A
• Mainland China					
Permanent	71.9	69.6	70.0	73.3	N/A
Short-term Contract	28.1	30.4	30.0	26.7	N/A
• India					
Permanent	99.4	99.8	99.7	99.7	N/A
Short-term Contract	0.6	0.2	0.3	0.3	N/A
• Australia					
Permanent	96.2	96.9	98.3	98.0	N/A
Short-term Contract	3.8	3.1	1.7	2.0	N/A
Gender Distribution by Region (% of employees)					
Male - Total	76.2	76.4	75.7	75.2	78
Female - Total	23.8	23.6	24.3	24.8	22
• Hong Kong					
Male	81.0	81.5	82.2	82.5	83
Female	19.0	18.5	17.8	17.5	17
• Mainland China					
Male	80.6	79.5	79.3	78.3	77.8
Female	19.4	20.5	20.7	21.7	22.2
• India					
Male	88.8	88.7	90.2	91.1	90.8
Female	11.2	11.3	9.8	8.9	9.2
• Australia					
Male	61.4	61.3	57.4	54.7	59.6
Female	38.6	38.7	42.6	45.3	40.4
Gender Distribution by Professional Category (% of employees)					
• Hong Kong					
Managerial - Male	74.5	76.5	76.6	76.9	N/A
Managerial - Female	25.5	23.5	23.4	23.1	N/A
Professional - Male	78.0	78.4	79.3	80.1	N/A
Professional - Female	22.0	21.6	20.7	19.9	N/A
General & Technical Staff - Male	83.9	84.4	85.0	84.8	N/A
General & Technical Staff - Female	16.1	15.6	15.0	15.2	N/A
• Mainland China					
Managerial - Male	73.3	83.3	90.0	78.3	N/A
Managerial - Female	26.7	16.7	10.0	21.7	N/A
Professional - Male	85.0	83.7	83.1	85.7	N/A
Professional - Female	15.0	16.3	16.9	14.3	N/A

General & Technical Staff - Male	78.2	76.9	77.1	75.5	N/A
General & Technical Staff - Female	21.8	23.1	22.9	24.5	N/A
• Australia					
Managerial - Male	73.0	74.2	71.0	73.8	N/A
Managerial - Female	27.0	25.8	29.0	26.2	N/A
Professional - Male	56.1	55.3	58.4	62.1	N/A
Professional - Female	43.9	44.7	41.6	37.9	N/A
General & Technical Staff - Male	65.1	65.4	55.0	47.2	N/A
General & Technical Staff - Female	34.9	34.6	45.0	52.8	N/A
Employee Age Distribution (% of employees)					
Below 18 - Total	0.01	0.03	0.05	0.01	0
18-29 - Total	15.6	16.6	17.3	17.4	16
30-39 - Total	28.1	27.2	26.1	26.7	26
40-49 - Total	25.6	25.4	25.8	27.0	28
50 and above - Total	30.7	30.8	30.8	28.9	30
• Hong Kong					
Below 18 - Total	0.0	0.1	0.1	0.02	N/A
18-29 - Total	13.7	13.2	12.3	12.4	N/A
30-39 - Total	21.6	21.2	20.7	20.8	N/A
40-49 - Total	25.6	26.1	27.4	29.2	N/A
50 and above - Total	39.1	39.4	39.5	37.6	N/A
• Mainland China					
Below 18 - Total	0.0	0.0	0.0	0.0	N/A
18-29 - Total	17.0	17.7	18.8	17.7	N/A
30-39 - Total	32.2	29.5	27.9	27.3	N/A
40-49 - Total	34.3	37.1	38.3	40.8	N/A
50 and above - Total	16.5	15.7	15.0	14.2	N/A
• India					
Below 18 - Total	0.0	0.0	0.0	0.0	N/A
18-29 - Total	22.9	23.9	32.0	27.6	N/A
30-39 - Total	46.7	45.7	42.1	42.6	N/A
40-49 - Total	22.2	22.1	19.4	22.0	N/A
50 and above - Total	8.2	8.3	6.5	7.8	N/A
• Australia					
Below 18 - Total	0.1	0.0	0.0	0.0	N/A
18-29 - Total	17.8	22.2	25.0	27.1	N/A
30-39 - Total	37.2	35.8	34.5	37.1	N/A
40-49 - Total	23.8	21.2	20.0	19.2	N/A
50 and above - Total	21.1	20.8	20.5	16.7	N/A
Group Executive Committee (GEC) members - Gender (% of GEC members)					
Male	69	69	N/A	N/A	N/A
Female	31	31	N/A	N/A	N/A

Group Executive Committee (GEC) members - Nationality (% of GEC members)⁽⁵⁾					
Chinese	23	23	N/A	N/A	N/A
European	23	23	N/A	N/A	N/A
American / Canadian	15	15	N/A	N/A	N/A
Australian / New Zealander	31	31	N/A	N/A	N/A
Indian	8	8	N/A	N/A	N/A
Technical Trainees Intake (number)	117	N/A	N/A	N/A	N/A
Male - Total (% of employees)	76.1	N/A	N/A	N/A	N/A
Female - Total (% of employees)	23.9	N/A	N/A	N/A	N/A
· Hong Kong - Total (number)	76	N/A	N/A	N/A	N/A
Male (% of employees)	82.9	N/A	N/A	N/A	N/A
Female (% of employees)	17.1	N/A	N/A	N/A	N/A
· Mainland China - Total (number)	7	N/A	N/A	N/A	N/A
Male (% of employees)	85.7	N/A	N/A	N/A	N/A
Female (% of employees)	14.3	N/A	N/A	N/A	N/A
· India - Total (number)	6	N/A	N/A	N/A	N/A
Male (% of employees)	50.0	N/A	N/A	N/A	N/A
Female (% of employees)	50.0	N/A	N/A	N/A	N/A
· Australia - Total (number)	28	N/A	N/A	N/A	N/A
Male (% of employees)	60.7	N/A	N/A	N/A	N/A
Female (% of employees)	39.3	N/A	N/A	N/A	N/A
Employee Training of Our Workforce (average hours)⁽⁶⁾	46.9	49.2	57.2	43.4	5.5
· By Gender					
Male	52.4	55.9	59.5	48.7	N/A
Female	29.5	27.7	49.7	27.1	N/A
· By Professional Category					
Managerial	28.3	29.4	45.2	24.1	N/A
Professional	39.7	44.5	57.0	38.6	N/A
General & Technical Staff	55.5	55.1	58.6	49.2	N/A
· By Region					
Hong Kong	57.5	62.9	55.1	51.3	6
Mainland China	71.3	70.9	66.8	88.1	8
India	36.4	39.6	34.3	31.6	3.5
Australia	18.8	14.3	63.5	16.5	3.7
Employee Training by Gender and Professional Category (% of employees)					
· Hong Kong	99.1	98.2	97.2	93.2	N/A
Male	99.2	98.8	96.9	95.0	N/A
Female	98.5	95.6	98.9	84.7	N/A
Managerial	98.7	93.2	98.7	79.9	N/A
Professional	99.2	98.4	99.3	92.8	N/A
General & Technical Staff	99.0	98.6	95.4	94.9	N/A

• Mainland China	91.0	99.6	99.8	97.7	N/A
Male	91.2	99.6	100	97.9	N/A
Female	90.2	100	99.1	97.1	N/A
Managerial	100	100	100	100	N/A
Professional	100	100	99.4	92.9	N/A
General & Technical Staff	85.1	99.4	100	99.4	N/A
• India	86.6	88.3	86.4	92.5	N/A
Male	85.4	88.9	86.3	91.7	N/A
Female	96.2	83.7	87.2	100	N/A
Managerial	79.3	81.1	90.7	92.3	N/A
Professional	91.6	93.5	86.1	91.0	N/A
General & Technical Staff	79.5	81.3	85.5	96.0	N/A
• Australia	100	100	100	100	N/A
Male	100	100	100	100	N/A
Female	100	100	100	100	N/A
Managerial	100	100	100	100	N/A
Professional	100	100	100	100	N/A
General & Technical Staff	100	100	100	100	N/A
Employees Eligible to Retire in the Next Five Years (% of employees) ^{(7),(8)}	15.1	14.1	13.3	12.4	13.0
Hong Kong	18.6	17.3	16.2	15.4	15.2
Mainland China	10.6	12.1	11.9	11.1	12.2
India	2.4	0.9	0.8	1.4	0.8
Australia	12.2	11.4	10.9	9.2	10.9
Substantiated Complaints					
Harassment	3	4	1	2	3
Discrimination	2	0	0	0	0
Human Rights Grievances	0	0	0	0	0

Notes:

(1) 2014 employee related data excluded Mount Piper and Wallerawang staff in Australia, except for the number of full time / part time employees, gender distribution, voluntary turnover rate and percentage of employees eligible to retire in the next five years.

(2) A first aid case at CLP Power Hong Kong in 2016 was reclassified as a medical treatment case.

(3) Voluntary turnover is employees leaving the organisation voluntarily and does not include dismissal, retirement, separation under a separation scheme or end of contract.

(4) In Mainland China, voluntary staff turnover rates refer to both permanent and short-term employees. In all other regions, voluntary staff turnover rates refer to permanent employees only.

(5) Nationality is based on passport, and does not necessarily reflected ethnic origin.

(6) Training per employee has been reported in average hours of training since 2014. Prior to 2014, training per employee is reported in average days of training.

(7) Given our high retention rate, we have modelled that our retirement projection will continue to increase for a number of years. There will then be a transition as employees start to retire and are replaced with younger staff, and the projection will reduce.

(8) The percentages given refer to full-time permanent staff within each location, who are eligible to retire within the next five years

Manufactured Capital

Data Table

Key Performance Data	
 Human Capital	
 Manufactured Capital	>
 Natural Capital	
 Social and Relationship Capital	

	2017	2016	2015	2014	2013
Hong Kong Customers - Total (number)	2,555,522	2,524,329	N/A	N/A	N/A
Commercial	203,891	201,582	N/A	N/A	N/A
Manufacturing	18,650	19,454	N/A	N/A	N/A
Residential	2,228,438	2,200,009	N/A	N/A	N/A
Infrastructure and Public Services	104,543	103,284	N/A	N/A	N/A
Australian Customers - Total (number)	2,623,425	2,625,192	N/A	N/A	N/A
Commercial and Industrial	13,234	15,238	N/A	N/A	N/A
Mass Market	2,610,191	2,609,954	N/A	N/A	N/A
CLP Group Generation Capacity on an Equity Basis (MW)⁽¹⁾	19,395	18,622	18,180	18,885	15,802
Coal	11,401	11,396	11,396	12,492	10,330
Gas	3,434	3,434	3,031	3,031	2,281
Renewable total	2,751	3,090	3,051	2,660	2,579
Nuclear	1,600	492	492	492	492
Oil	210	210	210	210	120
CLP Group Generation Capacity on Equity Basis and Capacity Purchase (MW)⁽¹⁾	24,554	23,781	22,706	23,472	22,462
Coal	12,633	12,628	12,628	13,724	12,795
Gas	5,322	5,322	4,747	4,747	4,747
Renewable total	2,751	3,090	3,051	2,660	2,579
Nuclear	2,488	1,380	1,380	1,380	1,380
Oil	300	300	300	300	300
Others	600	600	600	600	600
CLP Group Renewable Generation Capacity on an Equity Basis (MW)⁽¹⁾	2,751	3,090	3,051	2,660	2,579
Wind	1,941	2,297	2,366	2,017	1,987
Hydro	489	489	489	489	486
Solar	321	304	196	154	106
Biomass	N/A	N/A	N/A	N/A	N/A

Suppliers by Region (number)	5,536	5,248	5,424	5,203	N/A
Australia	1,941	1,922	2,190	2,071	N/A
Hong Kong	899	721	696	836	N/A
India	1,443	1,366	1,311	969	N/A
Mainland China	995	1,018	999	1,103	N/A
Other (Asia Pacific)	70	65	66	63	N/A
Europe	112	95	100	101	N/A
Others	76	61	62	60	N/A
Payment to Suppliers by Region (HK\$M)	30,868	25,972	30,787	30,946	N/A
Australia	7,184	4,877	3,842	6,317	N/A
Hong Kong	7,264	6,301	6,985	7,083	N/A
India	2,527	2,355	2,990	3,466	N/A
Mainland China	8,343	8,872	12,547	7,249	N/A
Other (Asia Pacific)	4,467	3,096	3,847	5,670	N/A
Europe	830	415	514	1,081	N/A
Others	253	56	62	80	N/A

Notes:

(1) All numbers are rounded to nearest MW. Any minor discrepancies in totals is due to rounding.

Natural Capital

Data Table

Key Performance Data	
 Human Capital	
 Manufactured Capital	
 Natural Capital	>
 Social and Relationship Capital	

	2017	2016	2015	2014	2013
Annual Fuel Consumed for Power Generation (TJ)					
Coal	471,976	453,904	450,937	541,865	433,763
Gas	91,426	86,787	95,591	63,268	73,510
Oil	5,069	4,162	2,892	2,345	1,973
Emissions Intensity (Scope 1) of CLP Power Hong Kong Electricity Sold					
in CO ₂ (kg CO ₂ /kWh)	0.50	0.54	0.54	0.63	0.63
in CO ₂ e (kg CO ₂ e/kWh)	0.51	0.54	0.54	0.64	0.63
Total Emissions (Scope 1 & 2) from Power Generation by CLP Group (kT)					
in CO ₂ e	48,082	46,681	46,723	53,258	44,258
in CO ₂	47,921	46,518	46,553	53,044	44,076
CO₂ emissions Intensity (Scope 1) of Electricity Sent Out by CLP Group (kg CO₂ /kWh)					
Equity Ownership	0.80	0.82	0.81	0.84	0.82
Equity Ownership + Capacity Purchased	0.69	0.72	N/A	N/A	N/A
Renewable Capacity Generated by CLP Group					
Equity Ownership (% / MW)	14.2 / 2,751	16.6 / 3,090	16.8 / 3,051	14.1 / 2,660	16.3 / 2,579
Equity Ownership + Capacity Purchased (%)	13.1	14.9	N/A	N/A	N/A
Non-carbon Emitting Capacity Generated by CLP Group					
Equity Ownership (% / MW)	22.4 / 4,350	19.2 / 3,582	19.5 / 3,543	16.7 / 3,152	19.4 / 3,071
Equity Ownership + Capacity Purchased (%)	23.2	20.7	N/A	N/A	N/A
Annual Water Withdrawal and Discharge (Mm3)					
Water Withdrawal	4,480.8	4,257.0	4,503.0	4,834.0	5,031.3
Water Discharge	4,437.7	4,219.2	4,463.0	4,792.2	5,000.8

Water Intensity of Our Power Generation Process (m3/MWh)	1.07	1.05	1.04	1.01	0.86
Water Recycled Volume (Mm3)	814	822	677	785	2
Hazardous Solid Waste (T)					
Produced	857	1,302	641	484	337
Recycled	469	260	203	89	34
Hazardous Liquid Waste (kl)					
Produced	1,420	1,251	2,832	2,783	1,228
Recycled	1,384	1,149	1,176	1,463	981
Non-Hazardous Solid Waste (T)					
Produced	20,334	8,317	11,455	21,142	7,700
Recycled	3,790	2,963	4,414	4,172	1,853
Non-Hazardous Liquid Waste (kl)					
Produced	103	84	199	78	0
Recycled	103	84	199	78	0
Levels of Ash and Gypsum By-Products Recycled and Sold (kT)					
Ash	1,745	1,111	1,587	1,663	1,334
Gypsum	161	134	143	166	222
Spent Nuclear Fuel (T)	39.7	71.1	37.7	33.5	69.1
Intermediate to Low Level Radioactive Nuclear Waste (m3)	89.2	90	94	124	128
Air Emissions (kT)					
NO _x	59.3	58.1	56.3	74.6	50.2
SO ₂	81.6	71.2	63.4	93.0	50.5
Particulates	8.3	8.5	9.8	11.5	5.5
Environmental Regulatory Non-Compliances and Licence Exceedances (number)					
Environmental regulatory non-compliances resulting in fines or prosecutions	0	0	1	1	0
Environmental licence limit exceedances & other non-compliances	13	2	13	3	4

Social and Relationship Capital

Data Table

Key Performance Data	
	Human Capital
	Manufactured Capital
	Natural Capital
	Social and Relationship Capital >

	2017	2016	2015	2014	2013
Customer Service - Calls Handled by EnergyAustralia (number)	2,421,816	2,590,868	2,843,495	3,372,654	5,526,103
Customer Service - Complaints Received by EnergyAustralia (number)	29,180	23,536	33,339	37,495	75,192
Hong Kong Customer Satisfaction Score (score)					
CLP	71	70	68	69	68
All Public Utilities in the Energy Sector	71	70	69	69	68
Public Service Organisations	71	70	69	70	69
Disconnections for our Hong Kong Retail Business - Total (number)	7,888	9,103	10,197	6,015	4,587
0 - 2 days	7,426	8,545	8,128	5,519	4,353
3 - 7 days	255	359	313	196	152
8 - 31 days	192	190	1,748	241	79
≥ 32 days	15	9	8	59	3
Community Programmes implemented (number)	647	574	547	N/A	N/A
Community Spending by Theme (%)⁽¹⁾					
Education and Development	13	15	15	N/A	N/A
Community Wellbeing	23	32	35	N/A	N/A
Environment	41	39	34	N/A	N/A
Arts and Culture	9	2	3	N/A	N/A
Community Engagement	14	12	13	N/A	N/A
Community Spending by Region (%)⁽¹⁾					
Hong Kong	81	77	82	N/A	N/A
Mainland China	2	1	20	N/A	N/A
India	8	13	20	N/A	N/A
Australia	9	9	14	N/A	N/A
Amount Donated for Charitable and Other Purposes (excludes in-kind donations) (HK\$M)	14.47	12.65	14.52	12.02	8.45

Contributing our Time and Expertise⁽¹⁾					
Volunteer hours from CLP staff (hours) ⁽²⁾	19,945	13,302	11,675	17,500	11,974
Skill based (%) ⁽³⁾	4	6	13	N/A	N/A
Non Skill-based (%) ⁽³⁾	96	94	87	N/A	N/A
Our Beneficiaries (number)					
Direct Beneficiaries	439,000+	359,000+	176,000+	82,000+	33,000+
Organisations benefitted ⁽⁴⁾	451	373	369	N/A	N/A
Our Beneficiaries By Theme (%)					
Education and Development	42	60	36	N/A	N/A
Community Wellbeing	35	31	54	N/A	N/A
Environment	21	8	9	N/A	N/A
Arts and Culture	2	1	1	N/A	N/A

Notes:

(1) Figures include rounding adjustments.

