

2017 In Essence Sustainability Report

Making lives brighter



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CHAIRMAN & CEO
MESSAGE

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DRIVING SUSTAINABLE ECONOMIES

**Hang Seng Corporate
Sustainability Index**
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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 have 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.

This In Essence Sustainability Report focuses on the “most material” topics identified through our materiality assessment for our relevant company boundaries, as defined in the more extensive online Sustainability Report and covering CLP Group’s sustainability performance for the calendar year ending 31 December 2017.

In our quest for continuous improvement, we encourage and welcome your feedback through the online survey or email. As a token of appreciation, each stakeholder who sends us feedback on or before 30 June 2018 will receive a corporate souvenir from us (subject to availability).

REPORTING FRAMEWORK

To ensure our reporting is comprehensive and aligns with international best practices, we reference various reporting guidelines and frameworks for which content indices are available on our website. They include the:

- International Integrated Reporting Council (IIRC) Integrated Reporting Framework;
- Global Reporting Initiative (GRI) Sustainability Reporting Standards; and
- Hong Kong Stock Exchange Environmental, Social and Governance (ESG) Reporting Guide.

DATA ASSURANCE

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 here

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Chairman & CEO message

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

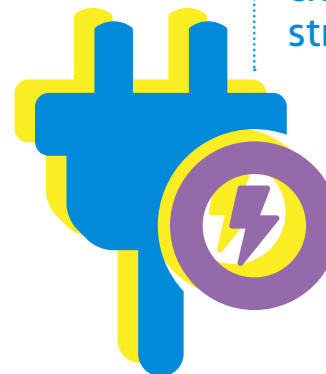
The 17 United Nations 2030 Sustainable Development Goals (SDGs) indicate the development direction and needs of the world, thus providing helpful medium to long-term signals on emerging opportunities and risks for business to consider when developing or reviewing their business objectives and strategies. 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.



“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”



The digital revolution is yet another emerging trend from which we can seize opportunities



The launch of the CLP Power Academy is an example of how we strengthen our talent pool

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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 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 purchase capacity 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.

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.

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



We have the drive, desire and expertise to be an integral part of the exciting developments of smart cities

Chairman & CEO message continued

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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 ongoing basis with a determination to do as much as we 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, benefiting 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 positive engagement with all our stakeholders.

The Honourable Sir Michael Kadoorie
Chairman

Richard Lancaster
Chief Executive Officer

Hong Kong, 26 February 2018

Our Value Creation Journey



Creating value by providing energy

The purpose of our business is to power the sustainable development of the communities in which we operate. Energy plays a fundamental role in powering our lives, ranging from our personal mobile phones and computers to the refrigerators and air-conditioners in our homes, to lighting in buildings and on roads, to critical infrastructure like mass transit systems, water and waste treatment plants and hospitals. As the world continues to change, the need for energy services continues to grow. By focusing on delivering energy services in a responsible manner, we believe our business model is sustainable and we will continue to serve the communities from one generation to the next.



Creating value with capitals

A business relies on various forms of capital as its inputs. Through the organisation's business activities, the value of these capitals are increased, decreased or transformed. A sustainable business not only uses these capitals efficiently, but strives through its activities to increase the value of all capitals and not just financial capital. Where increasing the value of certain capitals is not possible, the focus would be on minimising the decline in value as much as possible.



Creating value for stakeholders

We do not own all of these capitals. They are also owned by our stakeholders, who help make our business sustainable and thus successful. For example, the financial capital we use to fund our business activities belongs to not just our shareholders, but to our lenders as well. Social and relationship capital and natural capital are examples of the deep co-ownership nature of some of these capitals. Consequently, a sustainable business that can create or grow the value of as many of the capitals as possible can also deliver more value to its stakeholders.

We have summarised the economic value we delivered to our stakeholders in 2017 in the Financial Capital section.



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.



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.



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.



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.



SOCIAL AND RELATIONSHIP CAPITAL

Refers 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 licences to operate in all our geographies.



NATURAL CAPITAL

The natural resources such as fossil fuel and renewable resources that we use to produce what 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.

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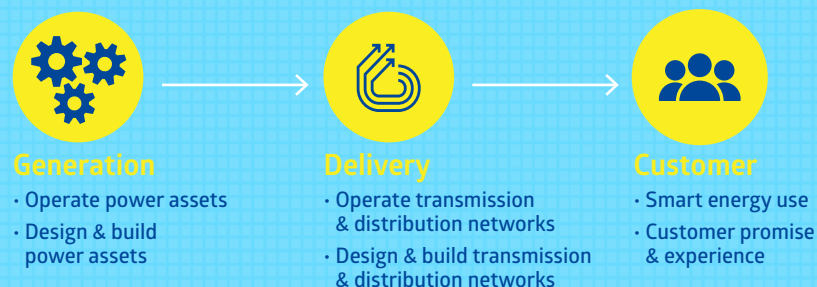
KPI SUMMARY

Our Value Creation Journey continued

1. Capital Inputs

Financial	Manufactured	Natural	Human	Social & relationship	Intellectual
 Shareholder funds 108,697 HK\$ million	 Generation capacity 19,395 equity MW Capacity purchased 5,159 MW	 Fuel costs 15,473 HK\$ million	 Total remuneration 5,573 HK\$ million including retirement benefits costs of \$561 million	 Taxes 2,094 HK\$ million	 Companies tracked by our Innovation Pipeline over 180 companies
Total borrowings 57,341 HK\$ million	Renewable energy assets capacity 2,751 equity MW	Fuel use Coal 471,976 TJ	Full-time employees 7,542	Community spending 41% Environment 23% Community Wellbeing 13% Education and Development 9% Arts and Culture 14% Community Engagement	Participating in venture capital funds that have committed 75-100 US\$ million
Net assets 121,507 HK\$ million	In Hong Kong, 15,678 km of transmission and high voltage distribution lines 14,715 substations	Fuel use Gas 91,426 TJ	Training hours per employee 46.9 on average	Donations 14 HK\$ million	Cybersecurity software on operational technology assets launched in Hong Kong and progressively rolled out over the next 12-18 months
Climate action bonds raised 500 US\$ million	Supplier spend 30.9 HK\$ billion	Fuel use Oil 5,069 TJ	Females in leadership positions across the Group 23.4%	Volunteering hours (CLP staff & family members) 19,945 hours	

2. Our Business Activities









Our Corporate governance



Innovation & technology



3. Value We Created

						
	Financial	Manufactured	Natural	Human	Social & relationship	Intellectual
Market capitalisation	202 HK\$ billion (as at 31 Dec 2017)	Total electricity sent out (equity plus capacity purchase basis) 83,897 million kWh	Carbon intensity: Group (equity basis) 0.80 kg CO ₂ /kWh	Lost time injuries rate (number per 200,000 man-hour) 0.13 employee 0.14 contractor	Direct beneficiaries 439,000+	Projects launched under our Innovation Pipeline 7 projects
Revenue	92,073 HK\$ million	Customer accounts – Total 5.18 million	Hong Kong 0.51 kg CO ₂ e/kWh	Decent and sustainable employment opportunities 835 new hires in 2017	Organisations benefited 451	Improvement in operational efficiency
Operating earnings	13,307 HK\$ million	In Hong Kong Supply reliability over 99.999%	Renewable energy generation capacity (equity basis) 2,751 MW 14.2%	Competitive pay and benefits with real increases on remuneration	Community programmes implemented 647 programmes	Partnership and collaboration with other organisations, including signing an MoU with the Israel Electric Corporation, and the Smart City Consortium in Hong Kong
Dividends (total & per share)	7,352 HK\$ million 2.91 HK\$	Unplanned customer minutes lost in Hong Kong 1.57 minutes (average of the past 3 years)	Non-carbon emitting generation capacity (equity basis) 4,350 MW 22.4%	Sustainable pension schemes received the inaugural Best Asian Private Pension Fund award	Set up first named professorship in sustainability in Hong Kong	

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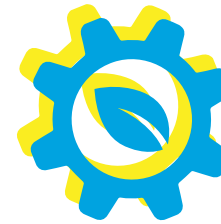
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We procure, operate, sell and engage responsibly throughout our value chain so that we can be a sustainable business

