

# 2019 Climate Action Finance Report

## Introduction

CLP Holdings Limited's (CLP) vision is to be the leading responsible energy provider in the Asia-Pacific region, from one generation to the next. As part of this endeavour, CLP is committed to taking action on climate change. In 2007, we were the first electric utility company headquartered in Asia to publish carbon intensity reduction targets out to 2050 in our Climate Vision 2050. In 2018, we announced our tightened carbon intensity targets which require a reduction of 80% from the 2007 baseline-level by the middle of this century, and the newly developed 30% renewable and 40% non-carbon emitting capacity targets for 2030. We are committed to strengthening these targets at least every five years. In 2019, CLP pledged not to invest in any additional coal-fired generation capacity and to progressively phase out all remaining coal assets by 2050.

To reinforce CLP's sustainability leadership and commitment to transition to a low carbon economy as manifested in our Climate Vision 2050 and to respond to the increasing investor awareness of the climate change imperative, CLP has established the Climate Action Finance Framework (CAFF) in July 2017 that sets out how CLP may raise Climate Action Bonds and use the proceeds of those bonds to invest in projects that are consistent with this strategy to respond to the climate change challenges.

Following the inaugural Energy Transition Bond issuance in 2017 by Castle Peak Power Company Limited (CAPCO), a key subsidiary of CLP engaging in the electricity generation business in Hong Kong, to finance the construction of a new 550MW combined cycle gas turbine generation unit (CCGT), CAPCO has issued a New Energy Bond in 2019 to fund the construction of West New Territories landfill gas renewable energy generation project.

## CLP Climate Action Finance Framework

The objective of the CAFF is to support the transition to a low carbon economy by attracting socially responsible, sustainable financings, to support CLP's investments that reduce the carbon content of energy generated and increase the efficiency of energy usage.

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

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

The Green Bond Principles (GBP), updated as of June 2018, are voluntary process guidelines that recommend transparency and disclosure and promote integrity in the development of the Green Bond market by clarifying the approach for issuance of a Green Bond.

There are four core components of a Green Bond - Use of Proceeds, Process for Project Evaluation and Selection, Management of Proceeds and Reporting.

The table in the next page summarises how CLP Climate Action Bonds align with the GBP.

It is noted that the use of proceeds of the Energy Transition / Emission Reduction Bond is not included in the indicative list of Green Project categories under the use of proceeds section in the Green Bond Principles, otherwise CLP Climate Action Bonds issued under the CAFF align with the Green Bond Principles.

Components	Energy Transition / Emission Reduction Bonds	New Energy Bonds
Use of Proceeds	New natural gas fired power plants and conversion of coal fired power plants which will result in carbon emissions less than 450gCO <sub>2</sub> /kWh at baseload	<ul style="list-style-type: none"> <li>• Renewable energy</li> <li>• Energy efficiency</li> <li>• Low carbon transport infrastructure</li> </ul>
Process for Project Evaluation and Selection	<ul style="list-style-type: none"> <li>• Business units propose projects for eligible use of proceeds and Climate Action Bond issuance</li> <li>• Climate Action Finance Committee reviews and approves the eligibility of proposed use of proceeds and Climate Action Bond issuance</li> </ul>	
Management of Proceeds	<ul style="list-style-type: none"> <li>• Proceeds of each Climate Action Bond are credited to dedicated bank accounts/deposits pending allocation to eligible projects</li> <li>• Use of proceeds tracked through business units' internal information system with individual register established for each Climate Action Bond</li> </ul>	
Reporting	<ul style="list-style-type: none"> <li>• Climate Action Finance Report issued on an annual basis disclosing the below information of Climate Action Bonds not yet fully repaid:                             <ul style="list-style-type: none"> <li>– Identity of issuing business unit</li> <li>– Type of Climate Action Bond issued</li> <li>– Aggregate amounts of proceeds allocated</li> <li>– Remaining balance of unallocated proceeds</li> <li>– Estimation of beneficial impact of the use of proceeds</li> <li>– Information on projects with allocation of bond proceeds</li> </ul> </li> <li>• The Climate Action Finance Report will be reviewed by the Climate Action Finance Committee and published within the Group Sustainability Report</li> </ul>	

## GOVERNANCE OF THE CAFF

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

Treasury & Project Finance acts as the secretariat of the Committee to provide the necessary support.