(2) 2017 figure refers to volunteering hours by CLP staff and family members; the other figures refer to volunteering hours by CLP staff only.

(3) Skill-based: Volunteering work that requires electrical engineering skills

(4) Benefitted including professional bodies, academic instiutes, NGOs and community groups.

Appendices

208	Appendix 1: Selected Group Level Data Assurance Statement <ul style="list-style-type: none">– Key Performance Indicators– Criteria
215	Appendix 2: Impacts Along Our Value Chain
216	Appendix 3: Stakeholders Key Concerns or Interests Table
225	Appendix 4: GRI Content Index
248	Appendix 5: Hong Kong Stock Exchange ESG Guide Content Index
252	Appendix 6: Climate Action Finance Report
256	Appendix 7: Assurance Statement on the Climate Action Finance Report
260	Appendix 8: Safety Management Systems of Our Assets
261	Appendix 9: Environmental Management Systems of Our Assets
262	Appendix 10: Generation Performance of Our Assets
263	Appendix 11: Industry and Organisations Table

Appendix 1: Selected Group Level Data Assurance Statement



羅兵咸永道

Independent practitioner's limited assurance report To the board of directors of CLP Holdings Limited

We have undertaken a limited assurance engagement in respect of the selected sustainability information of CLP Holdings Limited (the "Company") listed below and identified as the unshaded numbers in the Key Performance Indicators table appended to this opinion (the "Identified Sustainability Information").

Identified Sustainability Information

The Identified Sustainability Information for the year ended 31 December 2017 is summarised below:

Resource use and emissions <ul style="list-style-type: none"> • Coal consumed (for power generation) • Gas consumed (for power generation) • Oil consumed (for power generation) • CO₂e emissions from power generation (Scopes 1 and 2) • CO₂ emissions from power generation (Scopes 1 and 2) • Nitrogen oxides emissions (NO_x) • Sulphur dioxide emissions (SO₂) • Total particulates emissions • Environmental regulatory non-compliances resulting in fines or prosecutions • Environmental licence limit exceedances and other non-compliances • Total water discharged (Mm³) • Total water withdrawal (Mm³) • Hazardous waste produced (T(solid)/kl(liquid)) • Hazardous waste recycled (T(solid)/kl(liquid)) • Non-hazardous waste produced (T(solid)/kl(liquid)) • Non-hazardous waste recycled (T(solid)/kl(liquid)) 	Governance <ul style="list-style-type: none"> • Convicted cases of corruption • Breaches of Code of Conduct
	Safety <ul style="list-style-type: none"> • Fatalities (employees only) • Fatalities (contractors only) • Fatality Rate (employees only) • Fatality Rate (contractors only) • Lost Time Injury (employees only) • Lost Time Injury (contractors only) • Lost Time Injury Rate (employees only) • Lost Time Injury Rate (contractors only) • Days lost (employees only)
	Climate vision 2050 target performance (Equity basis) <ul style="list-style-type: none"> • Total renewable energy generation capacity • Non-carbon emitting generation capacity • Carbon dioxide emissions intensity of CLP Group's generation portfolio
Employees <ul style="list-style-type: none"> • Total number of employees • Total employees eligible to retire within the next five years • Voluntary staff turnover rate by region 	Carbon Intensity in Hong Kong <ul style="list-style-type: none"> • CO₂ emission intensity of total electricity sold for CLP Power Hong Kong • CO₂e emission intensity of total electricity sold for CLP Power Hong Kong

Our assurance was with respect to the year ended 31 December 2017 information only and we have not performed any procedures with respect to earlier periods or any other elements included in the 2017 Sustainability Report and, therefore, do not express any conclusion thereon.

Criteria

The criteria used by the Company to prepare the Identified Sustainability Information is set out in the Reporting Scope (the "Criteria") appended to this opinion.

The Company's Responsibility for the Identified Sustainability Information

The Company is responsible for the preparation of the Identified Sustainability Information in accordance with the Criteria. This responsibility includes the design, implementation and maintenance of internal control relevant to the preparation of Identified Sustainability Information that is free from material misstatement, whether due to fraud or error.

Inherent limitations

The absence of a significant body of established practice on which to draw to evaluate and measure non-financial information allows for different, but acceptable, measures and measurement techniques and can affect comparability between entities. In addition, GHG quantification is subject to inherent uncertainty because of incomplete scientific knowledge used to determine emissions factors and the values needed to combine emissions of different gases.

Our Independence and Quality Control

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Our firm applies International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Our Responsibility

Our responsibility is to express a limited assurance conclusion on the Identified Sustainability Information based on the procedures we have performed and the evidence we have obtained. We conducted our limited assurance engagement in accordance with International Standard on Assurance Engagements 3000 (Revised), *Assurance Engagements other than Audits or Reviews of Historical Financial Information*, and, in respect of greenhouse gas emissions, International Standard on Assurance Engagements 3410, *Assurance Engagements on Greenhouse Gas Statements*, issued by the International Auditing and Assurance Standards Board. These standards require that we plan and perform this engagement to obtain limited assurance about whether the Identified Sustainability Information is free from material misstatement.

A limited assurance engagement involves assessing the suitability in the circumstances of the Company's use of the Criteria as the basis for the preparation of the Identified Sustainability Information, assessing the risks of material misstatement of the Identified Sustainability Information whether due to fraud or error, responding to the assessed risks as necessary in the circumstances, and evaluating the overall presentation of the Identified Sustainability Information. A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both the risk assessment procedures, including an understanding of internal control, and the procedures performed in response to the assessed risks.

The procedures we performed were based on our professional judgment and included inquiries, observation of processes performed, inspection of documents, analytical procedures, evaluating the appropriateness of quantification methods and reporting policies, and agreeing or reconciling with underlying records.

Given the circumstances of the engagement, in performing the procedures listed above we:

- made inquiries of the persons responsible for the Identified Sustainability Information;
- understood the process for collecting and reporting the Identified Sustainability Information;
- performed limited substantive testing on a selective basis of the Identified Sustainability Information; and
- considered the disclosure and presentation of the Identified Sustainability Information.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement. Accordingly, we do not express a reasonable assurance opinion about whether the Company's Identified Sustainability Information has been prepared, in all material respects, in accordance with the Criteria.

Limited Assurance Conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Company's Identified Sustainability Information for the year ended December 31, 2017 is not prepared, in all material respects, in accordance with the Criteria.

Our report has been prepared for and only for the board of directors of CLP Holdings Limited and for no other purpose. We do not assume responsibility towards or accept liability to any other person for the content of this report.



PricewaterhouseCoopers
 Certified Public Accountants
 Hong Kong, 26 February 2018

Key Performance Indicators

Governance	NOTE	2017	2016	2015	2014	2013
Governance						
Convicted cases of corruption (cases)	GRI 205-3; HKEx B71	0	0	0	0	0
Breaches of Code of Conduct (cases)		28	21	6	7	12

Financial	NOTE	2017	2016	2015	2014	2013
Financial Information						
Economic value generated (HK\$M)						
Revenue	GRI 201-1	92,073	79,434	80,700	92,259	104,530
Share of profits of non-wholly owned entities	(1)	609	791	10,299	3,820	4,022
Economic Value Distributed (HK\$M)						
Fuel costs		15,473	12,785	15,446	14,736	15,350
Other operating costs	GRI 201-1	46,325	38,689	41,705	53,870	70,408
Staff expenses	GRI 201-1	4,195	3,892	3,649	3,980	3,017
Finance costs	GRI 201-1; (2)	2,278	2,371	4,183	4,201	6,349
Dividends	GRI 201-1	7,352	7,074	6,822	6,619	6,493
Taxes	GRI 201-1; (3)	2,094	2,032	1,818	1,571	839
Donations	GRI 201-1	14	13	15	12	8
Economic value retained (HK\$M)	GRI 201-1; (4)	14,951	13,369	17,361	11,090	6,088

Safety	NOTE	2017	2016	2015	2014	2013
Safety						
(5)						
Fatallities (employees only) (number)	GRI 403-2; HKEx B2.1(6)	0	0	0	0	0
Fatallities (contractors only) (number)	GRI 403-2; HKEx B2.1(6)	4	3	0	1	1
Fatality Rate (employees only) (number per 200,000 manhour)	GRI 403-2; HKEx 403-2; (7)	0.00	0.00	0.00	0.00	0.00
Fatality Rate (contractors only) (number per 200,000 manhour)	GRI 403-2; HKEx 403-2; (7)	0.03	0.02	0.00	0.01	0.01
Lost Time Injury (employees only) (number)	GRI 403-2; (8)	11	3	8	4	5
Lost Time Injury (contractors only) (number)	GRI 403-2; (8)	16	10	8	19	28
Lost Time Injury Rate (employees only) (number per 200,000 manhour)	GRI 403-2; (7)(8)	0.13	0.04	0.10	0.05	0.06
Lost Time Injury Rate (contractors only) (number per 200,000 manhour)	GRI 403-2; (7)(8)	0.14	0.07	0.06	0.15	0.22
Total Recordable Injury Rate (employees only) (number per 200,000 manhour)	GRI 403-2; (7)(9)	0.21	0.11	0.18	0.26	0.23
Total Recordable Injury Rate (contractors only) (number per 200,000 manhour)	GRI 102-48; GRI 403-2; (7)(9)	0.36	0.19(11)	0.28	0.51	0.50
Days lost (employees only)	GRI 403-2; HKEx B2.2; (8)(10)	252	9	199	105	29

Employees	NOTE	2017	2016	2015	2014	2013
Employees						
Employees based on geographical location (number)	GRI 102-7; HKEx B1.1					
Hong Kong		4,504	4,450	4,438	4,405	4,394
Mainland China		577	560	527	480	469
Australia		1,998	1,983	1,998	2,143	1,745
India		463	435	397	359	360
Total		7,542	7,428	7,360	7,387	6,968
Employees eligible to retire within the next five years (%)						
	GRI EU15; ⁽¹²⁾					
Hong Kong		18.6%	17.3%	16.2%	15.4%	15.2%
Mainland China		10.6%	12.1%	11.9%	11.1%	12.2%
Australia		12.2%	11.4%	10.9%	9.2%	10.9%
India		2.4%	0.9%	0.8%	1.4%	0.8%
Total		15.1%	14.1%	13.3%	12.4%	13.0%
Voluntary staff turnover rate (%)						
	GRI 401-1; HKEx B1.2; ⁽¹³⁾⁽¹⁴⁾					
Hong Kong		1.9%	2.3%	2.8%	2.6%	1.9%
Mainland China		3.0%	3.4%	2.6%	2.5%	2.6%
Australia		13.8%	12.6%	13.7%	11.6%	9.4%
India		3.5%	8.4%	9.8%	13.2%	10.1%
Training per employee (average hours)						
	GRI 404-1; B3.2	46.9	49.2	57.2	43.4 ⁽¹⁵⁾	5.5
Environment⁽¹⁶⁾						
Resource Use and Emissions						
Coal consumed (for power generation) (TJ)	GRI 302-1; HKEx A2.1	471,976	453,904	450,937	541,865	433,763
Gas consumed (for power generation) (TJ)	GRI 302-1; HKEx A2.1	91,426	86,787	95,591	63,268	73,510
Oil consumed (for power generation) (TJ)	GRI 302-1; HKEx A2.1	5,069	4,162	2,892	2,345	1,973
CO ₂ e emissions from power generation (Scopes 1 & 2) (kT)	GRI 305-1; GRI 305 2; HKEx A1.2	48,082	46,681	46,723	53,258	44,258
CO ₂ emissions from power generation (Scopes 1 & 2) (kT)	GRI 305-1; GRI 305 2; HKEx A1.2 ⁽¹⁸⁾	47,921	46,518	46,553	53,044	44,076
Nitrogen oxides emissions (NO _x) (kT)	GRI 305-7; HKEx A1.1	59.3	58.1	56.3	74.6	50.2
Sulphur dioxide emissions (SO ₂) (kT)	GRI 305-7; HKEx A1.1	81.6	71.2	63.4	93.0	50.5
Total particulates emissions (kT)	GRI 305-7; HKEx A1.1	8.3	8.5	9.8	11.5	5.5
Water withdrawal (Mm³)						
	GRI 303-1; HKEx A2.2					
from marine water resources		4,421.7	4,202.3	4,447.6	4,774.5	4,987.9
from freshwater resources		52.6	48.2	48.8	52.9	37.2 ⁽¹⁹⁾
from municipal sources		6.5	6.5	6.6	6.6	6.2 ⁽¹⁹⁾
Total		4,480.8	4,257.0	4,503.0	4,834.0	5,031.3

Water discharged (Mm ³)	GRI 306-1					
cooling water to marine water bodies		4,421.7	4,202.3	4,447.6	4,774.5	4,987.9
treated wastewater to marine water bodies		1.6	1.5	1.1	1.3	1.2
treated wastewater to freshwater bodies		12.3	13.6	12.6	14.5	10.1
wastewater to sewerage		1.9	1.6	1.6	1.8	1.5
wastewater to other destinations		0.2	0.2	0.1	0.1	0.1
Total		4,437.7	4,219.2	4,463.0	4,792.2	5,000.8
Hazardous waste produced (T (solid) / kl (liquid))	GRI 306-2; HKEx A1.3; ⁽²⁰⁾	857 / 1,420	1,302 / 1,251	641 / 2,832	484 / 2,783	337 / 1,228
Hazardous waste recycled (T (solid) /kl (liquid))	GRI 306-2; ⁽²⁰⁾	469 / 1,384	260 / 1,149	203 / 1,176	89 / 1,463	34 / 981
Non-hazardous waste produced (T (solid) /kl (liquid))	GRI 306-2; HKEx A1.4; ⁽²⁰⁾	20,334/103	8,317 / 84	11,455 / 199	21,142 / 78	7,700 / 0
Non-hazardous waste recycled (T (solid) /kl (liquid))	GRI 306-2; ⁽²⁰⁾	3,790 /103	2,963 / 84	4,414 / 199	4,172 / 78	1,853 / 0
Environmental regulatory non-compliances resulting in fines or prosecutions (number)	GRI 307-1	0	0	1	1	0
Environmental licence limit exceedances & other non-compliances (number)	GRI 307-1	13	2	13	3	4

Environment continued ⁽¹⁸⁾	NOTE	2017	2016	2015	2014	2013
Climate Vision 2050 Target Performance (Equity Basis)	⁽²¹⁾					
Total renewable energy generation capacity (% (MW))		14.2 (2,751)	16.6 (3,090)	16.8 (3,051)	14.1 (2,660)	16.3 (2,579)
Non-carbon emitting generation capacity (% (MW))		22.4 (4,350)	19.2 (3,582)	19.5 (3,543)	16.7 (3,152)	19.4 (3,071)
Carbon dioxide emissions intensity of CLP Group's generation portfolio (kg CO ₂ /kWh)	GRI 305-4; A1.2; ⁽²²⁾	0.80	0.82	0.81	0.84	0.82
Carbon Emissions Intensity of CLP Power Hong Kong Electricity Sold						
CO ₂ emissions intensity of electricity sold by CLP Power Hong Kong (kg CO ₂ / kWh)		0.50	0.54	0.54	0.63	0.63
CO ₂ e emissions intensity of electricity sold by CLP Power Hong Kong (kg CO ₂ e / kWh)		0.51	0.54	0.54	0.64	0.63

Notes to the KPI tables:

- (1) Represent share of results (net of income tax) from joint ventures and associates netted with earnings attributable to other non-controlling interests.
- (2) Finance costs are netted with finance income and include payments made to perpetual capital securities holders.
- (3) Represent current income tax but excluding deferred tax for the year
- (4) Represent earnings attributable to shareholders (before depreciation, amortisation and deferred tax) for the year retained.