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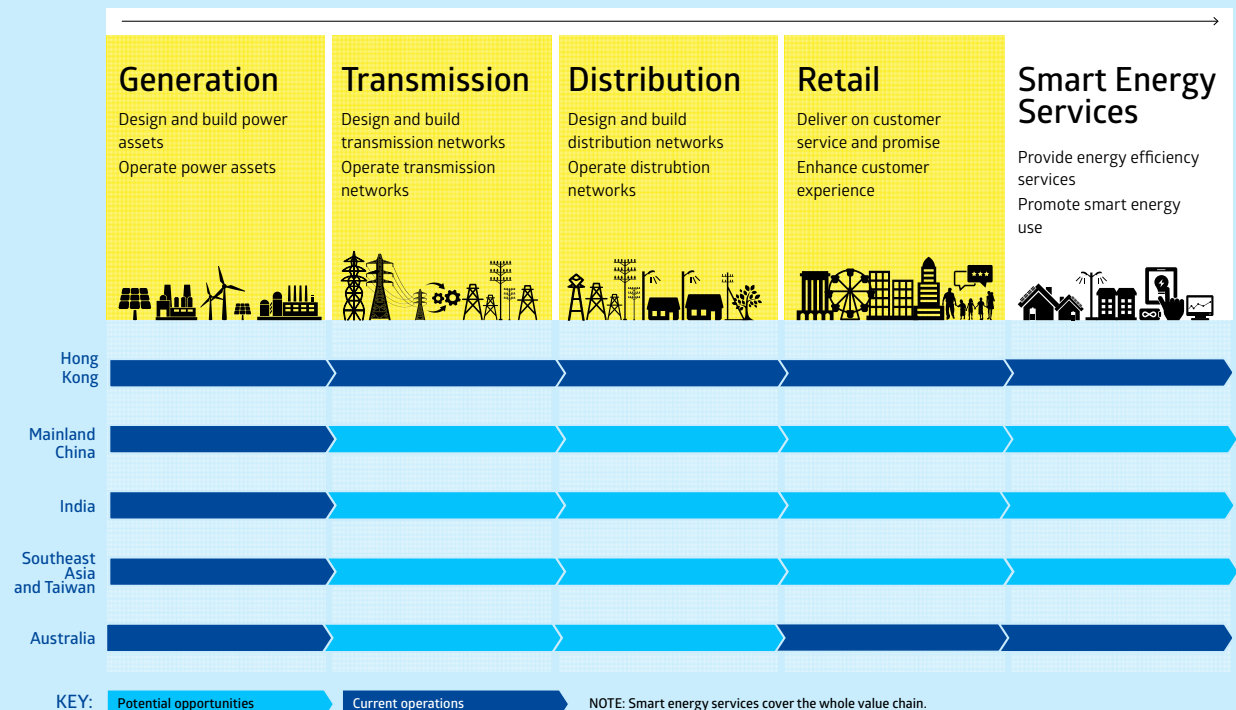
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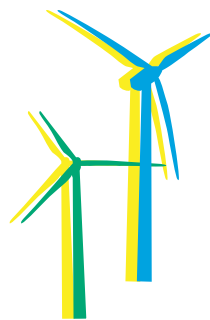
OUR VALUE CHAIN

Our core business is to provide electricity to customers reliably at a competitive price, with the least impact on the environment while 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.

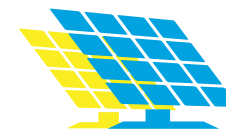
As a Group, our products span the entire value chain, from power generation to transmission and local distribution, to gas and electricity retail services. We also seek to provide energy efficiency services and promote smart energy use throughout the value chain. Locally, CLP acts in different roles across different parts of the electricity value chain.

Much of our business outside Hong Kong lies in the production of electricity and all our business units own sizable generation assets. Our generation fleet has a balanced portfolio consisting of coal, gas, nuclear, wind, hydro and solar power facilities.





Generation capacity
19,395
equity MW



Renewable
energy capacity
2,751
equity MW

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Through our retailing businesses in Hong Kong and Australia, we serve 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.

OUR OPERATING ENTITIES

CLP Holdings Limited is listed in Hong Kong, with a history in the electricity business dating back to 1901. Hong Kong is also our core market 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").

2017 PORTFOLIO CHANGES

The main 2017 portfolio changes included:

- the acquisition of a 17% interest (1,108 equity MW) in the 6,516 MW Yangjiang nuclear facility in Guangdong, Mainland China;

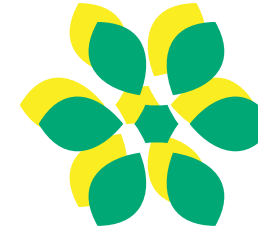
- the divestment of our 15.75% interest (314 equity MW) in CGN Wind in Mainland China;
- the commissioning of the Laiwu II wind project in Shandong, of which we own 100% interest (49.5MW equity MW); and
- the commissioning of the 100 MW Veltoor solar project in India, of which we own 49% interest (49 equity MW).

EnergyAustralia has entered transactions to underpin the development of more than 500 MW 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.



**Find out more about our assets
and services**





The Sustainability Committee and the Audit Committee are the two that are predominantly involved in sustainability-related matters

Sustainability at CLP

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As sustainability continues to rise on the corporate agenda, appropriate governance will be key to ensuring that the relevant emerging sustainability-related risks and opportunities are being managed. We have embedded sustainability-related governance into our existing corporate governance structure from the Board level down to the operational business unit level, thus enabling the integrated oversight of financial and non-financial aspects throughout the Group.

GOVERNANCE FRAMEWORK

Our Corporate Governance Framework identifies the key stakeholders involved in ensuring the application of good governance practices and policies within the CLP Group, and provides a structure for explaining those practices and policies. The Framework rests on two important commitments:

- We disclose our corporate governance principles and practices openly and fully; and
- We recognise the need to adapt and improve our principles and practices in light of our experience, regulatory requirements, international developments and investor expectations.

The [CLP Code of Governance](#) (The CLP Code) was adopted in February 2005 to correspond to our existing framework. It was updated in February 2015 to reflect new requirements under the Hong Kong Stock Exchange Code. The CLP Code incorporates the principles of good corporate governance and goes beyond

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 we do not practice quarterly reporting 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, including the view that it unfortunately encourages short-termism. The CLP Code is applicable to all our businesses and applies to all directors, officers and employees of CLP Holdings and its subsidiaries.

BOARD COMMITTEES

The highest governance body is the CLP Board. The Board discharges some of its responsibilities through delegation to six Board-level Committees, the: Nomination Committee, Audit Committee, Finance & General Committee, Human Resources & Remuneration Committee, Provident & Retirement Fund Committee and Sustainability Committee.

Although all Board Committees are involved with economic, environmental and social aspects in some way, the Sustainability Committee and the Audit Committee are the two that are predominantly involved in sustainability-related matters. The Terms of Reference for the two Board-level Committees were amended in 2015 to: designate oversight of our non-financial data management and reporting to the Audit Committee; and for the Sustainability Committee to focus on identifying and managing longer-term emerging and strategic sustainability-related issues.

SENIOR MANAGEMENT

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), also chaired by the CEO and comprising all CLP Group's Corporate Senior Executives,





The CEO is a member of the CLP Board and is the Chair of the Sustainability Committee

Sustainability at CLP continued

steers the Group's sustainability agenda and priorities. The SEC undertakes regular in-depth discussion on longer-term emerging issues necessary for shaping sustainability-related strategies and goals, as well as performance.

GROUP FUNCTIONS

The Group Sustainability Department (GSD) is responsible for supporting the SEC in driving sustainability-related issues up to the Board level, as well as throughout the organisation – from the Group functions to employees at the business unit level. GSD 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.

HOW WE APPROACH SUSTAINABILITY GOVERNANCE





Climate change, technological breakthrough and demographic and social change continue to be the three most influential emerging global trends for our company

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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 our business environment is constantly evolving but 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

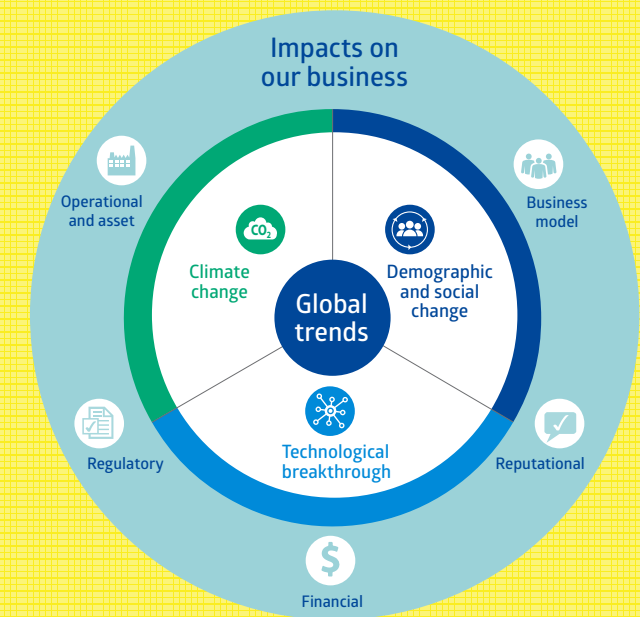
be an industry leader in our region, while minimising the impact of potential emerging risks. Conducting our business in a socially and environmentally responsible way is not just an ethical obligation – it is essential for a sustainable business.