## SECOND PARTY OPINION

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



### Conclusion of DNV GL Second Party Opinion

On the basis of the information provided by CLP and the work undertaken, it is DNV GL's opinion that the Climate Action Bonds meet the criteria established in the Protocol and there are environmental benefits for the investments to be funded under the CAFF.

DNV GL notes that the Use of Proceeds of the New Energy Bonds are included in the indicative list of sectors included in the section 1 of Green Bond Principles whilst the Use of Proceeds of Energy Transition Bonds are not. DNV GL concludes that the project selection, funds tracking and reporting procedures set out in the CAFF meet the criteria established in the Protocol and are aligned with sections 2, 3 and 4 of the Green Bond Principles 2017.



See CLP Climate Action Finance Framework



See DNV GL Second Party Opinion Report

## Climate Action Bond Portfolio

In 2019, CAPCO issued a HK\$170 million 25-year fixed rate New Energy Bond to fund the construction of West New Territories landfill gas renewable energy generation project, which was the inaugural green bond for CLP's Scheme of Control business. This waste-to-energy project would allow CAPCO to utilise

landfill gas as an energy source, and accordingly reduce its coal-fired power generation and emissions from coal burning. The below table summarises all climate action bonds issued under CAFF:

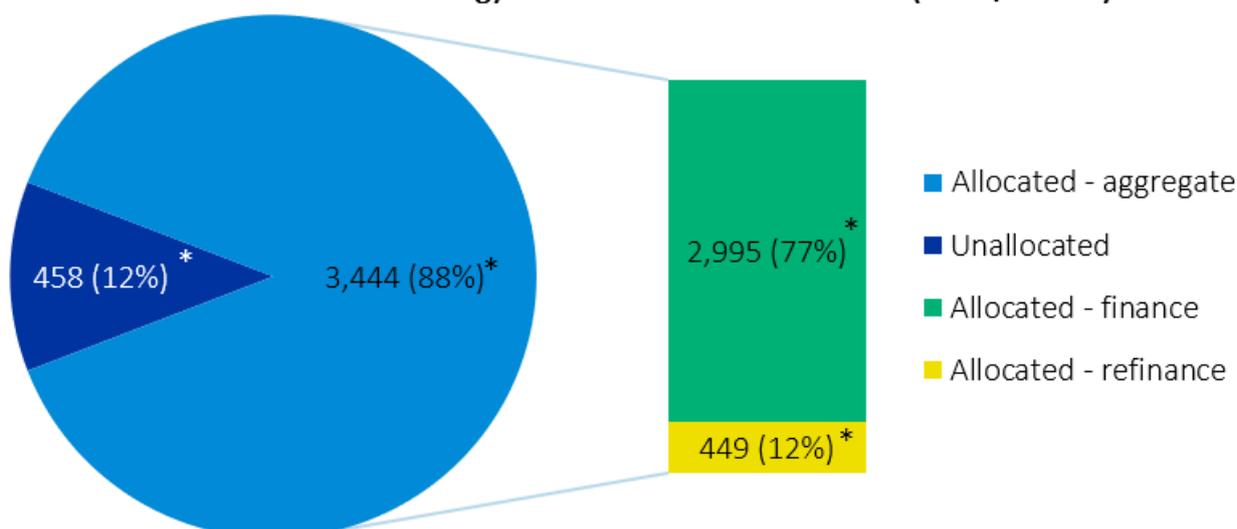
Summary of Climate Action Bonds		
Issuer	Castle Peak Power Finance Company Limited	
Guarantor	Castle Peak Power Company Limited	
Type	Energy Transition	New Energy
Project	Combined Cycle Gas Turbine (CCGT) Generation Unit	Landfill Gas Renewable Energy Generation
Issue Date	25 July 2017	9 July 2019
Tenor	10 years	25 years
Nominal Issued Amount	US\$500 million	HK\$170 million
Coupon	3.25% per annum	2.80% per annum
Listing	The Stock Exchange of Hong Kong	Not Listed
ISIN / Common Code	XS1648263926	202355293
Amount Allocated	HK\$3,444 million	HK\$110 million