- (5) The system of rules applied in recording and reporting accident statistics complies with the international Labour Organization (ILO) Code of Practice on Recording and Notification of Occupational Accidents and Diseases. Each year's safety data cover the incidents that happened in that calendar year and are based on the latest information available at the time of publication.
- (6) A fatality is the death of an employee or contractor personnel as a result of an occupational illness / Injury / disease incident in the course of employment.
- (7) All rates are normalised to 200,000 worked hours, which approximately equals to the number of hours worked by 100 people in one year.
- (8) An occupational illness / Injury / disease sustained by an employee or contractor personnel causing him / her to miss one scheduled workday / shift or more after the day of the injury (Including fatalities)
- (9) Total recordable injuries count all occupational injury incidents and illness incidents and illness other than first aid cases. They include fatalities, lost time injuries, and medical treatment.
- (10) It refers to the number of working days lost when workers are unable to perform their usual work because of an occupational accident or disease. A return to limited duty or alternative work for the same organisation does not count as lost days.
- (11) A first aid case at CLP Power Hong Kong in 2016 was reclassified as a medical treatment case.
- (12) The percentages given refer to full-time permanent staff within each location, who are eligible to retire within the next five years.
- (13) Voluntary turnover is employees leaving the organisation voluntarily and does not include dismissal, retirement, separation under a separation scheme or end of contract.
- (14) In Mainland China, voluntary staff turnover rates refer to both permanent and short-term employees. In all other regions, voluntary staff turnover rates refer to permanent employees only.
- (15) Training per employee has been reported in average hours of training since 2014. Prior to 2014, training per employees is reported in average days of training.
- (16) Environmental data rounded by facility before aggregation.
- (17) Covers operating facilities where CLP has operational control for the full calendar reporting year.
- (18) Includes CO₂ emissions of Yallaurn and Hallett facilities as CO₂ emissions data were not available.
- (19) Data updated to align with reporting definition.
- (20) Waste categorised in accordance with local regulations.
- (21) "Equity basis" includes all majority and minority share facilities in the CLP Group portfolio
- (22) CGN Wind not included as per the Greenhouse Gas Protocol due to its accounting categorisation since 2013.

Criteria

Reporting period and scope

This report covers CLP Group's sustainability performance for the calendar year ending 31 December 2017. It includes discussions on the "material" topics and "most material" topics identified through our materiality assessment for our relevant company boundaries. It is published at the same time as our integrated Annual Report. Our previous report was published in March 2017.

For 2016 to 2017, there were no material restatements of the quantities Key Performance Indicators. Changes to our reporting scopes in 2017 are:

- Environmental scope: addition of the Fangchenggang II, Laizhou I and Sandu I Power Stations, as they completed their first full calendar year of owners as of 1 July 2017, and therefore it did not fulfil the "full calendar year of operation" requirement.
- Safely scope: Cathedral Rocks is included in the safely scope until 30 June 2017 when the asset management was transferred to the asset joint owner.

Below is the definition of the company boundary for each of the main categories of data included in this Report. Please refer to our 2017 Annual Report for more details on the entities included in our consolidated financial statements.

CATEGORY	Description
GOVERNANCE	includes all people employed by CLP entities or their subsidiaries. It does not include non-CLP employees in our Joint Ventures, Joint Operations or Associates.
FINANCE	Selected financial figures are extracted from our Annual Report and include the financial statements of CLP Holding Limited and its subsidiaries as well as the Group's interests in joint ventures and associates 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 on pages 201 and 202 of our 2017 Annual Report.
EMPLOYEES	Includes all people employed by CLP entities or their subsidiaries (excluding part time staff unless otherwise specified). It does not include employees of our joint ventures, joint operations, associates or contractors.
HEALTH AND SAFETY	Includes all entities which hold power assets, transmission and distribution infrastructure, fuel storage facilities or regional office areas; <ul style="list-style-type: none"> · That are wholly owned or majority owned by CLP; or · That are under CLP's operational control, defined as full authority to implement CLP's operating policies; and · That are under construction or in operation.
ENVIRONMENT <ul style="list-style-type: none"> · Resource Use · Emissions · Environmental Compliance 	Includes all entities which hold power assets, transmission and distribution infrastructure, fuel storage facilities or regional office areas; <ul style="list-style-type: none"> · That pose material impact to the environment; · That are under CLP's operational control, defined as full authority to implement CLP's operating policies; and · That have been operating for a full calendar year. 100% of the performance data for in scope entities is reported without adjustment of the data to reflect our equity share, unless otherwise stated.
GROUP GHG EMISSIONS AND CLIMATE VERSION 2050	Includes all entities which hold power generation assets. <ul style="list-style-type: none"> · Entities are included on an equity ownership basis, meaning the definition of operational control is not considered, only whether CLP holds an equity share; and · The scope includes all entities that were in operation at some point during the reporting year, meaning assets which were acquired during the reporting year are included despite not having been in operation for a full calendar year under CLP ownership. Performance data is consolidated on an equity basis- i.e. if CLP holds a fraction of the total entity, performance is consolidated on a pro rata basis in accordance with CLP's equity holding. Some statistical data derived from our overseas operations may not be strictly comparable because local and / or regulatory definitions may vary.
CLP POWER HONG KONG CARBON EMISSIONS INTENSITY OF ELECTRICITY SOLD	Includes all power generation assets involved with the delivery of electricity to CLP Power Hong Kong customers, and: <ul style="list-style-type: none"> · The total annual CO₂ and CO₂e emissions are from CAPCO assets in Hong Kong only (as nuclear power does not result in significant carbon emissions); and · The GWh is from our Total Electricity Sales for CLPP HK and includes generation from Daya Bay Nuclear Power station.

Appendix 2: Impacts Along Our Value Chain

102-49

Most Material Topics	CLP's Value Chain					Reference
	Outside CLP	Inside CLP			Outside CLP	
	Capitals	Power Generation	Power Delivery	Retail	Value to Our Stakeholders	
Financial Capital						
Economic Performance	•	•	•	•	•	Sharing the economic value generated
Anti-corruption		•	•	•	•	Code of Conduct and Anti-corruption
Manufactured Capital						
Availability and Reliability		•	•	•	•	Availability and Reliability
Demand-side Management				•	•	Optimising operational efficiency
Natural Capital						
Environmental Compliance	•	•	•	•	•	Environmental regulatory compliance
Emissions	•			•	•	Energy and Greenhouse Gas Emissions
Energy	•			•	•	Energy and Greenhouse Gas Emissions
Human Capital						
Occupational Health and Safety	•	•	•	•		Ensuring health and safety
Employment	•	•	•	•		Managing our workforce
Diversity and Equal Opportunity	•	•	•	•		Promoting diversity and equal opportunity
Human Rights Assessment	•	•	•	•	•	Respecting human rights
Non-discrimination	•	•	•	•		Promoting diversity and equal opportunity
Labour / Management Relations	•	•	•	•		Maintaining labour relations
Training and Education	•	•	•	•		Building capability
Social and Relationship Capital						
Public Policy	•	•	•	•	•	Facilitating informed engagement
Socioeconomic Compliance		•	•	•	•	Compliance and Beyond
Customer Privacy				•	•	Supporting our customers
Local Communities	•	•	•	•	•	Empowering communities

Appendix 3: Stakeholders Key Concerns or Interests Table

102-44

Lenders

Region/Level	Key Concerns or Interests in 2017	CLP's Specific Actions in 2017
Group Level or General	<ul style="list-style-type: none"> • Business sustainability and financial performance of overseas businesses • CLP Group's sustainable investment and financing strategies 	<ul style="list-style-type: none"> • Exercised a high level of discipline in managing our investments and finances, and demonstrated strong competence in managing the operating and financial performance of CLP's overseas businesses • Further enhancement of financial strength resulted in favourable credit rating actions taken by Standard & Poor's in 2017 for CLP Holdings (to A from A-), CLP Power Hong Kong (to A+ from A), CAPCO (AA-, being the first-time rating) and EnergyAustralia (to BBB+ from BBB). Rating outlooks are all stable • Established CLP Climate Action Finance Framework ("CAFF") in 2017 to facilitate the arrangement of socially responsible and sustainable financing (e.g. green/new energy bonds and energy transition/emission reduction bonds)
Hong Kong	<ul style="list-style-type: none"> • Implications of new Scheme of Control (SoC) Agreement • Financing strategy of SoC business 	<ul style="list-style-type: none"> • Explained that the new SoC Agreement provides a clear and certain regulatory framework for the development of the electricity industry and enables CLP to plan ahead and make measured, sensible investments to meet the long-term development needs of Hong Kong • CAPCO successfully issued US\$500 million (HK\$3.9 billion) Energy Transition Bond under the CAFF to fund the construction of 550MW Combined-Cycle Gas Turbine. • CAPCO established its own Medium Term Note Programme in June 2017 which enables diversification of funding source from bank to bond market including ESG (Environmental, Social and Governance) investors
Mainland China	<ul style="list-style-type: none"> • Tightening of liquidity for financing of renewable energy investments • Uncertainty in timing of receipt of government subsidy for renewable projects 	<ul style="list-style-type: none"> • Diversified funding sources by tapping into offshore RMB bank loan market in Hong Kong in recent years to fund the construction and early period operation of our wholly-owned renewable energy projects in Mainland China • Cultivated and maintained long-term relationships with key lenders in Mainland China • Utilised surplus cash within Mainland China to fund interim cash requirements for particular projects for the greater benefit of the Group

Investors / Shareholders

Region/Level	Key Concerns or Interests in 2017	CLP's Specific Actions in 2017
General	<ul style="list-style-type: none"> • The New Scheme of Control Agreement; construction of the new gas-fired generation unit; approval of the floating offshore LNG Terminal in Hong Kong • Business opportunities and operational performance in Mainland China, India and Australia • Dividends and managing our financial and debt position • Market reform in the Mainland China and its direction for energy transition • Impact and opportunities associated with changes in the energy mix and regulation in the Australian market 	<ul style="list-style-type: none"> • Produced a range of shareholder communication materials including Analyst Presentation, Investor Presentation and Media Release as well as this Sustainability Report and Annual Report to inform shareholders on these issues • Organised direct engagement activities including: Annual General Meeting; investor meetings and site visits; analyst briefings; and visits to our facilities through our Shareholders' Visit Programme where the shareholders can raise questions to us directly
ESG-specific	<ul style="list-style-type: none"> • CLP's Climate Vision 2050 and our investment strategy to address climate change • CLP's Climate Action Finance Framework for socially responsible and sustainable financing • CLP's investment in low carbon generation including nuclear and renewables • Potential business opportunities brought in from the Hong Kong Government's Climate Action Plan 2030+ 	<ul style="list-style-type: none"> • Incorporated Sustainability Principles into all our business decisions on investing • Produced the Sustainability Report • Included a specific section on environment, social and governance (ESG) in the Investor Presentation • Organised ESG breakfast meeting • Replied to ESG questionnaires and surveys • Responded to disclosure requests that support our inclusion in sustainability stock indices

Governments & Regulators

Region/Level	Key Concerns or Interests in 2017	CLP's Specific Actions in 2017
Hong Kong	<ul style="list-style-type: none"> • Tariff review for 2018 • Post-2018 regulatory arrangements • Technical Memorandum (TM) that sets emissions caps for 2022 and thereafter • Our response to the Hong Kong's Climate Action Plan 2030+ issued by the Government in January 2017 • Resilience of our electricity supply systems to extreme climate conditions, e.g. super typhoons, severe floods 	<ul style="list-style-type: none"> • Engaged and maintained dialogue with the relevant government departments, legislators and political parties on the tariff adjustment • Signed a new Scheme of Control Agreement (SCA) with the Hong Kong Government which will run until 31 December 2033 • Completed the TM review that sets emissions caps for 2022 and thereafter with the Environmental Protection Department • Construction of the new CCGT at Black Point Power Station in good progress. This will become fully operational in 2020 and will significantly increase the share of gas in CLP's electricity supply to close to 50%. • Submitted the Development Plan covering the period October 2018 – December 2023 to the Government, supporting the further decarbonisation of our electricity supply • Completed the reinforcement project on the pylons of 400kV overhead lines to better withstand super typhoons, installed flood damage mitigation and alarm systems at vulnerable substations, continued strengthening vegetation management capability, and conducted post-typhoon reviews and regular drills.

Region/Level	Key Concerns or Interests in 2017	CLP's Specific Actions in 2017
Mainland China	<ul style="list-style-type: none"> • Safety and reliability • Emergency readiness 	<ul style="list-style-type: none"> • Exchanged regularly with authorities to build support and increase understanding of CLP's safety culture • Actively monitoring policy and market development related to power sector • Kept close working relationship with regulatory authorities including National Development and Reform Commission (NDRC), National Energy Administration (NEA), as well as local regulatory authorities where CLP has presence (e.g. Provincial Government, Local Energy Bureau, and Industry and Information Committee of Guangxi Zhuang Autonomous Region)
India	<ul style="list-style-type: none"> • National Action Plan on Climate Change and business opportunities or challenges arising out of it • Stakeholder consultations by State electricity regulator related to Tariff, Renewable Energy and Tariff etc. 	<ul style="list-style-type: none"> • Actively tracking market and policy development related to renewable energy and transmission bids • Participated in stakeholder consultation of centre and state Government
Australia	<ul style="list-style-type: none"> • The national climate and energy policy and associated frameworks, including, but not limited to, the Renewable Energy Target (RET) and the proposed National Energy Guarantee • Balancing reliability, affordability and lowering emissions of power supplies • State-based renewables energy policies 	<ul style="list-style-type: none"> • All concerns/issues are managed through contributing to expert reviews at Australian Parliamentary committees and forums, and actively participating in industry groups • EnergyAustralia represented on the Board and working groups of the Australian Energy Council (AEC) and Business Council of Australia (BCA) • EnergyAustralia representative appointed chair of the new Market Directorate within the Clean Energy Council (CEC)

Industry & Professional Organisations

Region/Level	Key Concerns or Interests in 2017	CLP's Specific Actions in 2017
Group Level or General	<ul style="list-style-type: none"> • Climate change • Reliability of power supply • Impact of extreme weather • Emissions trading • Transparency and reporting 	<ul style="list-style-type: none"> • Engaged with the: World Business Council for Sustainable Development (WBCSD), World Energy Council (WEC), MIT Joint Program on the Science and Policy of Global Change (MITJIP), International Electric Research Exchange (IERE), Electric Power Research Institute (EPRI), International Emissions Trading Association (IETA), International Integrated Reporting Council (IIRC) and Global Reporting Initiative (GRI)
Hong Kong	<ul style="list-style-type: none"> • Supply reliability • Future fuel mix to address climate change and air quality issues • Future source of gas supplies • Conclusion of negotiations for the new Scheme of Control Agreement (SCA) and preparation for implementation • Scope for and implementation of the new SCA Community Energy Saving Fund and New Eco-building Fund • Development of renewable energy and the feed-in-tariff programme • Demand-side management and energy saving • Development of smart grid and smart city • Nurturing young engineers • Growth of electric vehicles and development of relevant supporting facilities 	<ul style="list-style-type: none"> • Submitted response to Government's Public Engagement on Air Quality Objectives Review • Held regular meetings and briefings with CLP's professionals and experts to explain CLP projects • Participated, presented, spoke and / or officiated at seminars, classes and events • Arranged visits to CLP's facilities to share CLP's efforts in enhancing supply reliability, cost control and environmental performance and explored opportunities for collaboration • Engaged with professional organisations such as The Hong Kong Institution of Engineers (HKIE) • Conducted a large scale pilot trial for Smart Metering in Kowloon and the New Territories • Participated in the government work group on smart city development • Promoted the CLP Power Academy to government, industry associations, professionals and the education sector • Continued to develop electric vehicle charging stations in public areas, and promoted and developed charging stations for private usage through Smart Charge joint venture
Mainland China	<ul style="list-style-type: none"> • Power industry market development • Nuclear energy safety and development 	<ul style="list-style-type: none"> • CLP joined the China Electricity Council (CEC) in 1999 and the Managing Director of our China Business Unit is a member of the Standing Committee of this organisation. Actively involved in the discussions of key China power sector initiatives including the Reliability Index, Power Supply-Demand forecast and China Power Sector reform. • Hong Kong Nuclear Investment Company (HKNIC) joined the China Nuclear Energy Associate (CNEA) in 2007 and is a standing member of the Governing Council of CNEA. In 2017 we participated in CNEA's committee meetings and Annual Meeting. We also attended an industry forum on public communication organised by CNEA and made a presentation. • Engaged with the Hong Kong Nuclear Society and the Hong Kong Institution of Engineers' Nuclear Division • Engaged with the Chinese Society for Electrical Engineering (CSEE). In March 2017, a CLP delegation led by the Managing Director of our China Business Unit visited CSEE headquarters in Beijing. In May 2017, a CSEE delegation led by President Zheng Baosen paid a visit to the CLP Head Office. Both sides have expressed willingness to cooperate on technological exchange and build an academic platform for CLP engineers.