GLOBAL TRENDS

Climate change, technological breakthrough and demographic and social change continue to be the three most influential emerging global trends for our company.

Given the increasing significance of the potential risks as well as opportunities relating to these global trends, in 2017 we commenced a pilot project to explore how to further integrate our knowledge of the global trends with the process of emerging 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 the business context and strategy. We will continue to work on the integration of ESG-related strategic risks into our risk management system and will report on our progress in 2018.

TRENDS AND DRIVERS



Our Drivers continued

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:

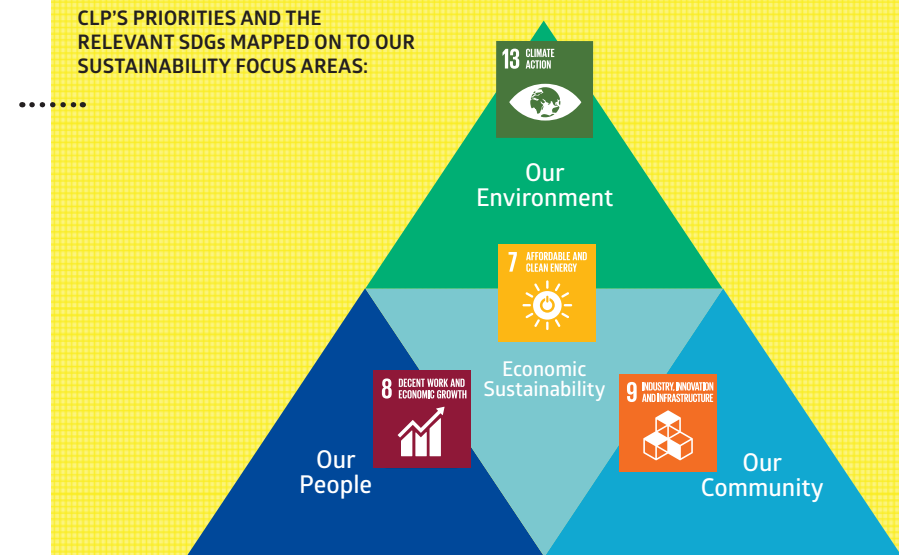
- new "Energy Transition Targets", which are a set of decadal carbon intensity reduction targets spanning out to 2050, contributing to **SDG 13** under our Environment focus area; and
- new "Clean Energy Targets", which are renewable and non-carbon emitting capacity targets for 2030 which contribute 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

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.

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.

Our Drivers continued

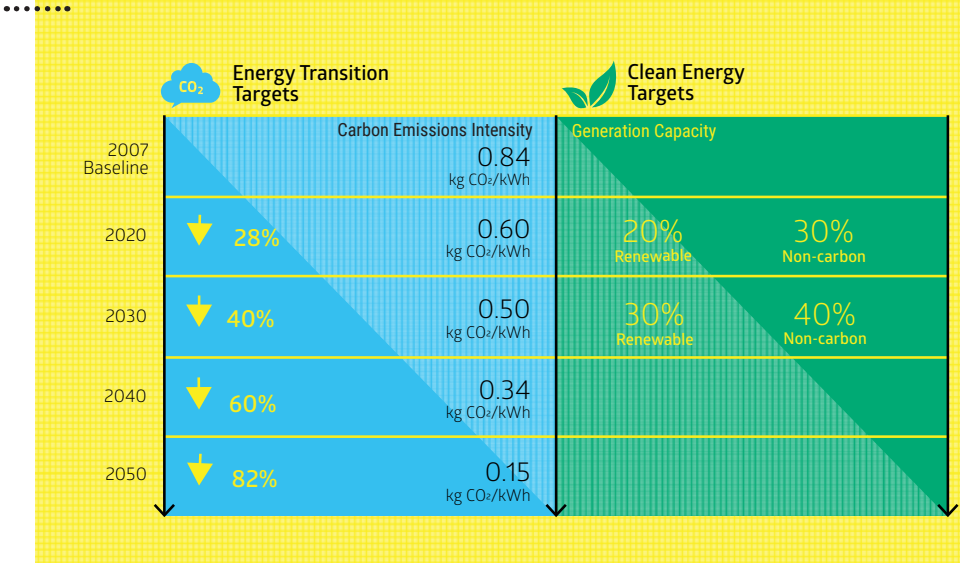
CLIMATE VISION 2050
Much has happened since we published our Climate Vision 2050 back in 2007, ranging from the changing momentum of the international climate agreement, to advances in science and technology, to changes in social expectations.

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 energy development. The targets we set a decade ago were close to the medium transition scenario, i.e. the IEA’s “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.

CLP'S CLIMATE VISION 2050



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.

Materiality Results

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. In 2017, 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.

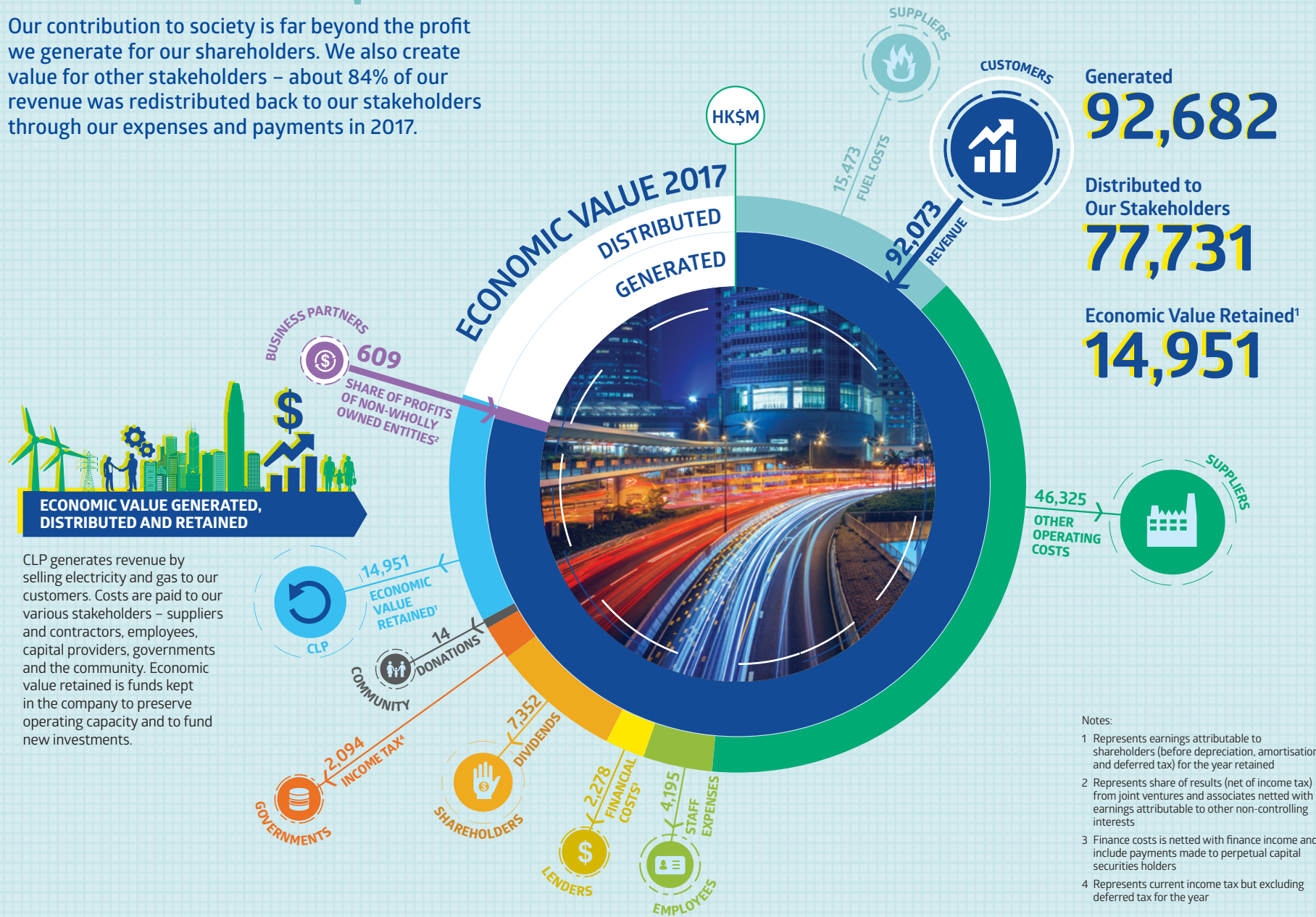
In 2017, we identified 23 material topics and 18 most material topics, which were basically the same results as in 2016. However this year, to further integrate the GRI topics into the application of the Integrated Reporting Framework, our Materiality Matrix below maps the topics according to the six capitals referenced in IIRC's <IR> Framework.

