2020 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. In June 2020, CLP updated its CAFF to reflect the increased climate-related commitments made by CLP in the latest Climate Vision 2050 and the broader range of financial transactions that CLP is considering to raise funding for its climate actions.

Following the update, Castle Peak Power Company Limited (CAPCO), a key subsidiary of CLP engaging in the electricity generation business in Hong Kong, has entered into a series of energy transition finance transactions to finance the construction of an offshore liquefied natural gas (LNG) receiving terminal in Hong Kong waters and its associated subsea pipeline and gas receiving station.

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 Finance Transactions (including bonds, loans and other forms of finance). There are two types of Climate Action Finance Transactions under the CAFF:

- **New Energy Finance Transactions** whose use of proceeds is to develop renewable energy, energy efficiency and low emissions transportation infrastructure projects; and
- **Energy Transition Finance Transactions** whose use of proceeds is to (i) develop gas-fired power plants and associated enabling infrastructure to support the transition from coal fired power generation in markets with limited renewable energy resources, and (ii) the conversion of coal fired power plants and the facilities or modifications associated with such conversion, which, in both cases, will result in carbon emission no more than 450gCO_2/kWh at baseload.

The Green Bond Principles (GBP), updated as of June 2018, and Green Loan Principles (GLP), update as of May 2020, are voluntary process guidelines that recommend transparency and disclosure and promote integrity in the development of the Green Bond and Loan markets by clarifying the approach for issuance of a Green Bond or Loan.

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

The table below summarises how CLP Climate Action Finance Transactions align with the GBP and GLP.

It is noted that the use of proceeds of the Energy Transition Finance Transactions is not included in the indicative list of Green Project categories under the use of proceeds section in the GBP and GLP, otherwise CLP Climate Action Finance Transactions issued under the CAFF align with both the GBP and GLP.

Components	Energy Transition / Emission Reduction Bonds	New Energy Bonds
Use of Proceeds	· Develop gas-fired power plants and associated enabling infrastructure to support the transition from coal-fired generation in markets with limited renewable energy resources · The conversion of coal fired power plants and the facilities or modifications associated with such conversion, which, in both cases, will result in carbon emission no more than 450gCO_2/kWh at baseload	· Renewable energy · Energy efficiency · Low carbon transport infrastructure
Process for Project Evaluation and Selection	· Business units propose projects for eligible use of proceeds and Climate Action Finance Transaction · Climate Action Finance Committee reviews and approves the eligibility of proposed use of proceeds and Climate Action Finance Transaction	
Management of Proceeds	· Proceeds of each Climate Action Finance Transaction are credited to dedicated bank accounts/ deposits pending allocation to eligible projects · Use of proceeds tracked through business units' internal information system with individual register established for each Climate Action Finance Transaction	
Reporting	· Climate Action Finance Report issued on an annual basis disclosing the below information of Climate Action Finance Transactions not yet fully repaid: – Identity of issuing business unit – Type of Climate Finance Transactions entered into – Aggregate amounts of proceeds allocated – Remaining balance of unallocated proceeds – Estimation of beneficial impact of the use of proceeds – Information on projects with allocation of bond proceeds · The Climate Action Finance Report will be reviewed by the Climate Action Finance Committee and published within CLP's Sustainability Report	

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 Finance Transaction 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 sustainable finance independent assessment, has provided a second party opinion on the CAFF. It is DNV GL's opinion that there are clear environmental benefits for the investments to be funded under the CAFF.

Conclusion of DNV GL Second Party Opinion

DNV GL notes that the Use of Proceeds of the New Energy Finance Transactions are included in the indicative list of sectors included in the section 1 of Green Bond Principles and Green Loan Principles whilst the Use of Proceeds of Energy Transition Finance Transactions 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 2018 and Green Loan Principles 2020.

Based on the information provided by CLP and the work undertaken, it is DNV GL's opinion that the CAFF meets the criteria established in the Protocol and there are clear environmental benefits for the investments to be funded under the CAFF.

See CLP Climate Action Finance Framework

See DNV GL Second Party Opinion Report

Climate Action Finance Transaction Portfolio

In 2020, CAPCO has entered into a series of energy transition finance transactions to finance the construction of an offshore LNG receiving terminal in Hong Kong waters and its associated subsea pipeline and gas receiving station. They allow CLP to purchase gas directly from more diversified sources for its gas-fired electricity generation facilities, to significantly replace the existing coal-fired generation units in the CAPCO supply area. They also enable Hong Kong to meet its fuel mix target of increasing gas-fired power generation to around 50% in 2020. These energy transition finance transactions included the issuance of a US $350 million 10-year fixed rate Energy Transition Bond, the inaugural HK$3.3 billion medium-term Energy Transition Loan facility (partially cancelled and reduced to HK$1.3 billion subsequently) and HK$2.0 billion long-term Sinosure-covered energy transition loan facility.