Region/Level	Key Concerns or Interests in 2017	CLP's Specific Actions in 2017
India	<ul style="list-style-type: none"> • Industry-wide challenges / opportunities • Knowledge sharing and collaboration 	<ul style="list-style-type: none"> • Advocated for non-discriminatory open access and formation of National Energy Policy • Engaged with Indian Wind Power Association (IWPA) and Wind Independent Power Producers association (WIPPA) on matters related to policy and regulatory development for wind • Joined Distributed Solar Power Association (DSPA) and Indian Energy Storage alliance (IESA)
Australia	<ul style="list-style-type: none"> • Competitive energy market issues • Solar installation and energy storage 	<ul style="list-style-type: none"> • Managed all concerns/issues through contributing to expert reviews from Government, regulators, and industry groups • EnergyAustralia represented on the Board and working groups of the Australian Energy Council (AEC) and Business Council of Australia (BCA) • EnergyAustralia representative appointed chair of the new Market Directorate within the Clean Energy Council (CEC)

Residential Customers

Region/Level	Key Concerns or Interests in 2017	CLP's Specific Actions in 2017
Hong Kong	<ul style="list-style-type: none"> • Tariff adjustment • Energy efficiency and conservation • Customer experience 	<ul style="list-style-type: none"> • Tariff adjustment held at 1.9%, close to the CPI figure for December 2017 • Provided bill inserts and bill messages as well as FAQs on CLP website to explain tariff change • Provided energy saving tips on CLP's Website, digital and social media channels; Provided Eco Power 360 and Home Energy Report to help customers use electricity wisely; promoted Smart Energy Programme to educate customers to use electricity wisely; and promoted paperless Green Bill • Provide CLP Eco rewards scheme as an additional e-Channel to enhance and sustain customer experience and engagement; launched brand new CLP HK website and Mobile App, including mobile payment; transformed Yuen Long Customer Service Centre into new Smart Energy Experience Centre, to showcase the latest smart home & enterprise systems and interactive technological applications; and launched CLP Eco Living Facebook Fan Page with enriched content to inspire customers to enjoy a fun, smart and green lifestyle
Australia	<ul style="list-style-type: none"> • "Bill shock" and energy prices • Billing and debt collection • Customer service quality • Rooftop solar and feed-in tariffs • General lack of trust in energy retailers 	<ul style="list-style-type: none"> • Improved assistance to customers experiencing hardship • Customer service improvements included increased hours for dedicated call centres to assist customers with queries • Conducted market and focus-group research on consumer needs • Used Net Promoter Score programme to assess customer satisfaction • Kept a watching brief on changes to solar and solar feed-in tariffs • Monitored social media to gauge customers' views • Launched a Financial Inclusion Action Plan to ensure our processes do not financially exclude customers

Commercial & Industrial Customers

Region/Level	Key Concerns or Interests in 2017	CLP's Specific Actions in 2017
Hong Kong	<ul style="list-style-type: none"> • Tariff adjustment • Energy efficiency and conservation • Customer experience 	<ul style="list-style-type: none"> • Tariff adjustment held at 1.9%, close to the CPI figure for December 2017. • Communicated with key customers and stakeholders through dedicated Account Managers • Provided tariff impact analysis information to large consumption customers; provided bill inserts and bill messages to SMEs and developed FAQs on website • Conducted energy audits and provided power quality improvement services for commercial and industrial customers; provided energy saving solutions e.g. Meter Online, Energy Billboard; launched a project Smart Enterprise (an affordable IoT energy monitoring solution) by using simple IoT devices to help customers save energy
Australia	<ul style="list-style-type: none"> • "Bill shock" and energy prices • Misalignment of systems and processes with industry best practice customer experience • Agility of business to thrive in a rapidly changing landscape • Growing preference for energy brokers as the intermediary resulting in increased churn 	<ul style="list-style-type: none"> • Assisted customers to understand and manage their energy usage • Renewed focus and investment in our capability to serve commercial and industrial customers • Interacted with and leveraged Next Generation products and services • Renewed focus on customer retention • Identified and developed alternative/proactive channels to market
Mainland China	<ul style="list-style-type: none"> • Supply reliability • Tariff management • Tariff competitiveness 	<ul style="list-style-type: none"> • Entered into a medium term contract with a high-usage industry customer • Various short term contracts with commercial & industrial customers • Maintained tariff competitiveness through efficient operations
India	<ul style="list-style-type: none"> • Entry into Corporate Power Purchase Agreement (PPA) under rooftop and Open Access arrangements with industrial and commercial consumers for renewable energy 	<ul style="list-style-type: none"> • Carried out engagements with facilitation agents / electricity traders / partners to identify potential customers for Corporate PPA • Started marketing of these PPAs to many leading companies

Electricity Boards & Grid Companies

Region/Level	Key Concerns or Interests in 2017	CLP's Specific Actions in 2017
Mainland China	<ul style="list-style-type: none"> Ability to fulfil dispatch obligations and to meet offtake agreements 	<ul style="list-style-type: none"> Communicated regularly with grid companies on generation plans and dispatch requirements Participated in the Guangxi Electricity Exchange as one of its shareholders and the Guangxi Electricity Market Supervisory Council as one of its members
India	<ul style="list-style-type: none"> Management of existing PPAs 	<ul style="list-style-type: none"> Interacted periodically with these customers and relevant government authorities on operational, commercial and regulatory aspects / issues related to our PPAs
Australia	<ul style="list-style-type: none"> Network tariff reform for the electricity and mass market Opening up of metering competition 	<ul style="list-style-type: none"> Participated in regulatory and industry discussions with distributors and retailers; and began to increase engagement at the executive management level between EA and the distributors Completed Power of Choice projects to establish metering function to meet regulatory requirements

Employees

Region/Level	Key Concerns or Interests in 2017	CLP's Specific Actions in 2017
Group level or General	<ul style="list-style-type: none"> Competitive remuneration and benefits Career development opportunities Gender diversity and equal opportunity 	<ul style="list-style-type: none"> Conducted regular independent review of market remuneration surveys and benefits and review of family-friendly policies and practices Enhanced the sustainability of pension fund in Hong Kong Conducted regular review of succession planning; optimised internal promotion; continued investment in training and development; and arranged staff rotation Continued female mentoring programme with universities; organised groupwide network for female engineers Reviewed the family-friendly leave policies in Hong Kong Carried out review on gender pay equity
Hong Kong	<ul style="list-style-type: none"> Concerns on the safety performance 	<ul style="list-style-type: none"> Established three teams to enhance safety performance for employees and suppliers/contractors in Hong Kong; including an external cold eye review team, an improvement task force and a safety culture change team

Suppliers & Contractors

Region/Level	Key Concerns or Interests in 2017	CLP's Specific Actions in 2017
Group level or General	<ul style="list-style-type: none"> Responsible procurement practices and supply chain management Demonstration of CLP's commitments to continuous improvement and adoption of best practices 	<ul style="list-style-type: none"> Included compliance with CLP's Responsible Procurement Policy Statement (RePPS) in the supplier/contractor assessment and selection process Conducted regular meetings with critical suppliers to review performance, drive continuous improvement in product and service delivery and plan for future developments
Hong Kong	<ul style="list-style-type: none"> Concerns on the safety performance 	<ul style="list-style-type: none"> Established three teams to enhance safety performance for employees and suppliers/contractors in Hong Kong; including an external cold eye review team, an improvement task force and a safety culture change team

Communities, NGOs & Media

Region/Level	Key Concerns or Interests in 2017	CLP's Specific Actions in 2017
Hong Kong	<ul style="list-style-type: none"> Conclusion of new Scheme of Control Agreement (SCA) and preparation for implementation Future fuel mix to address climate change and air quality Supply reliability particularly in strong typhoons Progress of additional gas-fired generation capacity at the Black Point Power Station Proposed Hong Kong Offshore LNG Terminal Energy poverty especially for residents living in sub-divided flats 	<ul style="list-style-type: none"> Extensive engagement with the community after signature of new SCA Engaged and informed community stakeholders through briefings, communication material and site visits to CLP's facilities to explain the need and development progress of various key infrastructure Careful preparation demonstrated CLP's outstanding performance during severe Typhoon Hato, compared to neighbouring Macau, which lost all electricity supply Conducted discussion workshops with key customers to review ways in which CLP can continuously improve its efforts in enhancing supply reliability, cost control and environmental performance Continued strategic engagement with NGOs and local community organisations for various community programmes and volunteer services and offered practical support to those in need
Mainland China	<ul style="list-style-type: none"> Impact of CLP business on local communities Benefit of CLP's community investment programmes to local communities CLP's business development in China 	<ul style="list-style-type: none"> Implemented CLP Community Investment programmes Communicated with Mainland media outlets on CLP's history, business update and brand
India	<ul style="list-style-type: none"> Primary healthcare services in remote villages near CLP's facilities Empowerment of women Youth engagement 	<ul style="list-style-type: none"> Provided primary healthcare services through Mobile Medical Van Constructed 50 bedded hospital and handed over to the local administration Supported women led micro-credit societies Supported local sports like wrestling and basketball

Region/Level	Key Concerns or Interests in 2017	CLP's Specific Actions in 2017
Australia	<ul style="list-style-type: none"> • Customers' capacity to pay energy bills • EA in the Top 10 polluters / "Dirty Three" • Community engagement and communication; social license to proceed with site projects, for example, the Energy Recovery project at Mt Piper • Longevity of power generator sites 	<ul style="list-style-type: none"> • Continued strategic engagement with Social Service groups to better inform our hardship programme • Continued dialogue with green groups to communicate EA's approach to environmental management • Delivered community grant programme in all communities close to Energy Australia generation sites • Proactively engaged media

Academia & Schools

Region/Level	Key Concerns or Interests in 2017	CLP's Specific Actions in 2017
Hong Kong	<ul style="list-style-type: none"> • Career development in engineering • Development of STEM education • Energy efficiency and conservation • Progress of additional gas-fired generation capacity at Black Point Power Station 	<ul style="list-style-type: none"> • Launched CLP Power Academy in October 2017 • Collaborated with NGOs and professional bodies in public education programmes for kindergarten, primary, secondary and university students • Engaged and informed key stakeholders through background briefings and site visits to CLP's facilities • Promoted an educational package to secondary schools by installing IoT devices to illustrate the use of technology to drive energy saving • Expanded the Engineer in School programme to 50 secondary schools in the 2017-2018 academic year to inspire more students considering a career in engineering • Engaged and informed key stakeholders through lectures, seminars and site visits to CLP's facilities
Mainland China	<ul style="list-style-type: none"> • Energy conservation and Mainland China's climate change commitment • Improvement in education facilities • Poverty relief for students • Career development in engineering and management 	<ul style="list-style-type: none"> • Provided training to students through the CLP Young Power Programme • Sponsored schools to upgrade their facilities • Made donations to students through the Support-a-student Programme • Education to students on environmental issues through Community Investment activities • Recruited Graduate Trainees from a number of colleges
India	<ul style="list-style-type: none"> • Malnutrition in young children in local communities • Improvement in education facilities • Career development opportunities 	<ul style="list-style-type: none"> • Provided mid-day meals in schools • Strengthened infrastructure of local school for better facilities • Supported students from economically disadvantaged families with scholarship/mentoring
Australia	<ul style="list-style-type: none"> • Concerns about the electricity generator industry in their community. • Career development of students in the changing local job market 	<ul style="list-style-type: none"> • Informed key community stakeholders through regular community liaison meetings. • Social Investment programme's community grants and partnerships have a focus on education and social inclusion

Appendix 4: GRI Content Index



GRI Standard	Disclosure	Page number(s) and/or URL(s)	Omission			
			Part Omitted	Reason	Explanation	
GRI 101: Foundation 2016 General Disclosures						
GRI 102: General Disclosures 2016	Organizational profile					
	102-1 Name of the organization	Our Business				
	102-2 Activities, brands, products, and services	Our Business				
	102-3 Location of headquarters	Our Business				
	102-4 Location of operations	Our Business				
	102-5 Ownership and legal form	Our Business				
	102-6 Markets served	Our Business				
	102-7 Scale of the organization	Our Business				
	102-8 Information on employees and other workers		Human Capital - Managing our workforce - Our workforce			
			Human Capital - Managing our workforce - Enhancing employee well-being			
			Human Capital - Promoting diversity and equal opportunity - Diversity, inclusion and gender equality			
	102-9 Supply chain		Our Business			
			Manufactured Capital - Procuring responsibly - Working in partnership			
	102-10 Significant changes to the organization and its supply chain		Our Business			
Manufactured Capital - Procuring responsibly - Working in partnership						
102-11 Precautionary Principle or approach		Our Management Approach - Managing Natural Capital - Group-wide Our Management Approach				
102-12 External initiatives		Social and Relationship Capital - Facilitating informed engagement - Collaborating with industry and professional organisations				
102-13 Membership of associations		Social and Relationship Capital - Facilitating informed engagement - Collaborating with industry and professional organisations				
EU1 Organizational Profile	EU1 Installed capacity, broken down by primary energy source and by regulatory regime	Manufactured Capital - Powering our communities - Power generation				
		Data and Downloads - Generation Performance of Our Assets				
EU2 Organizational Profile	EU2 Net energy output, broken down by primary energy source and by regulatory regime	Manufactured Capital - Powering our communities - Power generation				
		Data and Downloads - Generation Performance of Our Assets				

GRI Standard	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
EU3 Organizational Profile	EU3 Number of residential, industrial, institutional and commercial customer accounts	Manufactured Capital - Serving our customers - Customer portfolio			
	EU4 Length of above and underground transmission and distribution lines by regulatory regime	Manufactured Capital - Powering our communities - Transmission and distribution			
EU5 Organizational Profile	EU5 Allocation CO2e emissions allowances or equivalent, broken down by carbon trading framework	Natural Capital - Transitioning to a low carbon future - Upcoming carbon schemes			
	Strategy				
	102-14 Statement from senior decision-maker	Chairman & CEO Message			
	102-15 Key impacts, risks, and opportunities	Trends and Drivers			
	Ethics and integrity				
	102-16 Values, principles, standards, and norms of behavior	Sustainability at CLP - Our Value Framework Our Management Approach - Corporate Governance - Code of Conduct			
	102-17 Mechanisms for advice and concerns about ethics	Our Management Approach - Corporate Governance - Code of Conduct			
	Governance				
	102-18 Governance structure	Our Management Approach - Corporate Governance - CLP Board and Board Committees			
	102-19 Delegating authority	Our Management Approach - Corporate Governance - CLP Board and Board Committees			
	102-20 Executive-level responsibility for economic, environmental, and social topics	Sustainability at CLP - Our Sustainability Governance - Sustainability Executive Committee			
	102-21 Consulting stakeholders on economic, environmental, and social topics	Home - About this report - Materiality for 2017 and stakeholder concerns			
	102-22 Composition of the highest governance body and its committees	Our Management Approach - Corporate Governance - CLP Board and Board Committees			
	102-23 Chair of the highest governance body	Our Management Approach - Corporate Governance - CLP Board and Board Committees			
	102-24 Nominating and selecting the highest governance body	Our Management Approach - Corporate Governance - CLP Board and Board Committees			
102-25 Conflicts of interest	Our Management Approach - Corporate Governance - Corporate Governance Framework and Code				
102-26 Role of highest governance body in setting purpose, values, and strategy	Our Management Approach - Corporate Governance - CLP Board and Board Committees				
102-27 Collective knowledge of highest governance body	Our Management Approach - Corporate Governance - Corporate Governance Framework and Code				

GRI Standard	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
	102-28 Evaluating the highest governance body's performance	Our Management Approach - Corporate Governance - Corporate Governance Framework and Code			
	102-29 Identifying and managing economic, environmental,	Sustainability at CLP - Our Sustainability Governance - Board Committees			
	102-30 Effectiveness of risk management processes	Sustainability at CLP - Our Sustainability Governance - Board Committees			
	102-31 Review of economic, environmental, and social topics	Sustainability at CLP - Our Sustainability Governance - Board Committees			
	102-32 Highest governance body's role in sustainability reporting	Sustainability at CLP - Our Sustainability Governance - Board Committees			
	102-33 Communicating critical concerns	Home - About this report - Materiality for 2017 and stakeholder concerns			
	102-34 Nature and total number of critical concerns	Home - About this report - Materiality for 2017 and stakeholder concerns			
	102-35 Remuneration policies	Our Management Approach - Corporate Governance - Corporate Governance Framework and Code			
	102-36 Process for determining remuneration	Our Management Approach - Corporate Governance - Corporate Governance Framework and Code			
	102-37 Stakeholders involvement in remuneration	Our Management Approach - Corporate Governance - Corporate Governance Framework and Code Human Capital - Managing our workforce - Competitive and sustainable benefits			
	102-38 Annual total compensation ratio	Nil	All	Not applicable	We will consider disclosures upon establishment of common global standard of these metrics.
	102-39 Percentage increase in annual total compensation ratio	Nil	All	Not applicable	We will consider disclosures upon establishment of common global standard of these metrics.
Stakeholder engagement					
	102-40 List of stakeholder groups-	Our Management Approach - Managing Social and Relationship Capital - Stakeholder engagement			
	102-41 Collective bargaining agreements	Human Capital - Maintaining labour relations			

GRI Standard	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
	102-42 Identifying and selecting stakeholders	Our Management Approach - Managing Social and Relationship Capital - Stakeholder engagement			
	102-43 Approach to stakeholder engagement	Our Management Approach - Managing Social and Relationship Capital - Stakeholder engagement			
	102-44 Key topics and concerns raised	Home - About this report - Materiality for 2017 and stakeholder concerns Data and Downloads - Stakeholder Key Concerns or Interests Table			
Reporting practice					
	102-45 Entities included in the consolidated financial statements	Home - About this report - Reporting Period and Scope			
	102-46 Defining report content and topic Boundaries	Home - About this report - Materiality for 2017 and stakeholder concerns Our Management Approach - Materiality Assessment			
	102-47 List of material topics	Home - About this report - Materiality for 2017 and stakeholder concerns			
	102-48 Restatements of information	Human Capital - Ensuring health and safety - Safety performance in 2017 Data and Downloads - Key Performance Data - Safety			
	102-49 Changes in reporting	Home - About this report - Reporting Period and Scope Data and Downloads - Impacts along our value chain			
	102-50 Reporting period	Home - About this report - Reporting Period and Scope			
	102-51 Date of most recent report	Home - About this report - Reporting Period and Scope			
	102-52 Reporting cycle	Home - About this report - Reporting Period and Scope			
	102-53 Contact point for questions regarding the report	Contact Us			
	102-54 Claims of reporting in accordance with the GRI Standards	Home - About this report - Reporting framework and content indices			
	102-55 GRI content index	Data and Downloads - GRI Content Index			
	102-56 External assurance	Home - About this report - Data verification			