	 Financial	 Manufactured	 Natural	 Human	 Social & relationship	 Intellectual
Most material topics	<ul style="list-style-type: none"> • Economic performance • Anti-corruption 	<ul style="list-style-type: none"> • Availability and reliability • Demand-side management 	<ul style="list-style-type: none"> • Environmental compliance • Emissions • Energy 	<ul style="list-style-type: none"> • OHS • Employment • Diversity and equal opportunity • Human rights assessment 	<ul style="list-style-type: none"> • Public policy • Socioeconomic compliance • Customer privacy • Local communities 	<ul style="list-style-type: none"> • N/A
Material topics	<ul style="list-style-type: none"> • Indirect Economic Performance • Anti-competitive Behaviour 	<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 	<ul style="list-style-type: none"> • Water • Effluents and Waste • Biodiversity • Materials 	<ul style="list-style-type: none"> • Non-discrimination • Labour / management relations • Training and education • Child Labour • Forced or Compulsory Labour • Freedom of Association and Collective Bargaining • Security Practices • Market Presence 	<ul style="list-style-type: none"> • Access to Electricity • Rights of Indigenous People 	<ul style="list-style-type: none"> • Research and Development

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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 payments in 2017.



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



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Financial capital

For us to succeed in the long term, we must be financially sustainable. We are committed to responsibly managing our investment and business risks, and to preserve and enhance the value of our assets, capabilities and relationships. It is not just about using traditional tools for financial management, but also about exploring new tools and business models to help scale up investments in low carbon energy infrastructure.

MAINTAINING FINANCIAL PERFORMANCE

2017 was a year of steady progress across our portfolio. The Group's operating earnings increased 7.9% from a year ago to HK\$13,307 million. Total earnings were up 12.1% to HK\$14,249 million.

DELIVERING VALUE TO SHAREHOLDERS

Our longstanding practice is to provide reliable and consistent ordinary dividends with gradual growth, linked to the underlying earnings performance of the business. In fact, our annual dividends have not decreased since 1960 – a solid record maintained over the past 57 years. In 2017, CLP paid quarterly dividends to our shareholders, the total dividend for this year was HK\$2.91 per share. This is an increase from last year's total dividend of HK\$2.80/share. This represents a dividend payout ratio for the year of 55% of operating earnings.

Total returns to shareholders come from the combination of share price appreciation and dividend payments over time. During the 10-year period from 2008 to 2017, CLP provided an annualised rate of return of 8.38%, as compared with 4.30% for the HSI and a negative return of 1.35% for the BWEL.

“As we move towards a low carbon future, it is important that we explore not only new tools, but also innovate on how to apply existing ways of financing to support green growth.”

GEERT PEETERS
CHIEF FINANCIAL OFFICER OF CLP GROUP



STRENGTHENING 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 CLP Holdings, 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.

A basic requirement for good credit ratings is robust corporate governance. At CLP, our Code of Corporate Governance and Code of Conduct stipulate the standards the company expects from its governing processes and staff. More specifically, the Code of Conduct applicable to all CLP staff covers a wide range of aspects ranging from workplace behavior, to anti-corruption, to compliance with all applicable laws. As in 2016, we had no case of corruption at CLP in 2017.

SCHEME OF CONTROL REVIEW

The two power companies in Hong Kong are regulated by the Government under a Scheme of Control (SoC) framework. It requires them to invest to meet the electricity demand and allows them to earn a return based on the capital investment in fixed assets made to supply electricity. For over half a century, it has provided regulatory and economic certainty, enabling us to meet the needs of our customers with reliable power at reasonable tariff levels, as well as increasing environmental expectations.

In April 2017, CLP Power and the Government signed a new SCA which will come into effect on 1 October 2018 and run until 31 December 2033. It provides a clear and certain regulatory framework for the future development of the electricity industry in Hong Kong, and enables us to plan ahead and make appropriate investments to meet the Government's energy policy objectives. CLP Power will continue to provide customers with a



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Financial capital continued

safe, reliable and environmentally friendly power supply at a reasonable tariff, fulfilling the community's energy need while combating the challenge of climate change.

EXPLORING NEW FINANCING TOOLS

One of the challenges of moving towards a net zero carbon future has been the financing of green or low carbon energy infrastructure. Although there is an abundance of capital available for investment, it is currently not flowing fast enough into low carbon energy infrastructure to meet the urgent climate change timeline. The uncertainty around new technologies and business models is creating – or perceived to be creating – more risks. Therefore, tools that can lower the risk for investors and attract investors who accept slightly lower returns for long-term stability could help unlock the financial flows towards low carbon energy infrastructure. Climate and green bonds are an example of a solution that can contribute to solving this challenge.

CLP CLIMATE ACTION FINANCE FRAMEWORK

Established in July 2017, the [Climate Action Finance Framework \(CAFF\)](#) which has been [independently assessed by DNV GL](#), formalises and governs project evaluation, as well as monitoring and reporting the use of proceeds for Climate Action Bond issuances. Two types of Climate Action Bonds can be issued under the CAFF:

- 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.



Find out more from our first annual CLP Climate Action Finance Report for 2017



US\$500 million

Nominal issued amount of our Inaugural Energy Transition Bond, which will be used to finance the construction of a new 550MW combined cycle gas turbine generation (CCGT) unit in Hong Kong



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. 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+.

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. This Energy Transition Bond was listed on the Hong Kong Stock Exchange, and supports the Hong Kong Government's ambition to promote Hong Kong as a green financing hub.

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

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.

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

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



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Manufactured capital

To deliver the energy needed to fuel the growth of our communities, we procure and invest in physical assets such as equipment, buildings and infrastructure. Our business mainly entails owning and operating power generation assets across the Asia Pacific region and a transmission and distribution network in Hong Kong.

GENERATING CLEANER POWER

Since our first 75kW generator was commissioned over a century ago in Hong Kong, we have increased our generation capacity across the Asia Pacific region to 19,395 MW of equity generating capacity, supplemented with an additional 5,159 MW of capacity purchase. Our diversified generation portfolio utilises more than six 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 79,583 GWh in 2016. Our total generation capacity increased from 18,622 MW in 2016 to 19,395 MW on an equity basis (23,781 MW to 24,554 MW on an equity plus capacity purchase basis), due mainly to our 17% investment in Yangjiang Nuclear Power Co Ltd (gaining 1,108 MW 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 3,090 MW to 2,751 MW.

We are committed to continue growing our non-carbon emitting portfolio and as mentioned earlier, we have set an

“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.”

DEREK PARKIN
CHIEF OPERATING OFFICER
OF CLP GROUP



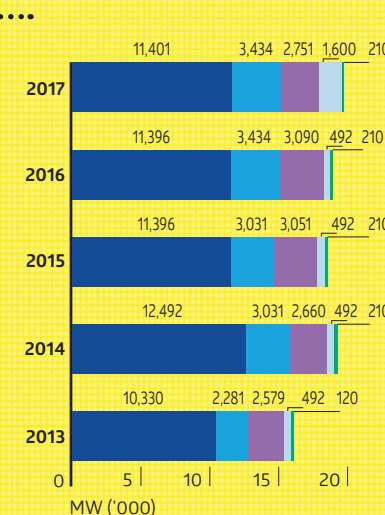
additional renewable energy target of 30% and a non-carbon emitting target of 40% by 2030, as part of our Climate Vision 2050 review in 2017. We will begin to consistently report also on our generating capacity on an equity plus capacity purchase basis starting next year.