## Use of Proceeds Reporting

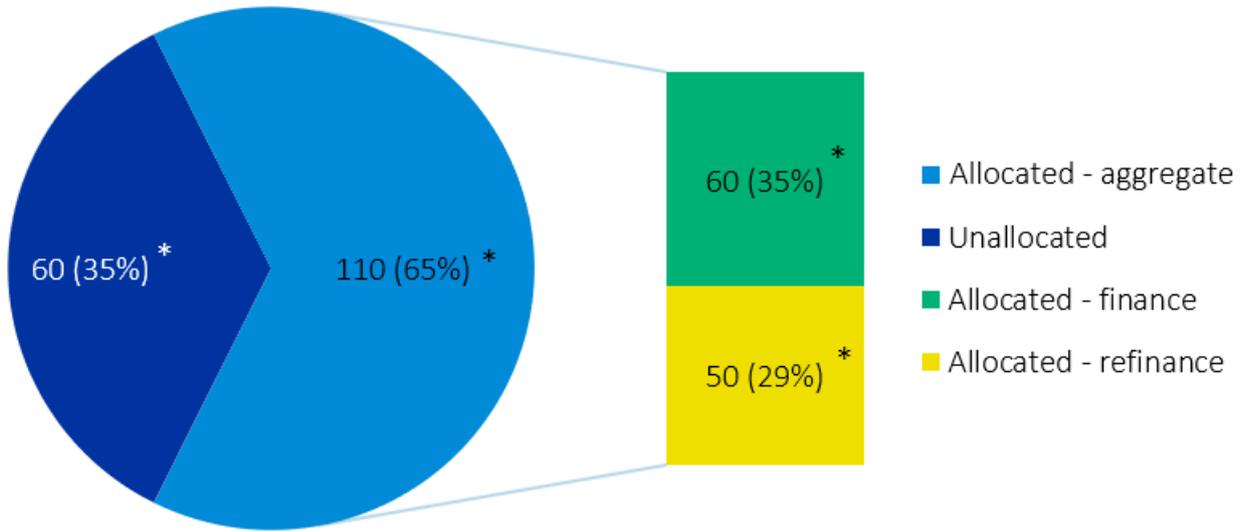
Bond proceeds were applied at the outset of the bond tenor to replace bank debt bridge facilities designated to specific projects and the remaining balance was credited to dedicated bank account/deposits pending settlement of future project

related payments. As at the reporting date of 31 December 2019, the use of the bond proceeds is illustrated in the charts below:

Allocation of CAPCO's Energy Transition Bond Net Proceeds (in HK\$ million)



Allocation of CAPCO's New Energy Bond Net Proceeds (in HK\$ million)



\* Information has been subject to independent limited assurance by PwC

### Reporting Criteria

Following section 6 of the CAFF – “Reporting on Use of Proceeds”:

- a Climate Action Bond is added to this report when the bond was issued during the reporting period; and
- a Climate Action Bond is removed from this report when the bond has been fully repaid.

### Assurance of Climate Action Finance Report

CLP has engaged PwC as an independent assurance provider to provide assurance that selected information in this report has been prepared in line with the CLP Climate Action Finance Framework.