GRI Standard	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
Material Topics					
GRI 200 Economic Standard Series					
Economic Performance					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Financial Capital - Financial performance			
	103-2 The management approach and its components	Our Management Approach - Managing Financial Capital - Financial performance			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Financial Capital - Financial performance			
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	Financial Capital - Sharing the economic value generated			
	201-2 Financial implications and other risks and opportunities due to climate change	Trends and Drivers - Global Trends - Climate change			
	201-3 Defined benefit plan obligations and other retirement plans	Human Capital - Managing our workforce - Competitive and sustainable benefits			
	201-4 Financial assistance received from government	Social and Relationship Capital - Facilitating informed engagement - Public policy positions			
Market Presence					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Human Capital - Employment			
	103-2 The management approach and its components	Our Management Approach - Managing Human Capital - Employment			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Human Capital - Employment			
GRI 202: Market Presence 2016	202-1 Ratios of standard entry level wage by gender compared to local minimum wage	Human Capital - Managing our workforce - Competitive and sustainable benefits			
	202-2 Proportion of senior management hired from the local community	Our Management Approach - Managing Human Capital - Employment			
Indirect Economic Impacts					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Financial Capital - Sharing the economic value generated			
	103-2 The management approach and its components	Financial Capital - Sharing the economic value generated			
	103-3 Evaluation of the management approach	Financial Capital - Sharing the economic value generated			
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	Financial Capital - Sharing the economic value generated			
	203-2 Significant indirect economic impacts	Financial Capital - Sharing the economic value generated			

GRI Standard	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
Procurement Practices					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Manufactured Capital - Procurement practices			
	103-2 The management approach and its components	Our Management Approach - Managing Manufactured Capital - Procurement practices			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Manufactured Capital - Procurement practices			
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	Manufactured Capital - Procuring responsibly - Working in partnership			
Anti-corruption					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Sustainability at CLP - Compliance and Beyond - Code of Conduct and Anti-corruption Financial Capital - Growing our business - Upholding our values under difference context			
	103-2 The management approach and its components	Sustainability at CLP - Compliance and Beyond - Code of Conduct and Anti-corruption Financial Capital - Growing our business - Upholding our values under difference context			
	103-3 Evaluation of the management approach	Sustainability at CLP - Compliance and Beyond - Code of Conduct and Anti-corruption Financial Capital - Growing our business - Upholding our values under difference context			
GRI 205: Anti corruption 2016	205-1 Operations assessed for risks related to corruption	Sustainability at CLP - Compliance and Beyond - Code of Conduct and Anti-corruption			
	205-2 Communication and training about anti-corruption policies and procedures	Sustainability at CLP - Compliance and Beyond - Code of Conduct and Anti-corruption			
	205-3 Confirmed incidents of corruption and actions taken	Sustainability at CLP - Compliance and Beyond - Code of Conduct and Anti-corruption			
Anti-competitive Behavior					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Corporate Governance - Regulatory compliance Financial Capital - Growing our business - Upholding our values under difference context			
	103-2 The management approach and its components	Our Management Approach - Corporate Governance - Regulatory compliance Financial Capital - Growing our business - Upholding our values under difference context			

GRI Standard	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
GRI 206: Anti-competitive Behavior 2016	103-3 Evaluation of the management approach	Our Management Approach - Corporate Governance - Regulatory compliance Financial Capital - Growing our business - Upholding our values under difference context			
	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Sustainability at CLP - Compliance and Beyond - Legal compliance			
GRI 300 Environmental Standards Series					
Materials					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Natural Capital - Energy and greenhouse gas emissions			
	103-2 The management approach and its components Sector Specific: Long-term strategy for managing and phasing out high level and low level in-service PCBs	Our Management Approach - Managing Natural Capital - Energy and greenhouse gas emissions			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Natural Capital - Energy and greenhouse gas emissions			
GRI 301: Materials 2016	301-1 Materials used by weight or volume Sector Specific: Report in-use inventory of solid and liquid high level and low level PCBs contained in equipment	Natural Capital - Lowering GHG emissions - Fuel use			
	301-2 Recycled input materials used	Natural Capital - Using our resources efficiently - Waste			
	301-3 Reclaimed products and their packaging materials	Nil	All	Not applicable	At CLP, our primary product is electricity, which requires no packaging for delivery to customers. Packaging material used for auxiliary products only accounts for an immaterial amount. The nature of electricity also does not allow recalls of our primary product.

GRI Standard	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
Energy					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Natural Capital - Energy and greenhouse gas emissions			
	103-2 The management approach and its components	Our Management Approach - Managing Natural Capital - Energy and greenhouse gas emissions			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Natural Capital - Energy and greenhouse gas emissions			
GRI 302: Energy 2016	302-1 Energy consumption within the organization	Manufactured Capital - Powering our communities - Power generation Natural Capital - Lowering GHG emissions - Fuel use			
	302-2 Energy consumption outside of the organization	Manufactured Capital - Powering our communities - Power generation			
	302-3 Energy intensity	Manufactured Capital - Powering our communities - Power generation			
	302-4 Reduction of energy consumption	Manufactured Capital - Optimising operational efficiency - Operational efficiency improvement			
	302-5 Reductions in energy requirements of products and services	Manufactured Capital - Optimising operational efficiency - Operational efficiency improvement			
Water					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Natural Capital - Water			
	103-2 The management approach and its components Sector Specific: Collaborative approaches to manage watersheds and reservoirs and long-term planning for securing water resources	Our Management Approach - Managing Natural Capital - Water			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Natural Capital - Water			
GRI 303: Water 2016	303-1 Water withdrawal by source Sector Specific: Overall water usage for processing, cooling and consumption in thermal and nuclear power plants, including use of water in ash handling and coal cleaning	Natural Capital - Using our resources efficiently - Water			
	303-2 Water sources significantly affected by withdrawal of water	Natural Capital - Using our resources efficiently - Water			
	303-3 Water recycled and reused	Natural Capital - Using our resources efficiently - Water			

GRI Standard	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
Biodiversity					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Natural Capital - Biodiversity			
	103-2 The management approach and its components Sector Specific: Approaches for pest and vegetation management along transmission and distribution corridors	Our Management Approach - Managing Natural Capital - Biodiversity			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Natural Capital - Biodiversity			
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Natural Capital - Biodiversity			
	304-2 Significant impacts of activities, products, and services on biodiversity Sector Specific: Nature of significant direct and indirect impacts on biodiversity regarding maintenance of transmission line corridors, fragmentation and isolation, as well as impacts of thermal discharge	Natural Capital - Biodiversity			
	304-3 Habitats protected or restored	Natural Capital - Biodiversity			
EU13 Biodiversity	EU13 Biodiversity of offset habitats compared to the biodiversity of the affected areas	Natural Capital - Biodiversity			
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	Natural Capital - Biodiversity			

GRI Standard	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
Emissions					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Natural Capital - Energy and greenhouse gas emissions			
	103-2 The management approach and its components	Our Management Approach - Managing Natural Capital - Energy and greenhouse gas emissions			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Natural Capital - Energy and greenhouse gas emissions			
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions Sector Specific: CO2e per MWh, breakdown by regulatory regime, for net generation from generating capacity, fossil fuel generation and estimated net delivery to end users including emissions from own generation	Natural Capital - Lowering GHG emissions - Emissions			
	305-2 Energy indirect (Scope 2) GHG emissions Sector Specific: CO2e per MWh, breakdown by regulatory regime, for estimated net delivery to end users including emissions from own generation	Natural Capital - Lowering GHG emissions - Emissions			
	305-3 Other indirect (Scope 3) GHG emissions	N/A	All	Information unavailable	We completed a study in 2017 to confirm that our most material scope 3 GHG emissions on an equity basis were less than 30% of our total GHG emissions. We will explore the possibility of commencing Scope 3 reporting in the next reporting cycle.
	305-4 GHG emissions intensity	Natural Capital - Lowering GHG emissions - Emissions			
	305-5 Reduction of GHG emissions	Natural Capital - Lowering GHG emissions - Emissions			

GRI Standard	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
	305-6 Emissions of ozone-depleting substances (ODS)	N/A	All	Not applicable	Not material – CLP’s ODS inventory volume is very small. All ODS in our inventory is enclosed on machinery and CLP is in the process of phasing out all use of ODS.
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions Sector Specific: NOx, SOx and other significant air emissions per MWh for net generation from generating capacity and combustion power plants	Natural Capital - Lowering GHG emissions - Emissions			
Effluents and Waste					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Natural Capital - Water Our Management Approach - Managing Natural Capital - Waste			
	103-2 The management approach and its components Sector Specific: Management strategy and storage methods for different types of radioactive nuclear waste	Our Management Approach - Managing Natural Capital - Water Our Management Approach - Managing Natural Capital - Waste			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Natural Capital - Water Our Management Approach - Managing Natural Capital - Waste Natural Capital - Using our resources efficiently - Waste Our Management Approach - Managing Natural Capital - Waste			
GRI 306: Effluents and Waste 2016	306-3 Significant spills	Natural Capital - Using our resources efficiently - Waste			
	306-4 Transport of hazardous waste	Natural Capital - Using our resources efficiently - Waste			
	306-5 Water bodies affected by water discharges and/or runoff	Our Management Approach - Managing Natural Capital - Water			

GRI Standard	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
Environmental Compliance					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Corporate Governance - Regulatory compliance			
	103-2 The management approach and its components	Our Management Approach - Corporate Governance - Regulatory compliance			
	103-3 Evaluation of the management approach	Our Management Approach - Corporate Governance - Regulatory compliance			
GRI 307: Environmental Compliance 2016	307-1 Non-compliance with environmental laws and regulations	Sustainability at CLP - Compliance and Beyond - Legal compliance			
Supplier Environmental Assessment					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Manufactured Capital - Procurement practices			
	103-2 The management approach and its components	Our Management Approach - Managing Manufactured Capital - Procurement practices			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Manufactured Capital - Procurement practices			
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	Manufactured Capital - Procuring responsibly - Responsible procurement			
	308-2 Negative environmental impacts in the supply chain and actions taken	Manufactured Capital - Procuring responsibly - Responsible procurement			
GRI 400 Social Standards Series					
Employment					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Human Capital - Employment			
	103-2 The management approach and its components	Our Management Approach - Managing Human Capital - Employment			
	Sector Specific: Programs and processes to ensure the availability of a skilled workforce				
	Policies and requirements regarding health and safety of employees and employees of contractors and subcontractors				
	103-3 Evaluation of the management approach	Our Management Approach - Managing Human Capital - Employment			
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	Human Capital - Managing our workforce - Enhancing employee well-being			
	Sector Specific: Average length of tenure of employees leaving employment during the reporting period, breakdown by gender and age group				

GRI Standard	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
EU15 Employment	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	Our Management Approach - Managing Human Capital - Human rights			
	401-3 Parental leave	Human Capital - Managing our workforce - Implementing family friendly policies			
	EU15 Percentage of employees eligible to retire in the next 5 and 10 years broken down by job category and by region	Human Capital - Building capability - Training and development			
	EU17 Employment	Human Capital - Ensuring health and safety - Safety performance in 2017			
	EU18 Employment	Our Management Approach - Managing Manufactured Capital- HSSE - Occupational Health and Safety (OHS)			
Labor/Management Relations					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Human Capital - Labour relations			
	103-2 The management approach and its components	Our Management Approach - Managing Human Capital - Labour relations			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Human Capital - Labour relations			
GRI 402: Labor/Management Relations 2016	402-1 Minimum notice periods regarding operational changes	Human Capital - Maintaining labour relations			

GRI Standard	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
Occupational Health and Safety					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Manufactured Capital- HSSE - Occupational Health and Safety (OHS)			
	103-2 The management approach and its components	Our Management Approach - Managing Manufactured Capital- HSSE - Occupational Health and Safety (OHS)			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Manufactured Capital- HSSE - Occupational Health and Safety (OHS)			
GRI 403: Occupational Health and Safety 2016	403-1 Workers representation in formal joint managementworker health and safety committees	Our Management Approach - Managing Manufactured Capital- HSSE - Occupational Health and Safety (OHS)			
	403-2 Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of workrelated fatalities Sector Specific: Health and safety performance of contractors and subcontractors working onsite or on behalf of the organisation off-site	Human Capital - Ensuring health and safety - Safety performance in 2017			
	403-3 Workers with high incidence or high risk of diseases related to their occupation	Our Management Approach - Managing Manufactured Capital- HSSE - Safety and Nuclear Power			
	403-4 Health and safety topics covered in formal agreements with trade unions	Nil	All	Information un- available	We do not collect this information at this time.
	Training and Education				
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Human Capital - Capability building			
	103-2 The management approach and its components	Our Management Approach - Managing Human Capital - Capability building			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Human Capital - Capability building			
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	Data and Downloads - Key Performance Data			
	404-2 Programs for upgrading employee skills and transition assistance programs	Human Capital - Building capability - Training and development			
	404-3 Percentage of employees receiving regular performance and career development reviews	Human Capital - Building capability - Training and development			

GRI Standard	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
Diversity and Equal Opportunity					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Human Capital - Diversity and equal opportunity			
	103-2 The management approach and its components	Our Management Approach - Managing Human Capital - Diversity and equal opportunity			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Human Capital - Diversity and equal opportunity			
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	Human Capital - Promoting diversity and equal opportunity - Diversity, inclusion and gender equality			
	405-2 Ratio of basic salary and remuneration of women to men	Human Capital - Promoting diversity and equal opportunity - Diversity, inclusion and gender equality			
Non-discrimination					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Human Capital - Diversity and equal opportunity			
	103-2 The management approach and its components	Our Management Approach - Managing Human Capital - Diversity and equal opportunity			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Human Capital - Diversity and equal opportunity			
GRI 406: Nondiscrimination 2016	406-1 Incidents of discrimination and corrective actions taken	Human Capital - Promoting diversity and equal opportunity - Discrimination and Harassment			
Freedom of Association and Collective Bargaining					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Human Capital - Labour relations			
	103-2 The management approach and its components	Our Management Approach - Managing Human Capital - Labour relations			
	Sector Specific: Management mechanisms to address the right to organise, bargain and strike				
	103-3 Evaluation of the management approach	Our Management Approach - Managing Human Capital - Labour relations			
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Our Management Approach - Managing Human Capital - Labour relations Manufactured Capital - Procuring responsibly - Responsible procurement			

GRI Standard	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
Child Labor					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Human Capital - Human Rights			
	103-2 The management approach and its components	Our Management Approach - Managing Human Capital - Human Rights			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Human Capital - Human Rights			
GRI 408: Child Labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	Human Capital - Respecting human rights - Child and forced labour Manufactured Capital - Procuring responsibly - Responsible procurement			
Forced or Compulsory Labor					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Human Capital - Human Rights			
	103-2 The management approach and its components	Our Management Approach - Managing Human Capital - Human Rights			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Human Capital - Human Rights			
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	Human Capital - Respecting human rights - Child and forced labour Manufactured Capital - Procuring responsibly - Responsible procurement			
Security Practices					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Manufactured Capital- HSSE - Security			
	103-2 The management approach and its components	Our Management Approach - Managing Manufactured Capital- HSSE - Security Human Capital - Respecting human rights - Human rights			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Manufactured Capital- HSSE - Security			
GRI 410: Security Practices 2016	410-1 Security personnel trained in human rights policies or procedures	Our Management Approach - Managing Manufactured Capital- HSSE - Security			
Rights of Indigenous Peoples					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Corporate Governance - Regulatory compliance			
	103-2 The management approach and its components	Our Management Approach - Corporate Governance - Regulatory compliance Social and Relationship Capital - Empowering communities - Our programme highlights			
	103-3 Evaluation of the management approach	Our Management Approach - Corporate Governance - Regulatory compliance			

GRI Standard	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
GRI 411: Rights of Indigenous Peoples 2016	411-1 Incidents of violations involving rights of indigenous peoples	Sustainability at CLP - Compliance and Beyond - Legal compliance			
Human Rights Assessment					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Human Capital - Human Rights			
	103-2 The management approach and its components	Our Management Approach - Managing Human Capital - Human Rights			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Human Capital - Human Rights			
GRI 412: Human Rights Assessment 2016	412-1 Operations that have been subject to human rights reviews or impact assessments	Human Capital - Respecting human rights - Human rights			
	412-2 Employee training on human rights policies or procedures	Human Capital - Respecting human rights - Human rights			
	412-3 Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	Our Business - 2017 Portfolio changes			
Local Communities					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Social and Relationship Capital - Community Investment			
	103-2 The management approach and its components	Our Management Approach - Managing Social and Relationship Capital - Community Investment			
	Sector Specific: Stakeholder participation in the decision making process related to energy planning and infrastructure development				
	Approach to managing the impacts of displacement.				
	Explanation of whether the organisation's programmes for managing community impacts have been effective in mitigating negative impacts and maximising positive impacts				
	103-3 Evaluation of the management approach	Our Management Approach - Managing Social and Relationship Capital - Community Investment			