OPTIMISING ASSET PERFORMANCE

Technologies supporting data processing, storage and management continue to advance and are becoming more affordable and accessible. This presents performance optimisation opportunities for us, whether in terms of predicting premature failures for our aging fossil fuel plants so we can reduce potential disruptions and maintenance costs, or in developing new insights and solutions for renewable energy management systems, given the data we have accumulated over the past decade covering over 2,700MW of renewable equity generating capacity.

CLP GROUP GENERATION CAPACITY
ON AN EQUITY BASIS (MW)

● Coal ● Renewable total ● Oil
● Gas ● Nuclear





HK\$1.5
billion invested in
renewables in 2017

20% renewable
30% non-carbon
energy capacity
by 2020



Manufactured capital continued

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In 2017, we embarked on a pilot project in Hong Kong to test an innovative product on its ability to detect premature failure on critical plant components as well as to provide deeper insights into operational trends and performance optimisation. To further enhance our renewable asset management capabilities, we also carried out a pilot of a smart data platform to optimise the operational performance of our wind and solar plants in India and Mainland China.



DEVELOPING NON-CARBON 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. Although construction on several new wind and solar sites in China commenced, and most of the 100 MW Veltor solar plant in India was commissioned, 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%.

In 2017, we invested HK\$1.5 billion in renewable energy projects. We will continue to work diligently to meet our upcoming targets of 20% renewable and 30% non-carbon generating capacity by 2020, as part of our journey towards our new 2030 targets.

DELIVERING WORLD-CLASS RELIABILITY

Our transmission and distribution network in Hong Kong serves about 80% of the population of the city. The reliability of our system is above 99.999% and is higher than other major cities such as London, New York and Sydney. At the end of 2017, we had approximately 1,164 km of overhead and approximately 14,514 km of underground circuits at medium or higher voltage. In addition, we also had 232 primary and 14,483 secondary substations in Hong Kong.

Ensuring Efficiency and Reliability

In 2017, we continued our efforts to improve the reliability of our power supply network. Our average network loss for the past five years remained steady at around 4.04% of total energy. Between 2015 and 2017, on average a CLP customer experienced 1.57 minutes of unplanned power interruptions per year, which was higher than the 1.48 minutes between 2014 and 2016. This was due mainly to the significant impact of typhoon Hato in August 2017.

1. 2015 - 2017 average for CLP Power Hong Kong
2. 2014 - 2016 average for all other cities (the latest available data)
3. Singapore's power supply network is mostly underground, and is less exposed to the influence of weather and other external interferences than overhead lines.

RELIABILITY LEVELS IN HONG KONG, NEW YORK, SYDNEY, LONDON AND SINGAPORE

Unplanned customer minutes lost per year

● Singapore ● Sydney (CBD) ● London
● CLP Power Hong Kong ● New York





26,000
selected residential
customers in Hong Kong
can join the pilot Smart
Energy Programme



Around
300
renewable projects
from our customers had
been connected to the
grid in Hong Kong by
the end of 2017

Manufactured capital continued

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DEPLOYING DEMAND SIDE MANAGEMENT MEASURES

In Hong Kong, we have deployed a range of demand side management (DSM) measures to reduce customers' peak electricity demand, which help us defer new investment in electricity infrastructure. Since 2013, we have been offering Demand Response (DR) Programmes to businesses and industrial customers, which make use of Smart Grid technology that integrates information and communications technology into the traditional power grid, along with Advanced Metering Infrastructure (AMI) applications to enable the overall reduction of consumption, when electricity demand is extremely high.

In June 2017, we launched a one-year pilot Smart Energy Programme whereby smart meters and the AMI system were made available to 26,000 selected residential customers, encouraging them to adjust their consumption behaviour to lower their electricity consumption at peak times

and to save on electricity bills through promotions and a reward scheme. This pilot scheme will provide some insight for us to develop an effective large-scale residential demand response program enabled by AMI in Hong Kong, in the future.

DEVELOPING NEW GRID MANAGEMENT CAPABILITIES

Given the continued growth of renewable energy and its role in the power sector, grid management capabilities will become increasingly important. Services to integrate renewable energy into the grid and manage these variable sources to maintain grid stability will be in demand. In Hong Kong we provide expert advice to help our customers understand and resolve technical issues so that they can connect their renewable energy systems (normally less than 200kW) to the electricity grid. There are to date approximately 300 renewable projects totalling more than 40MW connected to our grid. As the number of renewable installations connected to the grid rises,

we will have the opportunity to gain more insight into the impacts of these variable sources on the grid and the influence of proactive grid management actions.

One of the measures to help counter the volatility of renewable energy is the use of energy storage. The EnergyAustralia/Redback energy storage system, for instance, enables us to build our capability and observe the possible effects of energy storage on the grid as well as its potential role in grid management.

PROCUREMENT

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. 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 as well. Our overall assessment and monitoring mechanisms have confirmed there no were significant risk findings related to our Responsible Procurement Policy Statement (RePPS) in 2017 and no supplier relationship was terminated due to the assessment and monitoring result.

For continuous improvement purposes, we will continue to keep abreast of the external trends and latest developments on sustainable procurement, such as the ISO Guide on Sustainable Procurement (ISO 20400:2017). We will also proactively seek opportunities to advocate responsible procurement to peer companies through organised practice and experience sharing activities.

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.



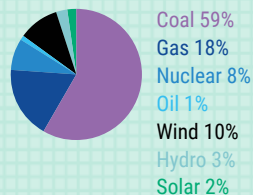
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The Group's renewable equity generating capacity in 2017 was

2,751 MW

The Group's equity generating capacity of **19,395 MW** was made up of



We withdrew **4,480.8 Mm³** from seawater, primarily for cooling fossil fuel-based power stations.

The majority of this water:

4,437.7 Mm³

is discharged back to its source after comprehensive treatment to minimise our environmental footprint.

WATER WITHDRAWAL



Group emissions

Sulphur dioxide (SO₂)
81.6 kT

Nitrogen oxides (NO_x)
59.3 kT

Particulates
8.3 kT



Carbon emissions intensity of CLP's electricity generation in 2017 was

0.80 kgCO₂/kWh

Carbon emissions intensity of electricity sold by CLP Power Hong Kong in 2017 was

0.51 kgCO₂e/kWh

Total carbon (CO₂) emissions in 2017 was
47,921 kT

Total carbon dioxide equivalent (CO₂e) emissions in 2017 was
48,082 kT



Solid
20,334T
3,790T

Liquid
103kl
103kl

■ PRODUCED
■ RECYCLED



All hazardous waste is transported locally for disposal according to local regulations, collected by licensed collectors, or sold for reuse. No significant spills were reported in 2017.

Solid	Liquid
857T	1,420kl
469T	1,384kl

■ PRODUCED
■ RECYCLED



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Our business entails the use of natural resources such as fuel and water and it produces greenhouse gas and air emissions, as well as other environmental impacts such as waste. We are therefore committed to managing the short and long-term impacts of our business on the environment in a responsible manner.

REVIEWING 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 2017, we launched 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 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 IEA's Energy Outlook 2016 projections for world and regional energy development. Although our original targets still appeared valid considering the anticipated pace of change in our region, we believed there was room for improvement. Built upon the optimism of our original science-based aspiration, we have ratcheted down our trajectory, but this time taking into consideration only technology that is available today, as well as the realities of the development of energy markets in the Asia Pacific region. This will help us focus more on scaling up clean energy development today instead of waiting for new technologies that have yet to arrive. These new targets are still challenging and ambitious and

“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.”

DAVID SIMMONDS
CHIEF ADMINISTRATIVE OFFICER
OF CLP GROUP



CLP'S PROGRESS TOWARDS OUR 2020 TARGETS

	ENERGY TRANSITION TARGETS	CLEAN ENERGY TARGETS	
	CO ₂ EMISSIONS INTENSITY	RENEWABLE CAPACITY	NON-CARBON EMITTING CAPACITY
Basis	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 CO ₂ /kWh	20%	30%

we will continue to regularly review them to ensure we take into account the momentum of change over time.

CLIMATE VISION 2050 PERFORMANCE

In 2017, our Group's carbon intensity decreased to 0.80kg CO₂/kWh from the 2016 level of 0.82kg CO₂/kWh. This 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.

Further to our Climate Vision 2050 review, we will begin to report on an “equity plus capacity purchase” basis as well as



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our traditional “equity” basis. In 2017, if calculated on an equity plus capacity purchase basis, the Group’s carbon intensity would be 0.69kg CO₂/kWh. This is because most of our capacity purchase is generated from nuclear and renewable energy.