See PwC Assurance Report

## Project Updates – CCGT Generation Unit



### CAPCO's Combined Cycle Gas Turbine (CCGT) Generation Unit

Location	Black Point Power Station, Hong Kong
Total Investment Amount	HK\$5.5 billion
Amount to be financed by Energy Transition Bond	HK\$3.9 billion (US\$500 million equivalent)
Installed Capacity	550MW
Generation Efficiency	61% <sup>1</sup> , higher than any of the units currently in use in Hong Kong and being one of the most efficient gas-fired generation units in the world
Technology	The latest Siemens H-Class CCGT technology
Estimation of Beneficial Environmental Impact	<ul style="list-style-type: none"> <li>· 1 to 2 million tons of CO<sub>2</sub> emissions avoided per year</li> <li>· expected to have emissions intensity less than the 2016 carbon intensity of the electricity used by CLP's customers in Hong Kong (540g CO<sub>2</sub>/kWh) and meet the requirement (i.e. below 450g CO<sub>2</sub>/kWh) for the qualification of an Energy Transition Bond</li> <li>· potential reduction of annual NO<sub>x</sub> emission up to 19% and Sulphur Dioxide (SO<sub>2</sub>) and Respirable Suspended Particulates (RSP) emissions by around 10% in 2020 for CAPCO power generation system</li> </ul>

<sup>1</sup> Provisional figure

Progress in 2019

- All major equipment were delivered to site on schedule.
- Completed installation of turboset comprising gas turbine, steam turbine and generator; heat recovery steam generator (HRSG); transformers; 400kV transmission network connection equipment; and the associated ancillary equipment, etc.
- Completed tunnelling and pipe jacking for cooling water system.
- Mechanical and electrical cold commissioning activities are in progress.
- Construction methods to minimize fugitive dust generation and prevent off-site waste water discharge are being effectively employed.
- Obtained Building Environmental Assessment Method (BEAM Plus) Provisional Platinum rating for the Turbine Hall by the Hong Kong Green Building Council (HKGBC). This highest rating signifies that the planning, design, construction and commissioning of the new CCGT project has adopted an affordable range of best techniques, practices and standards in seeking to reduce the environmental impacts of the new building whilst improving safety, energy efficiency and user satisfaction.
- Scheduled to have the new unit in commercial operation by 2020.



Cover stockpile of soil material to prevent generation of fugitive dust and surface run off



Site waste water treated with desilting and water treatment plant before discharge



Use of silt curtain as precautionary measure to prevent construction works near the sea from causing suspended sediment impacts to marine environment



On-site air quality and noise monitoring

## Project Updates – Landfill Gas Generation



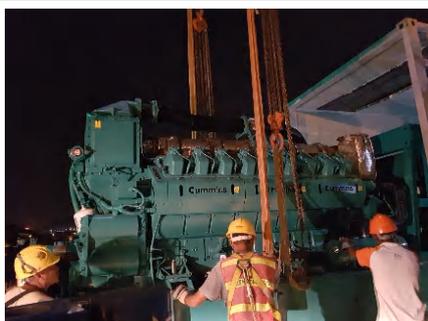
### CAPCO's Landfill Gas Renewable Energy Generation at West New Territories (WENT) Landfill

Location	WENT Landfill, Tuen Mun, Hong Kong
Total Investment Amount	HK\$175 million
Amount to be financed by New Energy Bond	HK\$170 million
Installed Capacity	10MW
Plant Performance Information	5x2MW landfill gas (LFG) generator sets with a generation efficiency of around 36% <sup>1</sup> are installed at WENT landfill to utilize the excess LFG of around 4,500m <sup>3</sup> /hour for electricity generation in support of local renewable energy (RE) development.
Estimation of Beneficial Environmental Impact	<ul style="list-style-type: none"> <li>· 68 GWh RE generation per year *</li> <li>(* subject to the availability and composition of LFG)</li> <li>· 28kT to 67kT of CO<sub>2</sub> emissions avoided per year</li> </ul>

<sup>1</sup> Provisional figure.

**Progress in 2019**

- All equipment, including the generator sets, package substation sets, gas pre-treatment system, gas pipeline, etc., were delivered to site.
- All major construction and installation works including testing and commissioning were substantially completed in December 2019.
- Scheduled to have the new unit in commercial operation by early 2020.



Delivery of generator sets



Delivery of package substations



Gas pipeline laying along Nim Wan Road



Delivery of gas pre-treatment system equipment



An overview of the project site