GRI Standard	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	Social and Relationship Capital - Empowering communities - Our contributions			
	413-2 Operations with significant actual and potential negative impacts on local communities	Sustainability at CLP - Compliance and Beyond - Legal compliance Our Management Approach - Corporate Governance - Regulatory compliance			
EU22 Local Communities	EU22 Number of people physically or economically displaced and compensation, broken down by type of project				
Supplier Social Assessment					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Manufactured Capital - Procurement practices			
	103-2 The management approach and its components	Our Management Approach - Managing Manufactured Capital - Procurement practices			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Manufactured Capital - Procurement practices			
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	Manufactured Capital - Procuring responsibly - Responsible procurement			
	414-2 Negative social impacts in the supply chain and actions taken	Manufactured Capital - Procuring responsibly - Responsible procurement			
Public Policy					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Social and Relationship Capital - Public Policy Positions			
	103-2 The management approach and its components	Our Management Approach - Managing Social and Relationship Capital - Public Policy Positions			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Social and Relationship Capital - Public Policy Positions			
GRI 415: Public Policy 2016	415-1 Political contributions	Our Management Approach - Managing Social and Relationship Capital - Public Policy Positions			

GRI Standard	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
Customer Health and Safety					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Manufactured Capital - Serving our customers - Customer health and safety			
	103-2 The management approach and its components Sector Specific: Assessment of resource planning, generation, transmission, distribution and use and processes for assessing community health risks and risks identified	Manufactured Capital - Serving our customers - Customer health and safety			
	103-3 Evaluation of the management approach	Manufactured Capital - Serving our customers - Customer health and safety			
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	Manufactured Capital - Serving our customers - Customer health and safety			
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	Sustainability at CLP - Compliance and Beyond - Legal compliance			
EU25 Customer Health and Safety	EU25 Number of injuries and fatalities to the public involving company assets, including legal judgments, settlements and pending legal cases of diseases	Sustainability at CLP - Compliance and Beyond - Legal compliance			
Marketing and Labeling					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Manufactured Capital - Customer communications			
	103-2 The management approach and its components	Our Management Approach - Managing Manufactured Capital - Customer communications			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Manufactured Capital - Customer communications			
GRI 417: Marketing and Labeling 2016	417-1 Requirements for product and service information and labeling	Our Management Approach - Managing Manufactured Capital - Customer communications			
	417-2 Incidents of non-compliance concerning product and service information and labeling	Manufactured Capital - Serving our customers - Customer portfolio			
	417-3 Incidents of non-compliance concerning marketing communications	Manufactured Capital - Serving our customers - Customer portfolio			
Customer Privacy					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Manufactured Capital - Customer privacy			
	103-2 The management approach and its components	Our Management Approach - Managing Manufactured Capital - Customer privacy			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Manufactured Capital - Customer privacy			

GRI Standard	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	Social and Relationship Capital - Supporting our customers - Customer privacy			
Socioeconomic Compliance					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Corporate Governance - Regulatory compliance			
	103-2 The management approach and its components	Our Management Approach - Corporate Governance - Regulatory compliance			
	103-3 Evaluation of the management approach	Our Management Approach - Corporate Governance - Regulatory compliance			
GRI 419: Socio-economic Compli- ance 2016	419-1 Non-compliance with laws and regulations in the social and economic area	Sustainability at CLP - Compliance and Beyond - Legal compliance Social and Relationship Capital - Supporting our customers - Customer privacy			

GRI G4 Sector Disclosures	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
Electric Utilities					
Availability and Reliability					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Manufactured Capital - Availability and Reliability			
	103-2 The management approach and its components Ensure short and long-term electricity availability and reliability	Our Management Approach - Managing Manufactured Capital - Availability and Reliability			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Manufactured Capital - Availability and Reliability			
EU10 Availability and Reliability	EU10 Planned capacity against projected electricity demand over the long term, broken down by energy source and regulatory regime	Our Management Approach - Managing Manufactured Capital - Availability and Reliability Financial Capital - Strengthening our Hong Kong market - Scheme of Control Review Manufactured Capital - Powering our communities - Availability and reliability			
Demand-Side Management					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Manufactured Capital - Demand-side management			
	103-2 The management approach and its components Demand-side management programs including residential, commercial, institutional and industrial programs	Our Management Approach - Managing Manufactured Capital - Demand-side management Manufactured Capital - Powering our communities - Availability and reliability			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Manufactured Capital - Demand-side management			
Research and Development					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Intellectual Capital - Research and Development			
	103-2 The management approach and its components Research and development activity and expenditure aimed at providing reliable electricity and promoting sustainable development	Our Management Approach - Managing Intellectual Capital - Research and Development Intellectual Capital - Building research and development capability - Partnership and collaboration			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Intellectual Capital - Research and Development			

GRI G4 Sector Disclosures	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
Plant Decommissioning					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Manufactured Capital- HSSE - Safety and Nuclear Power			
	103-2 The management approach and its components Provisions for decommissioning of nuclear power sites	Our Management Approach - Managing Manufactured Capital- HSSE - Safety and Nuclear Power Manufactured Capital - Optimising operational efficiency - Planning for efficiency			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Manufactured Capital- HSSE - Safety and Nuclear Power			
System Efficiency					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Manufactured Capital - Optimising operational efficiency - Planning for efficiency			
	103-2 The management approach and its components Provisions for decommissioning of nuclear power sites	Manufactured Capital - Optimising operational efficiency - Planning for efficiency			
	103-3 Evaluation of the management approach	Manufactured Capital - Optimising operational efficiency - Planning for efficiency			
EU11 System Efficiency	EU11 Average generation efficiency of thermal plants by energy source and by regulatory regime	Manufactured Capital - Powering our communities - Power generation			
EU12 System Efficiency	EU12 Transmission and distribution losses as a percentage of total energy	Manufactured Capital - Powering our communities - Transmission and Distribution			
Disaster/ Emergency Planning and Response					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Manufactured Capital- HSSE - Emergency Management			
	103-2 The management approach and its components Contingency planning measures, disaster/emergency management plan and training programs, and recovery/restoration plans	Our Management Approach - Managing Manufactured Capital- HSSE - Emergency Management Manufactured Capital - Optimising operational efficiency - Planning for efficiency			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Manufactured Capital- HSSE - Emergency Management			

GRI G4 Sector Disclosures	Disclosure	Page number(s) and/or URL(s)	Omission		
			Part Omitted	Reason	Explanation
Access					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Social and Relationship Capital - Access to electricity			
	103-2 The management approach and its components Programs, including those in partnership with government, to improve or maintain access to electricity and customer support services	Our Management Approach - Managing Social and Relationship Capital - Access to electricity			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Social and Relationship Capital - Access to electricity			
EU26 Access	EU26 Percentage of population unserved in licensed distribution or service areas	Manufactured Capital - Powering our communities - Transmission and Distribution			
EU27 Access	EU27 Number of residential disconnections for non-payment, broken down by duration of disconnection and by regulatory regime	Social and Relationship Capital - Empowering communities - Access to electricity			
EU28 Access	EU28 Power outage frequency	Manufactured Capital - Powering our communities - Transmission and Distribution			
EU29 Access	EU29 Average power outage duration	Manufactured Capital - Powering our communities - Transmission and Distribution			
EU30 Access	EU30 Average plant availability factor by energy source and by regulatory regime	Manufactured Capital - Powering our communities - Power generation			
		Data and Download - Generation Performance of our assets			
Provision of Information					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	Our Management Approach - Managing Social and Relationship Capital - Access to electricity			
	103-2 The management approach and its components Practices to address language, cultural, low literacy and disability related barriers to accessing and safely using electricity and customer support services	Our Management Approach - Managing Social and Relationship Capital - Access to electricity Manufactured Capital - Serving our customers - Customer portfolio			
	103-3 Evaluation of the management approach	Our Management Approach - Managing Social and Relationship Capital - Access to electricity			

Appendix 5: Hong Kong Stock Exchange Environmental, Social and Governance (ESG) Content Index

Subject Areas, Aspects, General Disclosure and KPIs		Explanation / Chapter or Sub-chapter reference to the 2016 Sustainability Report
A. Environmental		
Aspect A1	Emissions	
Mainland China	<p>Information on:</p> <p>(a) the policies; and</p> <p>(b) compliance with relevant laws and regulations that have a significant impact on the issuer.</p> <p>relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.</p> <p>Note: Air emissions include NOX, SOX, and other pollutants regulated under national laws and regulations.</p> <p>Greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.</p> <p>Hazardous wastes are those defined by national regulations.</p>	Our Management Approach – Managing Natural Capital
KPI A1.1	The types of emissions and respective emissions data.	Natural Capital – Lowering GHG emissions
KPI A1.2	Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Natural Capital – Lowering GHG emissions
KPI A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Natural Capital – Using our resources efficiently
KPI A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Natural Capital – Using our resources efficiently
KPI A1.5	Description of measures to mitigate emissions and results achieved.	Natural Capital – Transitioning to a low carbon future
KPI A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.	Natural Capital – Using our resources efficiently
Aspect A2	Use of Resources	
General Disclosure	<p>Policies on the efficient use of resources including energy, water and other raw materials.</p> <p>Note: Resources may be used in production, in storage, transportation, in buildings, electronic equipment, etc.</p>	<p>Natural Capital – Lowering GHG emissions</p> <p>Natural Capital – Using our resources efficiently</p>
KPI A2.1	Direct and / or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	Natural Capital – Lowering GHG emissions
KPI A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	Natural Capital – Using our resources efficiently
KPI A2.3	Description of energy use efficiency initiatives and results achieved.	Manufactured Capital – Optimising operational efficiency

Subject Areas, Aspects, General Disclosure and KPIs		Explanation / Chapter or Sub-chapter reference to the 2016 Sustainability Report
KPI A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.	Natural Capital – Using our resources efficiently
KPI A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	At CLP, our primary product is electricity, which requires no packaging for delivery to customers. Packaging material used for auxiliary products only accounts for an immaterial amount. The nature of electricity also does not allow recalls of our primary product.
Aspect A3	The Environment and Natural Resources	
General Disclosure	Policies on minimising the issuer's significant impact on the environment and natural resources.	Our Management Approach – Managing Natural Capital Natural Capital – Minimising impact on the environment
KPI A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	Natural Capital – Minimising impact on the environment
B. Social Employment and Labour Practices		
Aspect B1	Employment	
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer. relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	Our Management Approach – Managing Human Capital - Employment
KPI B1.1	Total workforce by gender, employment type, age group and geographical region.	Human Capital – Managing our workforce – Our workforce Human Capital – Promoting diversity and equal opportunity – Diversity, inclusion and gender equality
KPI B1.2	Employee turnover rate by gender, age group and geographical region.	Human Capital – Managing our workforce – Enhancing employee wellbeing
Aspect B2	Health and Safety	
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer. relating to providing a safe working environment and protecting employees from occupational hazards.	Our Management Approach – Managing Manufactured Capital – HSSE
KPI B2.1	Number and rate of work-related fatalities.	Human Capital – Ensuring health and safety – Safety performance in 2017
KPI B2.2	Lost days due to work injury.	Human Capital – Ensuring health and safety – Safety performance in 2017
KPI B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored.	Our Management Approach – Managing Manufactured Capital – HSSE

Subject Areas, Aspects, General Disclosure and KPIs		Explanation / Chapter or Sub-chapter reference to the 2016 Sustainability Report
Aspect B3	Development and Training	
	<p>Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.</p> <p>Note: Training refers to vocational training. It may include internal and external courses paid by the employer.</p>	Our Management Approach – Managing Human Capital
KPI B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	Human Capital – Building capability – Training and development
KPI B3.2	The average training hours completed per employee by gender and employee category.	Human Capital – Building capability – Training and development
Aspect B4	Labour Standards	
General Disclosure	Information on:	Our Management Approach – Managing Human Capital
	<p>(a) the policies; and</p> <p>(b) compliance with relevant laws and regulations that have a significant impact on the issuer.</p> <p>relating to preventing child and forced labour.</p>	
KPI B4.1	Description of measures to review employment practices to avoid child and forced labour.	Our Management Approach – Managing Human Capital – Human rights
KPI B4.2	Description of steps taken to eliminate such practices when discovered.	Our Management Approach – Managing Human Capital – Human rights
Aspect B5	Supply Chain Management	
General Disclosure	Policies on managing environmental and social risks of supply chain.	Our Management Approach – Managing Manufactured Capital – Procurement practices
KPI B5.1	Number of suppliers by geographical region.	Manufactured Capital – Procuring responsibly – Working in partnership
KPI B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.	Manufactured Capital – Procuring responsibly – Responsible procurement
Aspect B6	Product Responsibility	
General Disclosure	Information on:	Our Management Approach – Managing Social and Relationship Capital – Customer communications
	<p>(a) the policies; and</p> <p>(b) compliance with relevant laws and regulations that have a significant impact on the issuer.</p> <p>relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.</p>	Our Management Approach – Managing Social and Relationship Capital – Customer privacy
KPI B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	<p>At CLP, our primary product is electricity, which requires no packaging for delivery to customers.</p> <p>Packaging material used for auxiliary products only accounts for an immaterial amount. The nature of electricity also does not allow recalls of our primary product.</p>
KPI B6.2	Number of products and service related complaints received and how they are dealt with.	Our Management Approach – Managing Social and Relationship Capital – Customer engagement channels
KPI B6.3	Description of practices relating to observing and protecting intellectual property rights.	Our Management Approach – Corporate Governance – Regulatory compliance
KPI B6.4	Description of quality assurance process and recall procedures.	Sustainability at CLP - Compliance and Beyond - Legal compliance

Subject Areas, Aspects, General Disclosure and KPIs		Explanation / Chapter or Sub-chapter reference to the 2016 Sustainability Report
KPI B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored.	Our Management Approach – Managing Social and Relationship Capital – Customer privacy
Aspect B7	Anti-corruption	
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer. relating to bribery, extortion, fraud and money laundering.	Sustainability at CLP - Compliance and Beyond - Code of Conduct and Anti-corruption
KPI B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	Sustainability at CLP - Compliance and Beyond - Legal compliance
KPI B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored.	Sustainability at CLP - Compliance and Beyond - Code of Conduct and Anti-corruption
Community		
Aspect B8	Community Investment	
General Disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	Our Management Approach – Managing Social and Relationship Capital – Community investment
KPI B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	Social and Relationship Capital - Empowering communities – Our contributions
KPI B8.2	Resources contributed (e.g. money or time) to the focus area.	Social and Relationship Capital - Empowering communities – Our contributions

Appendix 6: 2017 Climate Action Finance Report

Introduction

CLP Holdings Limited's (CLP) vision is to be the leading responsible energy provider in the Asia-Pacific region, from one generation to the next. As part of this endeavour, CLP is committed to taking action on climate change. In 2007, we were the first electric utility company headquartered in Asia to publish carbon intensity reduction targets out to 2050 in our Climate Vision 2050. Now in support of the Paris Agreement and responding to the increasing investor awareness of the climate change imperative, CLP has established a Climate Action Finance Framework (CAFF) that sets out how CLP may raise Climate Action Bonds and use the proceeds of those bonds to invest in projects that are consistent with this strategy to respond to the climate change challenges. This also reinforces CLP's sustainability leadership and commitment to transition to a low carbon economy as manifested in our revised Climate Vision 2050 - to reduce carbon footprint by 82% compared with 2007 baseline and increase the renewable portion of our investments progressively.

Climate Action Bonds may be issued to finance renewable energy but also energy transition and emissions reduction projects. Our purpose is to raise awareness and recognition that in some parts of the world today the economic conditions and/or the amount of natural resources do not necessarily allow the development of renewable energy at the pace and scale needed to ensure energy access, security and reliability. In these situations where we urgently want to take action today to reduce carbon emissions, replacing critical large base load generation from coal with gas delivers significant reductions in carbon emissions in a relatively short time frame.

CLP Climate Action Finance Framework

The objective of the CAFF is to support the transition to a low carbon economy by attracting socially responsible, sustainable financings, to support CLP's investments that reduce the carbon content of energy generated and increase the efficiency of energy usage.

Established in July 2017, the CAFF formalises and governs project evaluation, monitoring and reporting the use of proceeds for Climate Action Bond issuances. Two types of Climate Action Bonds can be issued under the CAFF, which are:

Energy Transition / Emission Reduction Bonds whose use of proceeds is to develop gas fired power plants to support the transition from coal fired power generation in markets with limited renewable energy resources; and

New Energy Bonds whose use of proceeds is to develop renewable energy, energy efficiency and low emissions transportation infrastructure projects.

The Green Bond Principles (GBP), updated as of June 2017, are voluntary process guidelines that recommend transparency and disclosure and promote integrity in the development of the Green Bond market by clarifying the approach for issuance of a Green Bond.

There are four core components of a Green Bond - Use of Proceeds, Process for Project Evaluation and Selection, Management of Proceeds and Reporting.

The table in the next page summarises how CLP Climate Action Bonds align with the GBP.