UPCOMING CARBON SCHEMES

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. This initiative illustrates the country’s determination to fulfil its pledge to peak carbon emissions before 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 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.

FUEL USE

In 2017, the total fossil fuel consumption for power generation increased by 4.0% for coal and 5.3% for gas, compared to 2016. 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.

MANAGING ENVIRONMENTAL IMPACT

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 assets in this category achieved ISO14001 certification on time.



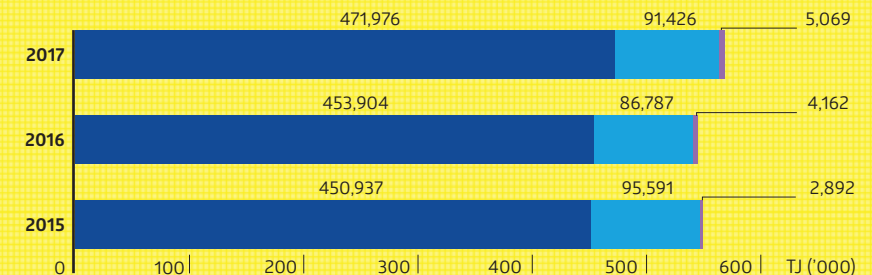
471,976
TJ of coal



91,426
TJ of gas
were used for power generation in 2017

ANNUAL FUEL CONSUMED FOR POWER GENERATION

● Coal ● Gas ● Oil





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We are also upgrading our ISO14001:2004 systems to the ISO14001:2015 standard, with several of our plants including Jhajjar and Paguthan in India and Jiangbian, Sihong and Qian'an in Mainland China successfully completing their upgrades in 2017.

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.

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. Our total solid waste increased to 21,191T in 2017 because of construction at our Black Point Power Station in Hong Kong. Waste programmes continued to be implemented at our assets across the Group in 2017. For example, at Jhajjar in India, an oil filtering system was installed during the year through which approximately 11,000 litres of oil were filtered and reused.

WATER USE

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 a slight increase in temperature. In 2017, commencement of operation at Fangchenggang II and higher generation at Tallawarra in Australia resulted in an overall increase in water withdrawal and discharge. The overall water intensity of our power generation processes in 2017 increased slightly to 1.07 m³/MWh from 1.05 m³/MWh in 2016.



0

environmental
noncompliance incidents
resulting in fines or
prosecution in 2017

In 2017, we continued implementing initiatives to improve our water use, including optimising the cooling water system at Jhajjar in India and installing a water recycling system at Fangchenggang in Mainland China to reuse coal yard run-off for coal dust suppression and general plant cleaning purposes.

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 Sandu I Windfarm in Guizhou. 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.

Emerging Regulations

In China, in addition to launching the nationwide carbon trading scheme, the government has also issued a Guideline on Designation of Ecological Protection Zone. We are keeping a close eye on these developments to ensure compliance of our projects and formulating our action plans in response. In India, coal-fired power stations face more stringent requirements on emissions of particulates, nitrogen oxides, sulphur dioxide, and mercury, as well as water use. We have also taken note of the new national standards in Australia on phasing out the use of a group of perfluorinated chemicals, although the standards have not yet been incorporated into state legislation. EnergyAustralia is investigating the extent and risk profile of the impact of the chemicals at its sites.

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



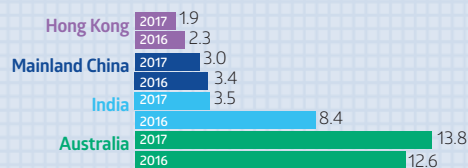
2 MANAGING OUR WORKFORCE

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

Voluntary Turnover Rate by Region (% of Employees)



Effective 1 January 2018 in HK we increased



Maternity leave to 16 weeks



Marriage leave to 5 days

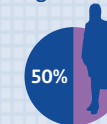


Introduction of adoption leave

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



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

ENSURING HEALTH & SAFETY

We were deeply saddened by two fatal incidents that occurred in Hong Kong in February and July 2017, involving four contractor workers. We worked closely with the relevant contractor companies to ensure the families of the deceased workers received prompt and appropriate assistance, including financial relief.

In 2017, under the supervision of the Board, we carried out a thorough review of our health and safety practices. We

have seen the level of serious incidents across the Group remain relatively stable despite a strong downward trend in the total number of safety incidents. We have therefore strengthened the focus of our safety procedures on the reduction of serious incidents, introduced 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 have also appointed a new Senior Director of Health, Safety and Environment to oversee the new approach.

Improving Safety Management

Our focus in 2017 was on reducing the exposure to serious injuries and fatalities (SIFs). We identify the high-risk situations in which management controls are either absent, ineffective, or not complied with, and address the risks by bringing in corresponding protection. We have identified interventions that are more effective and based our plan for improvements in our safety management

“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.”

ROY MASSEY
CHIEF HUMAN RESOURCES OFFICER
OF CLP GROUP



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;
- reporting and investigation of potential SIF events with tracking of follow-up actions and application of hierarchy of controls; and
- launching our first Behavioural-based Safety Observation programme in India at Jhajjar in 2017, as a continuation of similar programmes that have been adopted in other regions.

Safety Performance in 2017

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). Our injury rates saw a notable rise in 2017 mainly because of increases in the number of non-serious incidents in Australia and Hong Kong. Both regions have

CLP GROUP SAFETY PERFORMANCE (EMPLOYEES AND CONTRACTORS)

- Lost Time Injury Rate (LTIR)
- Total Recordable Injury Rate (TRIR)



A first aid case at CLP Power Hong Kong in 2016 was reclassified to a medical treatment case.



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undertaken safety improvement activities to address their injury performance. For example, safety coaching was made available to employees and contractors in Australia to raise safety and risk awareness

Human Capital Related Challenges

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 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 artificial intelligence and robotics on jobs.

At the end of 2017, the Group employed 7,542 full-time employees compared with 7,428 in 2016. For information on the distribution of employees based on geographical location, please refer to the chart on this page.

Competitive and Sustainable Benefits

We comply fully with any local legal requirements with respect to minimum wages. 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. We are currently reviewing our policy on remuneration and benefits for our part-time employees in Hong Kong.

Implementing Family Friendly Policies

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

Enhancing Employee Wellbeing

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

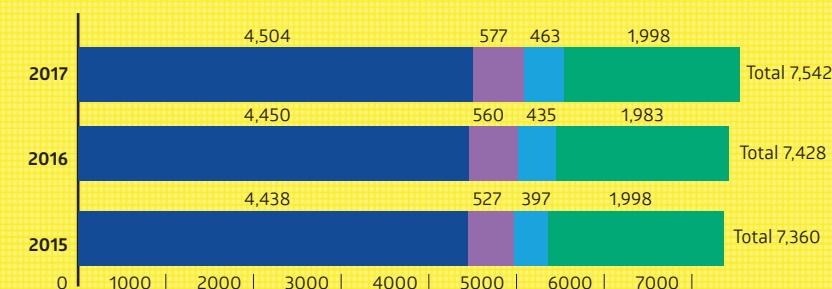


23.4%

Females in leadership positions across the Group

REGIONAL DISTRIBUTION OF FULL-TIME EMPLOYEES

● Hong Kong ● Mainland China ● India ● Australia





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9%

Female engineers across the Group

Building capability 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.

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 the National University of Singapore Business School's Centre for Asset Management Research & Investments (CAMRI). The award recognises our efforts in making a marked improvement for the benefit of our members and beneficiaries, particularly over the last year.

Human capital continued

workplace.

In our 2017 independently administered Employee Opinion Survey, we asked 3,794 staff in Hong Kong their opinion on whether our health and wellness programs 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.

Promoting diversity and equal opportunity

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.

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.

In our 2017 Employee Opinion Survey,

we also asked our staff their opinion 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.

Maintaining labour relations

We respect and comply fully with all legal requirements in regards to union membership and collective bargaining in the countries we operate in. 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.

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.

Respect for 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. As a result of this exercise, DIHR recommended that we focus on three priorities for improvement. These are human rights-related policy commitments, working hours and living wage.

Use of contractor labour

A flexible resourcing model is imperative for our business, but it needs to be managed responsibly. Our workforce includes not only our permanent staff, but also our short-term contract staff, temporary staff and labour supplied by external contractors.

It is our priority to strengthen our understanding and reporting of our use of contractor labour. 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.

