

# 2018 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 published our updated decarbonisation roadmap with the reinforcement of our carbon intensity reduction target for 2050 from a 75% reduction in our carbon intensity to 80% reduction over 2007 levels, and the newly developed 30% renewable and 40% non-carbon emitting capacity targets for 2030.

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.

Since the inception of the CAFF, Castle Peak Power Company Limited (CAPCO), a key subsidiary of CLP engaging in the electricity generation business in Hong Kong, has issued the inaugural Energy Transition Bond in July 2017 to finance the construction of a new 550MW combined cycle gas turbine generation unit (CCGT). This also supported Hong Kong's ambition to become a regional hub for green financing. CLP is contemplating more issuances under the CAFF and the landfill gas power generation project at the West New Territories Landfill site in Hong Kong is one of the options being considered.

## 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.

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>	

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

### GOVERNANCE OF THE CAFF

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

### SECOND PARTY OPINION

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

#### CONCLUSION OF DNV GL SECOND PARTY OPINION

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

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



See CLP Climate Action Finance Framework



See DNV GL Second Party Opinion Report

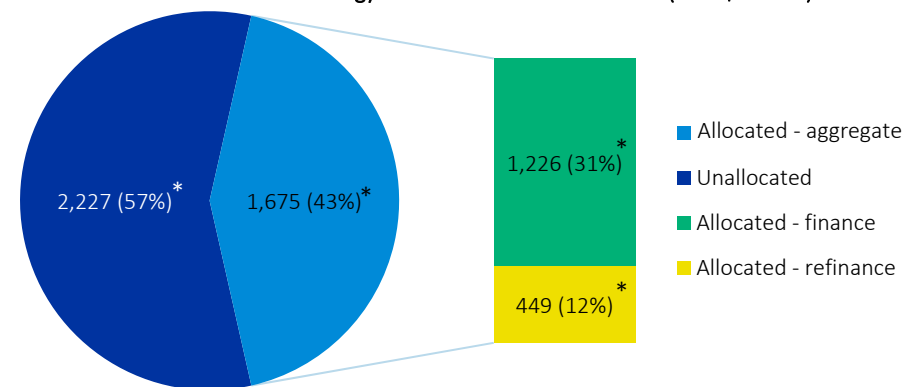
## Use of Proceeds Reporting

By the year end of 2018, the CAPCO US\$500 million Energy Transition Bond was the only issuance under the CAFF. Proceeds from this bond are for financing the construction of a new 550MW 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+ to reduce Hong Kong's carbon intensity by 65% to 70% by 2030 compared with the 2005 level, which includes the policy of increasing the share of gas in the Hong Kong's fuel mix for power generation to around 50% in 2020.

CAPCO's Energy Transition Bond Details	
Issuer	Castle Peak Power Finance Company Limited
Guarantor	Castle Peak Power Company Limited
Issue Date	25 July 2017
Tenor	10 years
Nominal Issued Amount	US\$500 million
Coupon	3.25% per annum
Listing	The Stock Exchange of Hong Kong
ISIN Code	XS1648263926

Bond proceeds were swapped into Hong Kong dollar of about HK\$3.9 billion to mitigate foreign exchange risk and the full amount is earmarked for the CCGT project. Bond proceeds were applied at the outset of the bond tenor to replace bank debt bridge facilities designated to the CCGT project and the remaining balance was credited to dedicated bank account/deposits pending settlement of future CCGT related payments. As at the reporting date of 31 December 2018, the use of the bond proceeds is illustrated in the chart below:

Allocation of CAPCO's Energy Transition 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



## 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%#, 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>

# Provisional figure

## Progress in 2018

- All major equipment has arrived at site on schedule.
- Turboset comprising of gas turbine, steam turbine and generator has been placed on foundation and is undergoing alignment. Installation of ancillary equipment has commenced.
- All steam generating modules and steam drums of the heat recovery steam generator (HRSG) have been installed and pipework installation has commenced.
- Installation of the 400kV transmission network connection equipment for the new generator has been completed.
- Circulating water system civil works are progressing.
- Construction methods to minimize off-site disposal of construction materials and prevent off-site waste water discharge are being effectively employed.
- Building Environmental Assessment Method (BEAM Plus) Provisional Platinum rating undergoing assessment by the Hong Kong Green Building Council (HKGBC). This highest rating would signify that the planning, design, construction and commissioning of the new CCGT project has adopted an affordable range of best practices in seeking to reduce the environmental impacts of the new building whilst also improving environmental quality and user satisfaction.
- Scheduled to have the new unit in commercial operation by 2020.



Storage on-site and re-use of excavated materials reducing off-site disposal of construction waste



Treatment of site waste water



Use of treated waste water preventing off-site discharge of dirt & dust



On-site noise monitoring