Components	Energy Transition / Emission Reduction Bonds	New Energy Bonds
Use of Proceeds	New natural gas fired power plants and conversion of coal fired power plants which will result in carbon emissions less than 450gCO ₂ /kWh at baseload	<ul style="list-style-type: none"> Renewable energy Energy efficiency Low carbon transport infrastructure
Process for Project Evaluation and Selection	<ul style="list-style-type: none"> Business units propose projects for eligible use of proceeds and Climate Action Bond issuance Climate Action Finance Committee reviews and approves the eligibility of proposed use of proceeds and Climate Action Bond issuance 	
Management of Proceeds	<ul style="list-style-type: none"> Proceeds of each Climate Action Bond are credited to dedicated bank accounts/deposits pending allocation to eligible projects Use of proceeds tracked through business units' internal information system with individual register established for each Climate Action Bond 	
Reporting	<ul style="list-style-type: none"> Climate Action Finance Report issued on an annual basis disclosing the below information of Climate Action Bonds not yet fully repaid: <ul style="list-style-type: none"> Identity of issuing business unit Type of Climate Action Bond issued Aggregate amounts of proceeds allocated Remaining balance of unallocated proceeds Estimation of beneficial impact of the use of proceeds Information on projects with allocation of bond proceeds The Climate Action Finance Report will be reviewed by the Climate Action Finance Committee and published within the Group Sustainability Report 	

It is noted that the use of proceeds of the Energy Transition / Emission Reduction Bond is not included in the indicative list of Green Project categories under the use of proceeds section in the Green Bond Principles, otherwise CLP Climate Action Bonds issued under the CAFF align with the Green Bond Principles.

GOVERNANCE OF THE CAFF

All eligible projects of the CAFF undergo a rigorous review and approval process within a robust, transparent framework and clear guidelines. CLP has established a Climate Action Finance Committee (the Committee) with the responsibility for governing the CAFF, including approval of Climate Action Bond issuance and determination of the eligibility of proposed use of proceeds. The Committee consists of CLP Executive Director and Chief Financial Officer and senior management from sustainability, finance and legal departments. The CLP Group Treasury & Project Finance acts as the secretariat of the Committee to provide the necessary support.

SECOND PARTY OPINION

DNV GL, an independent consultant and a leading provider of green bond independent assessment, has provided a second party opinion on the CAFF. It is DNV GL's opinion that there are environmental benefits for the investments to be funded under the CAFF.

CONCLUSION OF DNV GL SECOND PARTY OPINION

On the basis of the information provided by CLP and the work undertaken, it is DNV GL's opinion that the Climate Action Bonds meet the criteria established in the Protocol and there are environmental benefits for the investments to be funded under the CAFF.

DNV GL notes that the Use of Proceeds of the New Energy Bonds are included in the indicative list of sectors included in the section 1 of Green Bond Principles whilst the Use of Proceeds of Energy Transition Bonds are not. DNV GL concludes that the project selection, funds tracking and reporting procedures set out in the CAFF meet the criteria established in the Protocol and are aligned with sections 2, 3 and 4 of the Green Bond Principles 2017



See CLP Climate Action Finance Framework



See DNV GL Second Party Opinion Report

Inaugural Issue of Energy Transition Bond

Castle Peak Power Company Limited (CAPCO), a key subsidiary of CLP engaging in the electricity generation business in Hong Kong, successfully issued US\$500 million 10-year inaugural Energy Transition Bond under the CAFF in July 2017. The proceeds from the bond will be used to finance the construction of a new 550MW combined cycle gas turbine generation unit (CCGT) at CAPCO's Black Point Power Station in Hong Kong. The new unit will employ the latest gas turbine technology to achieve high thermal efficiency and a lower carbon emissions intensity than the average of the generation units currently used in Hong Kong. The issue, which is the first benchmark USD Energy Transition Bonds globally, was more than 2.5 times over-subscribed with over US\$1.25 billion in orders from global investors, many of whom are environmental, social and governance motivated institutional investors.

For CAPCO, given the severely constrained renewable opportunities in Hong Kong, the key action to support CLP Climate Vision 2050 is to build highly efficient low emission CCGT to displace coal-fired generation units over time.

The construction of the new CCGT is also a critical component of CLP's contribution to the implementation of Hong Kong Government's Climate Action Plan 2030+ to reduce Hong Kong's carbon intensity by 65% to 70% by 2030 compared with the 2005 level, which includes the policy of increasing the share of gas in the Hong Kong's fuel mix for power generation to around 50% in 2020 from the current level of around 27%. As the Hong Kong's Climate Action Plan 2030+ forms part of Mainland China's commitment under the Paris Agreement, the CCGT investment also forms part of the implementation of the Paris Agreement.

ELIGIBILITY OF THE CCGT PROJECT UNDER CAFF

Using the latest Siemens H-Class CCGT technology, CAPCO's new CCGT unit could achieve a generating efficiency of 61%[#]. With the conditions that it operates at its optimal generating efficiency and under certain operating conditions, the new CCGT unit is expected to have emissions intensity below the threshold for the qualification of an Energy Transition Bond (450g CO₂/kWh) and also less than the 2016 carbon intensity of the electricity used by CLP's customers in Hong Kong (540g CO₂/kWh).

Provisional figure

CAPCO's Energy Transition Bond Details

Issuer	Castle Peak Power Finance Company Limited
Guarantor	Castle Peak Power Company Limited
Issue Date	25 July 2017
Tenor	10 years
Nominal Issued Amount	US\$500 million
Issue Price	99.417%
Listing	The Stock Exchange of Hong Kong
ISIN Code	XS1648263926

“We are pleased with the successful placement of the notes which represents the first Energy Transition Bond issued under CLP’s new Climate Action Finance Framework and underscores our continuous commitment to diversify financing sources through innovative means. Not only have the notes brought further diversification in financing options but they also came with competitive pricing on the back of keen interest from investors around the world. The new Energy Transition Bonds will be listed in Hong Kong contributing to the city’s regional ambition for climate financing.”

Geert Peeters, Executive Director & Chief Financial Officer, CLP Holdings Limited, July 2017

CCGT Project

CCGT Project Details	
Business Unit	Castle Peak Power Company Limited (CAPCO)
Name of Project	New Gas-fired Combined Cycle Gas Turbine Unit
Location	Black Point Power Station, Hong Kong
Total Investment Amount	HK\$5.5 billion
Amount to be financed by Energy Transition Bond	HK\$3.9 billion (US\$500 million equivalent)
Installed Capacity	550MW
Generation Efficiency	61%#, higher than any of the units currently in use in Hong Kong and being one of the most efficient gas-fired generation unit in the world
Technology	The latest Siemens H-Class CCGT technology
Project Progress	<ul style="list-style-type: none"> Project approved by the Hong Kong Government on 13 December 2016 Awarded the engineering, procurement, commissioning services and technical advisory services contract to Siemens for the combined cycle gas turbine unit Awarded all major contracts for the construction Construction work commenced upon project approval and it is scheduled to have the new unit in commercial operation by 2020
Estimation of Beneficial Environmental Impact	<ul style="list-style-type: none"> 1 to 2 million tons of CO₂ emissions avoided per year expected to have emissions intensity less than the 2016 carbon intensity of the electricity used by CLP’s customers in Hong Kong (540g CO₂/kWh) and below the threshold for the qualification of an Energy Transition Bond (450g CO₂/kWh) potential reduction of annual NO_x emission up to 19% and Sulphur Dioxide (SO₂) and Respirable Suspended Particulates (RSP) emissions by around 10% in 2020 for CAPCO power generation system

Provisional figure

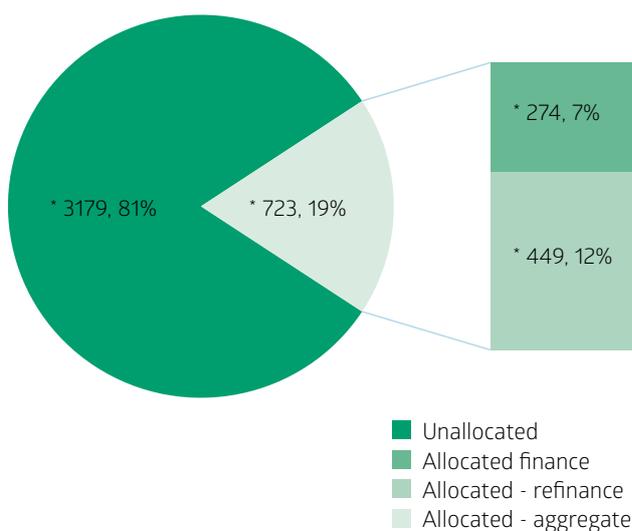


“The new generation unit at Black Point is an important step towards meeting the Government’s target of increasing local gas generation to around 50% of the total fuel mix in 2020. This new climate financing initiative combined with very favourable export credit covered loan facilities associated with the equipment purchased have provided attractive funding in support of CLP’s material contribution to Hong Kong’s low carbon transition.”

Chiang Tung Keung, Managing Director, CLP Power Hong Kong Limited, July 2017

Use of Proceeds Reporting

During the year, the CAPCO US\$500 million Energy Transition Bond was the only issuance under the CAFF. Bond proceeds were swapped into Hong Kong dollar of about HK\$3.9 billion to mitigate foreign exchange risk and the full amount is earmarked for the CCGT project. Bond proceeds were applied at the outset of the bond tenor to replace bank debt bridge facilities associated with the CCGT project and the remaining balance was credited to dedicated bank account/deposits pending settlement of future CCGT related payments. As at the reporting date of 31 December 2017, the use of the bond proceeds is illustrated in the chart below:



Allocation of CAPCO’s Energy Transition Bond Proceeds (in HK\$ million)

* Information has been subject to independent limited assurance by PwC

Reporting Criteria

Following section 6 of the CAFF – “Reporting on Use of Proceeds”:

a Climate Action Bond is added to this report when the bond was issued during the reporting period; and

a Climate Action Bond is removed from this report when the bond has been fully repaid.

Assurance of Climate Action Finance Report

CLP has engaged PwC as an independent assurance provider to provide assurance that selected information in this report has been prepared in line with the CLP Climate Action Finance Framework.



See PwC Assurance Report

Appendix 7: Industry & Professional Organisations



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Independent Practitioner's Limited Assurance Report

To the Board of Directors of CLP Holdings Limited

We have been engaged to perform a limited assurance engagement on the selected information listed below and identified with the symbol * in the 2017 Climate Action Finance Report of CLP Holdings Limited (the "Company") and as appended to this opinion (the "Selected Information").

Selected Information

The scope of our work was limited to assurance over the Selected Information marked with the symbol * in the 2017 Climate Action Finance Report as summarised below:

- aggregate amounts of proceeds allocated (including proceeds for financed and refinanced); and
- the remaining balance of unallocated proceeds as at 31 December 2017.

Our assurance does not extend to information in respect of earlier periods or to any other information included in the 2017 Climate Action Finance Report.

Reporting Criteria

The criteria used by the Company to prepare the Selected Information is set out under the heading "Reporting Criteria" on page 5 of the 2017 Climate Action Finance Report and as appended to this opinion (the "Reporting Criteria").

Directors' Responsibilities

The Directors of the Company are responsible for:

- designing, implementing and maintaining internal controls over information relevant to the preparation of the Selected Information that is free from material misstatement, whether due to fraud or error;
- establishing objective Reporting Criteria for preparing the Selected Information;
- measuring and reporting the Selected Information based on the Reporting Criteria; and
- the content of the 2017 Climate Action Finance Report.

Our Independence and Quality Control

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the Hong Kong Institute of Certified Public Accountants (the "HKICPA"), which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Our firm applies Hong Kong Standard on Quality Control 1 issued by the HKICPA and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.



羅兵咸永道

Independent Practitioner's Limited Assurance Report To the Board of Directors of CLP Holdings Limited (Continued)

Our Responsibilities

It is our responsibility to express a conclusion on the Selected Information based on our work performed and to report our conclusion solely to you, as a body, in accordance with our agreed terms of engagement and for no other purpose. We do not assume responsibility towards or accept liability to any other person for the contents of this report.

We conducted our work in accordance with Hong Kong Standard on Assurance Engagements 3000 (Revised) "Assurance Engagements Other Than Audits or Reviews of Historical Financial Information" issued by the HKICPA. This standard requires that we plan and perform our work to form the conclusion whether the Selected Information is free from material misstatement.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for a reasonable assurance engagement. Consequently the level of assurance in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. The extent of procedures selected depends on the practitioner's judgment and our assessment of the engagement risk. Within the scope of our work we performed amongst others the following procedures:

- made enquiries of the Company's management, including those with responsibility for the 2017 Climate Action Finance Report;
- understood the design of the key systems, processes and controls for managing, recording and reporting the Selected Information;
- checked the exchange rates used by management to independent external evidence and checked the mathematic accuracy of foreign exchange translation calculations;
- checked the approval of bonds issuance and allocation of proceeds by the Climate Action Finance Committee to the Company's "Proposal for Climate Action Bond Issuance and/or Eligible Use of Proceeds" relating to the transactions;
- tested the mathematic accuracy of the remaining balance of unallocated proceeds; and
- checked the use of proceeds on a sample basis as approved by the Climate Action Finance Committee to capital expenditure supporting payment documents (including allocation for finance and refinance transactions) and ensured that these are for approved Energy Transition or New Energy projects.

Our work did not include evaluating the effectiveness of systems, processes and controls that generated the Selected Information. Thus, our work was not performed for the purposes of expressing an opinion on the effectiveness and performance of the Company's management systems, processes and controls, and not for the purposes of expressing an opinion on any statutory financial statements.



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Independent Practitioner's Limited Assurance Report

To the Board of Directors of CLP Holdings Limited (Continued)

Inherent limitations

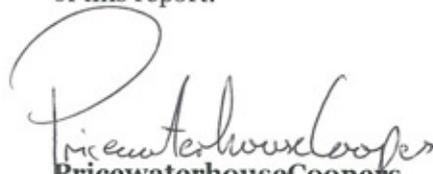
The Selected Information needs to be read and understood together with the Reporting Criteria, which the Company is solely responsible for selecting and applying. The absence of a significant body of established practice on which to draw to evaluate and measure information allows for different, but acceptable, measurement techniques and can affect comparability between entities and over time. The Reporting Criteria used for the reporting of the Selected Information are as at 31 December 2017.

Conclusion

Based on the procedures performed and evidence obtained, nothing has come to our attention that causes us to believe that the Selected Information as at 31 December 2017 is not prepared, in all material respects, in accordance with the Reporting Criteria.

Restriction on Use

Our report has been prepared for and only for the board of directors of the Company and for no other purpose. We do not assume responsibility towards or accept liability to any other person for the content of this report.


PricewaterhouseCoopers
Certified Public Accountants
Hong Kong, 26 February 2018



Appendix I: Selected Information



Allocation of CAPCO's Energy Transition Bond Proceeds (in HK\$ million)

* Information has been subject to independent limited assurance by PwC

Appendix II: Reporting Criteria

CLP Group will prepare a Climate Action Finance Report on an annual basis. For each CLP Climate Action Bond, the followings will be disclosed:

- Identity of CLP Group Business Unit issuing a CLP Climate Action Bond under the CAFF;
- Type of CLP Climate Action Bond issued (Energy Transition or Emissions Reduction Bond or New Energy Bond);
- Aggregate amounts of proceeds allocated;
- Estimation of beneficial impact of the use of proceeds;
- The remaining balance of unallocated proceeds at the reporting period end.

A CLP Climate Action Bond is added to and removed from the Climate Action Finance Report as below:

- A CLP Climate Action Bond is added to the Climate Action Finance Report when the CLP Climate Action Bond was issued during the reporting period;
- A CLP Climate Action Bond is removed from the Climate Action Finance Report when the CLP Climate Action Bond has been fully repaid.

The Climate Action Finance Report will provide further information on projects with allocations from proceeds of CLP Climate Action Bonds.

The Climate Action Finance Report will be reviewed by the Climate Action Finance Committee. The Climate Action Finance Report will be published within the Group Sustainability Report.