Social and relationship capital

Our business powers the growth of not only our community of 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
Tuen Mun
Tai Po
Sham Shui Po
Mong Kok
Kwun Tong

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

NURTURING OUR YOUNG PEOPLE 3



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.

EMPOWERING COMMUNITIES 4



647 community programmes



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



FACILITATING INFORMED ENGAGEMENT 5



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.



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For our business to be sustainable, we must work with our stakeholders to create value for them. We are committed to developing trust through long-term relationships and engaging our customers, business partners, suppliers, associates and the local community with respect and integrity, so that we can deliver reliable and affordable power to support the sustainable development of our communities.

REVITALISING OUR BRAND

To portray more accurately who we are today and will be over the coming decades, in 2017, we launched a new brand idea “connections through energy”, focusing on the concept of the connections made through energy. Our new brand idea

reflects that we are here to provide energy through the bonds we form across the grid, the strong relationships with our partners, suppliers and customers, as well as the investments we make in communities to build a bright future for everyone. Our tagline “Energy for Brighter Tomorrows”, further reinforces these aspirations.

REMEMBERING OUR HERITAGE

A refreshed brand does not mean we forget our heritage. Our success today is built upon the hard work of generations of predecessors and the strong belief of the founding family of CLP in contributing to the social and economic wellbeing of our communities. Since 1901, CLP has been weathering the ups and downs with Hong Kong. To pay tribute to the city and inspire the younger generation to appreciate history as a part of their heritage, CLP commissioned “A Century of Power”, a documentary presenting the history of CLP alongside Hong Kong’s transformation over the decades. We will continue our

“Investing in education is an effective way to contribute to positive and sustainable social impact. Knowledge enables development and growth of capabilities that last throughout our lifetimes.”

QUINCE CHONG
CHIEF CORPORATE DEVELOPMENT
OFFICER OF CLP GROUP



engagement with young people through a series of education and outreach programmes in the coming year.

CLP is a long-time supporter of arts and culture. We participated in the city’s first light festival, *Lumiere Hong Kong*, as the event’s energising partner. Creative light installations, art pieces and projections at various heritage landmarks mesmerised the city. It is a fun and novel way to showcase the city’s art and culture, and is an engaging way to connect with the community.

ENGAGING IN NEW WAYS

Broadening our range of communication channels increases our capability to reach more groups of stakeholders with varying interests and demographics. With advances in communications technology, we now seek to engage our stakeholders not only through existing communication channels, but also through new social media channels, such as our:

- [CLP LinkedIn](#) page, which provides information to current and prospective staff as well as our business partners;
- [CLP Power Facebook](#) page, which supports two-way communication;
- [CLP Eco Living](#) page, which provides eco-living tips; and
- [CLP YouTube Channel](#), which houses a library of videos covering fun facts about Hong Kong and the power industry.

SUPPORTING OUR CUSTOMERS

In Hong Kong, we measure customer satisfaction through an annual telephone interview survey conducted by an external marketing research consultant. In 2017, our Customer Satisfaction Score continued to rise, reaching the highest score it has had over the past five years.

EnergyAustralia uses the Strategic Net Promoter Score (NPS) to assess customer satisfaction across all our customers and this is measured monthly using an online survey amongst a representative group of customers. In 2016, after



71

Our 2017 Customer Satisfaction Score in Hong Kong. It has improved from 2016



Social & relationship capital continued

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experiencing significant improvements from previous years in our NPS, we 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. Despite this situation, our stable performance in 2017 was a positive, as we held on to our previous improvements.

Regulatory compliance is fundamental to our social licence to operate. In 2017, there were no reported incidents of noncompliance with regulations or voluntary codes in regards to health and safety impacts of our products and services. In terms of customer privacy, in 2017, our Hong Kong retail business received a privacy complaint lodged with the Privacy Commissioner of Hong Kong, which was closed without further action. Our EnergyAustralia retail business received three privacy complaints from the Australian Privacy Commissioner regarding potential breaches of customer

privacy, which were all closed on the basis that EnergyAustralia had not interfered with the customers' privacy.

SHARING OUR LEARNING FROM INTERNATIONAL ENGAGEMENTS

International engagement with peers, industry experts, research and academic communities, as well as non-governmental organisations (NGOs), helps us to strengthen our capabilities to: monitor emerging trends and assess potential business risks and opportunities; introduce best practices to improve business performance; explore new technologies and potential business paradigms; and stimulate thought leadership and policy-related exchanges to build trust and credibility amongst our stakeholders.

In 2017, we continued our engagements with a number of international organisations, including:

- international business organisations such as the World Business Council for

Nurturing our youth

CLP has been implementing 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. In 2017, significant initiatives included:

- Establishing an endowed Professorship in Sustainability at the Hong Kong University of Science and Technology (HKUST), focusing on climate change and sustainable energy – the first of its kind at a local university. In November 2017, Professor Charles Ng, Associate Vice-President for Research and Graduate Studies and Chair Professor of the Department of Civil and Environmental Engineering, was named CLP Holdings Professor of Sustainability.
- Collaborating with non-profit Power of Engineering in Australia to encourage more women and girls to study to become engineers. EnergyAustralia provided financial assistance and 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.





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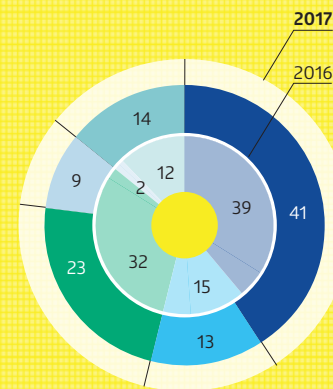
Sustainable Development (WBCSD), the International Emissions Trading Association (IETA) and the We Mean Business Coalition; and international industry organisations such as the World Energy Council (WEC), the International Electric Research Exchange (IERE), the International Integrated Reporting Council (IIRC) and the Global Reporting Initiative (GRI).

While we do not lobby on public policy directly, we contribute to public dialogue that contributes to an informed discussion on how best to structure policies for our industry that benefit the sustainable development of society going forward. For example, every year we share our UN climate change conference insights and learning from across sectors and different countries with our stakeholders in Hong Kong and across the Group. 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.

Empowering our communities

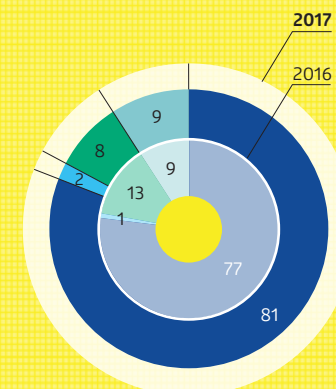
Our community initiatives focus on four pillars: the Environment; Education and Development; Community Health and Wellness; and Arts and Culture. In 2017, similar to last year, our spending was focused on the Environment and Community Health & Wellness. Most of our spending was in our core market of Hong Kong.

OUR COMMUNITY SPENDING



Community spending by theme (%)

- Environment
- Education and Development
- Community Wellbeing
- Arts and Culture
- Community Engagement



Community spending by region (%)

- Hong Kong
- Mainland China
- India
- Australia



19,945
Volunteering hours
contributed by CLP staff and
family members in 2017

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.



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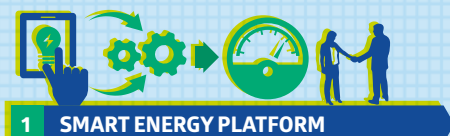
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1 SMART ENERGY PLATFORM

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.