Appendix 8: Safety Management Systems of Our Assets in 2017

Region	Facility	Business Type	Generation Type	Generating Capacity (MW)	Equity Ownership (%)	Safety Management System	NOSA Audit in 2017 (Grading)	SHE Peer Review in 2017
Hong Kong	Black Point	Power Generation	Gas	2,525	70%	OHSAS 18001	N/A	Nil
	Castle Peak	Power Generation	Coal	4,108	70%	OHSAS 18001	N/A	Yes
	Penny's Bay	Power Generation	Oil	300	70%	OHSAS 18001	N/A	Nil
	Transmission & Distribution Network	Power Delivery	N/A	N/A	100%	OHSAS 18001	N/A	Nil
Mainland China	CLP Laizhou I	Power Generation	Wind	49.5	100%	Under Development	N/A	Nil
	Dali Yang_er	Power Generation	Hydro	49.8	100%	NOSA	5 stars	Nil
	Fangchenggang I & II	Power Generation	Coal	2,580	70%	OHSAS 18001 & NOSA	5 stars	Nil
	Huaiji	Power Generation	Hydro	129	84.90%	NOSA	5 stars (for Xinwan)	Nil
	Huai'an	Power Generation	Solar	12.8	100%	Under Development	N/A	Nil
	Jiangbian	Power Generation	Hydro	330	100%	OHSAS 18001 & NOSA	5 stars	Nil
	Jinchang	Power Generation	Solar	85	51%	OHSAS 18001 & NOSA	4 stars	Nil
	Laiwu I and II	Power Generation	Wind	99	100%	OHSAS 18001 & NOSA	4 stars	Nil
	Penglai I	Power Generation	Wind	48	100%	OHSAS 18001 & NOSA	5 stars	Nil
	Qian'an I and II	Power Generation	Wind	99	100%	OHSAS 18001 & NOSA	5 stars	Nil
	Sandu I	Power Generation	Wind	99	100%	NOSA	Baseline Assessment	Nil
	Sihong	Power Generation	Solar	93.42	100%	OHSAS 18001 & NOSA	4 stars	Yes
	Xicun I & II	Power Generation	Solar	84	100%	OHSAS 18001 & NOSA	3 stars	Nil
	Xundian I	Power Generation	Wind	49.5	100%	NOSA	Baseline Assessment	Nil
India	Jhajjar	Power Generation	Coal	1,320	100%	N/A	Nil	Nil
	Paguthan	Power Generation	Gas	655	100%	NOSA	TBA	Nil
Australia	Hallett	Power Generation	Gas	203	100%	AS4801	N/A	Nil
	Mount Piper	Power Generation	Coal	1,400	100%	OHSAS 18001	N/A	Nil
	Tallawarra	Power Generation	Gas	420	100%	AS4801	N/A	Nil
	Yallourn	Power Generation	Coal	1,480	100%	OHSAS 18001	N/A	Nil

Remarks:

- Under Development - System being set up with resources and staff support in place.
- N/A - Not applicable
- Nil - Not required by operational licence/did not conduct audit or review in 2017
- NOSA - National Occupational Safety Association
- OHSAS - Occupational Health and Safety Assessment Series

Appendix 9: Environmental Management Systems of Our Assets in 2017

Region	Asset	Business Type	Generation Type	Generating Capacity (MW)	Equity Ownership (%)	Environmental Management System	CEMS	Particulate Control Equipment	Low NOx Burner	FGD	Water Management	Waste Management
Hong Kong	Black Point	Power Generation	Gas	2,525	70%	ISO14001:2015	✓	N/A	✓	N/A	✓	✓
	Castle Peak	Power Generation	Coal	4,108	70%	ISO14001:2015	✓	✓	✓	✓	✓	✓
	Penny's Bay	Power Generation	Oil	300	70%	ISO14001:2015	Nil	N/A	Nil	N/A	✓	✓
	Transmission & Distribution Network	Power Delivery	N/A	N/A	100%	ISO14001:2015	N/A	N/A	N/A	N/A	✓	✓
Mainland China	CLP Laizhou I	Power Generation	Wind	49.5	100%	Under Development	N/A	N/A	N/A	N/A	✓	✓
	Dali Yang_er	Power Generation	Hydro	49.8	100%	ISO14001	N/A	N/A	N/A	N/A	✓	✓
	Fangchenggang I & II	Power Generation	Coal	2,580	70%	ISO14001	✓	✓	✓	✓	✓	✓
	Huaiji	Power Generation	Hydro	129	84.90%	ISO14001	N/A	N/A	N/A	N/A	✓	✓
	Jiangbian	Power Generation	Hydro	330	100%	ISO14001:2015	N/A	N/A	N/A	N/A	✓	✓
	Jinchang	Power Generation	Solar	85	51%	ISO14001	N/A	N/A	N/A	N/A	✓	✓
	Laiwu I	Power Generation	Wind	49.5	100%	ISO14001	N/A	N/A	N/A	N/A	✓	✓
	Penglai I	Power Generation	Wind	48	100%	ISO14001	N/A	N/A	N/A	N/A	✓	✓
	Qian'an I and II	Power Generation	Wind	99	100%	ISO14001:2015	N/A	N/A	N/A	N/A	✓	✓
	Sandu I	Power Generation	Wind	99	100%	Under Development	N/A	N/A	N/A	N/A	✓	✓
	Sihong	Power Generation	Solar	93.42	100%	ISO14001:2015	N/A	N/A	N/A	N/A	✓	✓
	Xicun I & II	Power Generation	Solar	84	100%	ISO14001	N/A	N/A	N/A	N/A	✓	✓
	Xundian I	Power Generation	Wind	49.5	100%	ISO14001	N/A	N/A	N/A	N/A	✓	✓
India	Jhajjar	Power Generation	Coal	1,320	100%	ISO14001:2015	✓	✓	✓	✓	✓	✓
	Paguthan	Power Generation	Gas	655	100%	ISO14001:2015	✓	N/A	✓	N/A	✓	✓
Australia	Hallett	Power Generation	Gas	203	100%	ISO14001	Nil	N/A	Nil	N/A	✓	✓
	Mount Piper	Power Generation	Coal	1,400	100%	ISO14001	✓	✓	Nil	Nil	✓	✓
	Tallawarra	Power Generation	Gas	420	100%	ISO14001	✓	N/A	✓	N/A	✓	✓
	Yallourn	Power Generation	Coal	1,480	100%	ISO14001	✓	✓	Nil	Nil	✓	✓

Remarks:

- N/A - Not applicable to the type of operation.
- Nil - Not required by operational licence
- CEMS - Continuous Emission Monitoring System
- FGD - Flue Gas Desulphurisation

Appendix 10: Generation Performance of Our Assets

Region	Asset	Business Type	Generation Type	Generating Capacity (MW)	Equity Ownership (%)	Equivalent Availability Factor (EAF) ¹	Generation Sent Out (GWh)	Thermal Efficiency	Energy Intensity (kJ/kWh)
Hong Kong	Black Point	Power Generation	Gas	2,525	70%	86.20%	9,549.59	45.30%	7,947
	Castle Peak	Power Generation	Coal	4,108	70%	83.65%	13,905.70	32.95%	10,926
	Penny's Bay	Power Generation	Oil	300	70%	96.20%	0.49	18.00%	20,000
	Transmission & Distribution Network	Power Delivery	N/A	N/A	100%	N/A	N/A	N/A	N/A ³
Mainland China	CLP Laizhou I	Power Generation	Wind	49.5	100%	99.62%	112.05	N/A ²	N/A ³
	Dali Yang_er	Power Generation	Hydro	49.8	100%	80.30%	183.15	N/A ²	N/A ³
	Fangchenggang I & II	Power Generation	Coal	2,580	70%	80.60%	4,639.72	36.22%	9,939
	Huaiji	Power Generation	Hydro	129	84.90%	87.41%	401.68	N/A ²	N/A ³
	Jiangbian	Power Generation	Hydro	330	100%	89.12%	1,009.02	N/A ²	N/A ³
	Jinchang	Power Generation	Solar	85	51%	99.94%	129.98	N/A ²	N/A ³
	Laiwu I	Power Generation	Wind	49.5	100%	99.78%	68.71	N/A ²	N/A ³
	Penglai I	Power Generation	Wind	48	100%	99.84%	87.98	N/A ²	N/A ³
	Qian'an I and II	Power Generation	Wind	99	100%	98.50%	179.56	N/A ²	N/A ³
	Sandu I	Power Generation	Wind	99	100%	99.77%	238.08	N/A ²	N/A ³
	Sihong	Power Generation	Solar	93.42	100%	99.68%	138.20	N/A ²	N/A ³
	Xicun I & II	Power Generation	Solar	84	100%	100.00%	165.94	N/A ²	N/A ³
	Xundian I	Power Generation	Wind	49.5	100%	99.44%	126.51	N/A ²	N/A ³
India	Jhajjar	Power Generation	Coal	1,320	100%	78.89%	5,462.75	36.45%	9,877
	Paguthan	Power Generation	Gas	655	100%	95.53%	376.41	36.32%	9,912
Australia	Hallett	Power Generation	Gas	203	100%	91.50%	20.36	16.79%	21,441
	Mount Piper	Power Generation	Coal	1,400	100%	75.83%	6,880.11	36.59%	9,839
	Tallawarra	Power Generation	Gas	420	100%	84.88%	1,644.36	49.63%	7,254
	Yallourn	Power Generation	Coal	1,480	100%	83.00%	9,946.34	23.55%	15,287

Remarks:

- Equivalent Availability Factor (EAF): The fraction of a given operating period in which a generating unit is available without any outages (planned or unplanned) and equipment or seasonal deratings * 100.
- N/A: In this context, N/A means "Not Applicable" as renewable generation does not have a thermal efficiency because power is not generated through thermal process.
- N/A: In this context, N/A means "Not Applicable" as energy intensity is not calculated for renewable energy.

Appendix 11: Industry & Professional Organisations

INTERNATIONAL

Organisation	About the Organisation	CLP's Involvement
World Business Council for Sustainable Development (WBCSD)	WBCSD is a global, CEO-led organisation of over 200 leading businesses working together to accelerate the transition to a sustainable world.	<p>CLP has been a member since 2001. Our CEO is a Council Member and has been a member of the Climate and Energy Cluster Board since 2014.</p> <p>Under one of WBCSD's Low Carbon Technology Partnership Initiatives (LCTPi), CLP continued to contribute to the REscale-Scaling up renewables programme, from which the Microgrids for Commercial & Industrial Companies report was generated in 2017.</p> <p>CLP India was also an active member of WBCSD's Corporate Renewable PPA Forum in India which was started in 2017.</p>
World Energy Council (WEC)	Formed in 1923, WEC is a UN-accredited global energy body, represented by more than 3,000 member organisations located in over 90 countries. WEC informs global, regional and national leaders on energy strategies and facilitates the world's energy policy dialogue.	<p>CLP has been engaged with the WEC since 1988. Our CEO is currently the chairman of WEC Hong Kong Membership Committee (WEC HK) and our Director – Group Sustainability is the Secretary for WEC HK.</p> <p>In 2017, CLP continued its engagement with the WEC, including participating in the launch of the 2017 Energy Trilemma Index and panel discussion on 'New Policy Dilemmas in the Energy Transition' at COP23 and in the regular Asian Regional calls.</p>
International Electric Research Exchange (IERE)	IERE is a worldwide, non-profit organisation established in 1968. It serves executives, senior managers, engineers, and researchers who are responsible for electricity and energy-related R&D and solutions.	<p>CLP has been a regular member of IERE since 2000 and an Executive Member since 2014.</p> <p>CLP continued to work with IERE on the joint R&D programme of using methanol as an ageing marker for transformers, as well as participating in the IERE Technology Foresight activities.</p>
International Emissions Trading Association (IETA)	The International Emissions Trading Association (IETA) is a non-profit business organisation founded in 1999 to establish a functional international framework for trading in greenhouse gas emission reductions.	<p>CLP has been a corporate member of IETA since 2009 and our Director – Group Sustainability is a Board Member since 2016.</p> <p>CLP continued to participate in various IETA workshops and conferences to exchange views and updates on the latest international trends, particularly the Chinese Emissions Trading Scheme (ETS).</p> <p>EnergyAustralia is a member of IETA, where we find it beneficial to understand international developments on carbon markets and to seek opportunities for Australia.</p>
International Integrated Reporting Council (IIRC)	IIRC is a global coalition of regulators, investors, companies, standard setters, the accounting profession and NGOs, promoting communication about value creation as the next step in the evolution of corporate reporting.	<p>CLP was involved as a Working Group member from 2010-2014 and was one of the original pilot companies of the <IR> Framework.</p> <p>Our CFO has been a Council member of the IIRC since 2015 and our Director – Group Sustainability became a Board Member in 2017.</p>
Global Reporting Initiative (GRI)	GRI is a network-based NGO that helps businesses, governments and other organisations understand and communicate the impact of business on critical sustainability issues.	<p>CLP is one of the early adopters of the GRI reporting guidelines.</p> <p>In 2017, CLP continued its involvement as a GRI Gold Community member and our Director – Group Sustainability continued to serve as a member of the Stakeholder Council. CLP participated in the panel discussion on 'Are investors getting information from business' at the Regional GRI Annual Meeting that took place in Hong Kong.</p>

HONG KONG

Organisation	About the Organisation	CLP's Involvement
Engineering Professional Bodies	CLP actively supports a number of engineering professional bodies, namely the Hong Kong Institution of Engineers (HKIE), the Institution of Engineering and Technology (IET HK), the Institution of Mechanical Engineers (IMechE), the Association of Engineering Professionals in Society Ltd (AES), the Institute of Electrical and Electronics Engineers (IEEE), the Society of Operations Engineers (SOE HK) and the Chartered Institution of Building Services Engineers (CIBSE).	As a responsible industry player, we are active in participating in engineering-related professional bodies for the benefit of information exchange, experience sharing, and promotion of the engineer profession. Given the nature of our business, we are most active in electrical, gas, energy, nuclear and environmental disciplines. Many CLP colleagues are participating in trainings, events and as Committee Members.

MAINLAND CHINA

Organisation	About the Organisation	CLP's Involvement
China Nuclear Energy Association (CNEA)	CNEA is a national non-profit and non-governmental organisation established in 2007. The CNEA's missions are to implement the national policies on nuclear energy development, promote industrial independent innovation and Technical advancement, and support the improvement of safety, reliability and economics of nuclear energy utilisation.	Hong Kong Nuclear Investment Company (HKNIC) joined the CNEA in 2007 and is a standing member of the Governing Council of CNEA. In 2017 we participated in CNEA's committee meetings and Annual Meeting. We also attended an industry forum on public communication organized by CNEA and made a presentation.
China Electricity Council (CEC)	Established in 1988, CEC is a joint organisation of China's power enterprises and institutions. Functioning as a bridge between the government and power enterprises, CEC serves its members by appealing to the government on their requests and protecting their legal rights, encourages its members to fulfil their social responsibilities, and promotes the healthy development of the whole industry.	CLP joined the CEC in 1999 and the Managing Director of our China Business Unit is a member of the Standing Committee of this organisation. We are actively involved in the discussions of key China power sector initiatives including the Reliability Index, 2015 Power Supply-Demand forecast and China Power Sector reform.

INDIA

Organisation	About the Organisation	CLP's Involvement
TERI Council for Business Sustainability (TERICBS)	During 2015, TERI renamed its Business Council for Sustainable Development to Council for Business Sustainability. It is an independent and credible platform for corporate leaders to address issues related to sustainable development and promote leadership in environmental management, social responsibility and economic performance.	CLP India has been an active member of TERI-CBS since 2011 and actively participates in the Chief Sustainability Officers (CSO) Forum. Our Managing Director – India is a member of the Executive Committee of TERI-CBS. Our engagement involves regular participation in knowledge sharing meetings, conferences and development of case-studies to promote industry best practices.
Indian Wind Power Association (IWPA)	Set up in 1996, IWPA is a non-profit organisation which represents the wind energy sector in India. IWPA aims to mainstream wind energy in India and advocate an increase of the penetration of wind energy in the grid to at least 20% by the year 2020.	CLP India has been a member of IWPA for over six years. We participate in this platform for peer-to-peer learning, knowledge sharing as well as providing inputs. IWPA acts as a stakeholder in the wind industry and looks into matters that potentially affect the growth of wind power sector.

Organisation	About the Organisation	CLP's Involvement
Confederation of Indian Industry (CII)	CII is a non-government, non-profit, industry led-organisation, playing a proactive role in India's development process. CII charts progress through dialogues with the central Government on policy issues and interfacing with thought leaders across industries.	CLP India has been a member of CII for a period of time. Our Managing Director – India is the Co-Chair for the CII National Committee on Power. CLP India participated in multiple forums hosted by CII including sidelines sessions in COP 22 in Marrakech, where our Managing Director – India leading speaker.
Association of Power Producers (APP)	In 2010, Private Power Developers came together to constitute the Association of Power Producers (APP) to highlight the issues faced by the private sector, and to ensure timely redressal of such issues to assure that the capacity addition targets can be met.	CLP India has been a founding member of APP and is one of the active members of the body. We have been playing an instrumental role, for example, our Managing Director – India was the Chairperson in 2014. CLP India played a vital role in policy advocacy in fuel related matters, PPA issues, measures to improve DISCOMS health amendments to Electricity Act 2003, Tariff Policy, and standard bridging documents (SBDs).

AUSTRALIA

Organisation	About the Organisation	CLP's Involvement
The Clean Energy Council	The CEC is the peak body representing Australia's clean energy sector. It is an industry association made up of more than 600 member companies operating in the fields of renewable energy and energy efficiency.	EnergyAustralia is an active member of the CEC and chair of one of its working groups on energy market reform. By having a seat on the CEC, EnergyAustralia aims to work with members to find a sustainable policy framework for the clean energy sector as the broader energy market transitions to lower emissions.
Australian Energy Council (AEC)*	The Australian Energy Council was formed in 2016 and represents 21 major electricity and downstream natural gas businesses operating in competitive wholesale and retail energy markets. These businesses collectively generate the overwhelming majority of electricity in Australia and sell gas and electricity to over 10 million homes and businesses.	EnergyAustralia is represented on the board of the AEC and is an active participant in its various working groups covering a range of competitive energy market issues including reviews of wholesale market operation, competitive retail markets and emission reduction policies.
Carbon Markets Institute (CMI)	CMI is dedicated to helping Australian business seize opportunities in rapidly evolving carbon markets.	EnergyAustralia is a member of CMI where we seek to work with members to help promote the benefits of carbon offset opportunities for Australia.

*The AEC replaces the Energy Supply Association of Australia (esaa) reported in 2015 Sustainability Report. The esaa became jointly owned and managed by the AEC since 1 January 2016. For details, please refer to [essa's website](#).



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