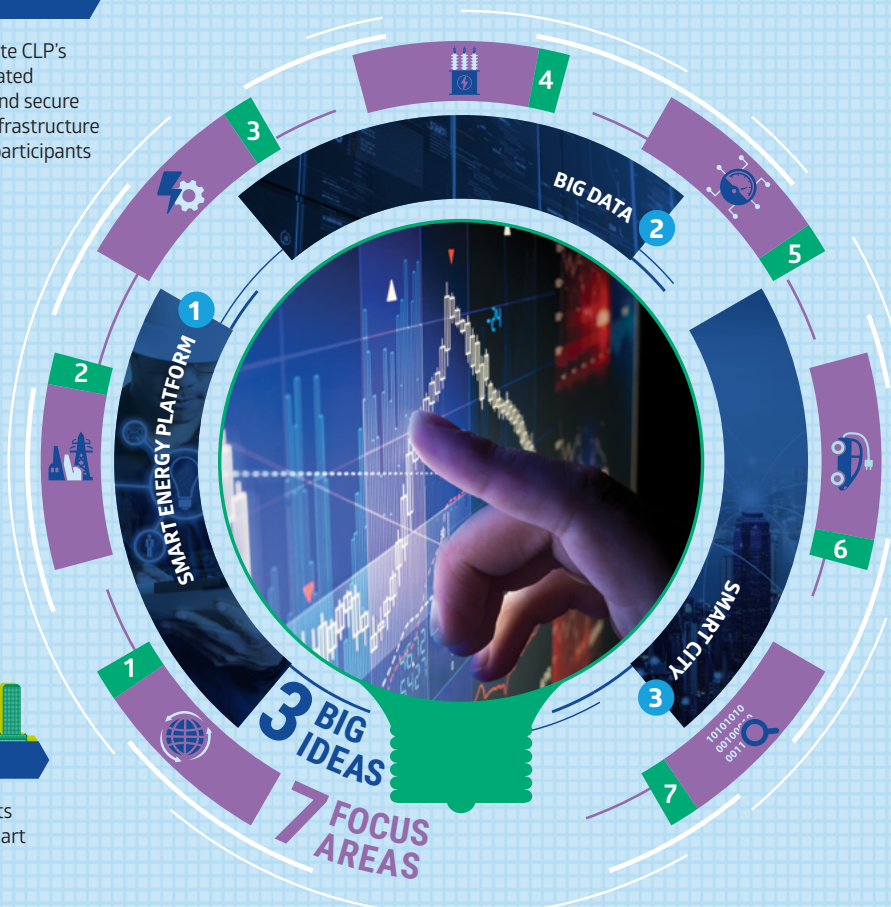
2 BIG DATA

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.



Intellectual capital

Our intellectual capital includes our knowledge and expertise on systems, processes and operations, as well as project development and application of new technologies.

Given today's fast changing environment, our capacity to manage and process data, as well as developing scenarios and projections into the future to help inform our strategy and decision-making, are also important assets. Our capability to innovate at all levels is also crucial for our sustainability – from process improvement to developing new products and services, to the development of long-term business strategies and implementation of relevant work plans.

PIONEERING – OUR TRADITION

For over a century, CLP has continuously sought new ideas and embraced new technologies as we grew from a Hong Kong-based power company to a leading

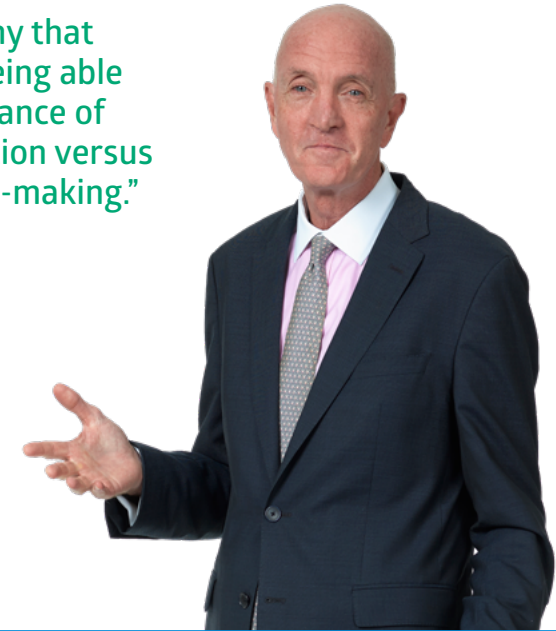
energy service provider in the Asia-Pacific region.

From meeting Hong Kong's demand through a 75kW power station in 1903, a few other examples of "firsts" we have delivered include: our investment in the Daya Bay Nuclear Power Station, Mainland China's first large-scale commercial nuclear power project commissioned in 1994; our Black Point Power Station, the first combined cycle gas-fired generating plant in Hong Kong and one of the world's largest at that time of its commissioning between 1996 to 2006; the Lopburi Solar Farm, Thailand's first utility scale solar power project commissioned in 2012; setting ourselves voluntary carbon intensity reduction targets out to 2050 based on the science available in 2007; and introducing the new class of "energy transition bonds" to the world in 2017.

We take pride that we have achieved excellence in many areas of our operations, including the supply reliability in Hong Kong being amongst the best in the world,

"We are a company that prides itself in being able to strike that balance of constant innovation versus prudent decision-making."

AUSTIN BRYAN
SENIOR DIRECTOR –
INNOVATION OF CLP GROUP



for instance. Today, we are one of the largest foreign investors in wind power in India and Mainland China, as well as one of the largest developers and issuers of renewable energy based Verified Carbon Units (VCUs) in the world.



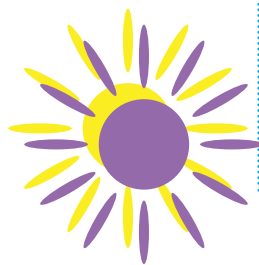
In 2017, given that our core business is to deliver sustainable energy infrastructure to serve current and future generations, SDG9 - Industry, Innovation and Infrastructure was identified as one of four priority SDGs. We have begun to explore potential relevant metrics and targets for SDG9 and will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

FORECASTING & INVESTING IN THE FUTURE

To inform our pioneering decisions, it is imperative that we continue to exercise our capabilities to make reasonable projections of the future and then take relevant actions to prepare our business for various possible future scenarios.

With these forecasts of different future scenarios, we believe we can make future-proof 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 India – a significant investment although the technology was not required by Indian environmental regulations at the time, but is now mandated under new laws. In 2017, we continued to apply our future analysis capabilities to facilitate the review of our Climate Vision 2050 targets.

In our endeavours to share the benefits of our knowledge and capabilities with stakeholders in a way that is beneficial to them, we introduced a nine-day load forecast and alert services enabling our customers with large cooling needs to have more time to better plan for energy savings or demand reduction initiatives.



180+
companies tracked
by our innovation
pipeline



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



Intellectual capital continued

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INNOVATING FOR THE FUTURE

We are now in the digital age and the energy landscape is changing even faster. On the one hand, utilities need to address the desire by customers to switch to low-carbon fuel sources. On the other hand, the digital revolution is reshaping the playing field of the energy market. Bits and bytes enable new entrants – many of them asset-light and technology-focused – to quickly seize market opportunities. To compete, we need to capitalise on our existing strengths and capabilities and allocate more resources into developing a new competitive edge. We also need to forge 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 these are part of our journey on innovation, the experience from which will allow us to stay ahead of the competition.

With 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, allocated resources to boost our analytic capabilities and have struck collaborations with partners to launch trials and pilots, involving new and emerging tools. By investing in our data capability, we not only can improve our own operational efficiency, but we can also develop new products and services to help our customers meet their challenges.

For Smart Cities

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. 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 informed 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.



Conducting study tours to some of the world’s smartest cities to gain insights for strengthening our smart city capability



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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.

Demand response is another area we are looking at. Last year, our peak demand in Hong Kong would have been higher than the 7,155MW on 22 August we reported, had we not utilised some demand response measures to incentivise key customers to lower electricity usage on that hot summer day. 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.

Cyber Security

Cyber security today is a key concern for critical infrastructure including power generation and transmission. The proper risk management approach is no longer just about how we keep cyber criminals out, but also to know when our assets or systems are compromised, and to be able to recover in the shortest time possible with the smallest impact.

In 2017, we worked to establish a threat detection capability for our industrial control systems and we also made progress in establishing a brand monitoring and protection service at the Group level including digitally managed online asset protection. We also signed a MoU with Israel Electric Corporation, a well-known industry leader on cyber security, for exchanges and collaborations.



We signed a MoU with Israel Electric Corporation to collaborate on cyber security

In November 2017, we signed a MoU with Siemens Limited to develop smart city solutions.





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.

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Governance		NOTE	2017	2016	2015	2014	2013
Governance							
Convicted cases of corruption (cases)		GRI 205-3; HKEx B7.1	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

KPI summary continued

Safety	NOTE	2017	2016	2015	2014	2013
Safety	(5)					
Fatalities (employees only) (number)	GRI 403-2; HKEx B2.1; (6)	0	0	0	0	0
Fatalities (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 B2.1; (7)	0.00	0.00	0.00	0.00	0.00
Fatality Rate (contractors only) (number per 200,000 manhour)	GRI 403-2; HKEx B2.1; (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

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Environment ⁽¹⁶⁾	NOTE	2017	2016	2015	2014	2013
Resource Use and Emissions ⁽¹⁷⁾						
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 (Mm ³)	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

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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) 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 Yallourn 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

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