The below table summarises all Climate Action Finance Transactions under CAFF as at 31 December 2020:

Summary of Climate Action Bonds			
Issuer	Castle Peak Power Finance Company Limited		
Guarantor	Castle Peak Power Company Limited		
Type	Energy Transition	New Energy	Energy Transition
Project	Combined Cycle Gas Turbine (CCGT) Generation Unit	Landfill Gas Renewable Energy Generation	Offshore LNG Receiving Terminal
Issue Date	25 July 2017	9 July 2019	22 June 2020
Tenor	10 years	25 years	10 years
Nominal Issued Amount	US$500 million	HK$170 million	US$350 million
Coupon	3.25% per annum	2.80% per annum	2.20% per annum
Listing	The Stock Exchange of Hong Kong	Not Listed	The Stock Exchange of Hong Kong
ISIN / Common Code	XS1648263926	202355293	XS2190958301
Amount Allocated	HK$3,902 million	HK$164 million	HK$1,496 million

Summary of Climate Action Loans		
Borrower	Castle Peak Power Company Limited	
Type	Energy Transition	
Project	Offshore LNG Receiving Terminal	
Agreement Date	30 June 2020	14 September 2020
Tenor	3 years	15 years
Facility Amount	HK$1,325 million	HK$1,961 million
Reference Code	ETL01	ETL02
Amount Allocated	HK$99 million	nil

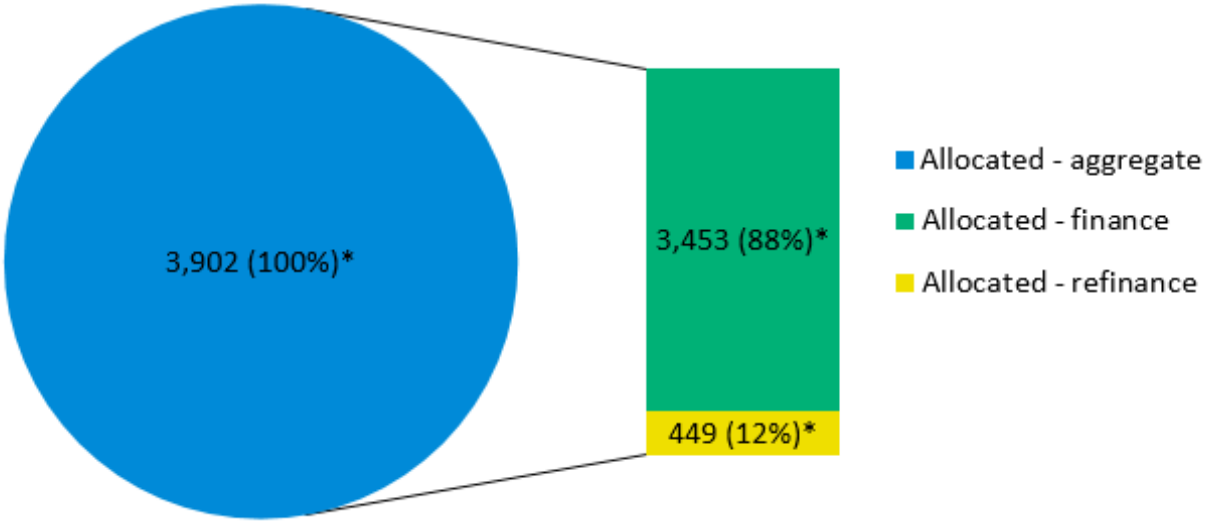
Use of Proceeds Reporting

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.

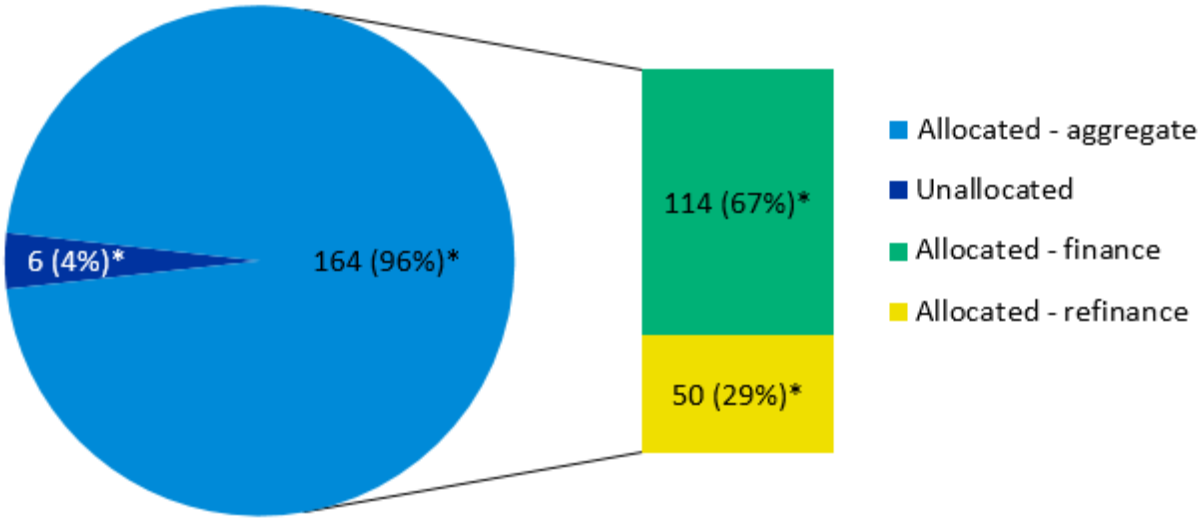
Bank facilities were drawn at the outset of the loan tenor to replace bank debt bridge facilities designated to specific projects and the undrawn portion would be utilised upon settlement of project related payment.

As at the reporting date of 31 December 2020, the use of the bond and loan proceeds are illustrated in the charts below:

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

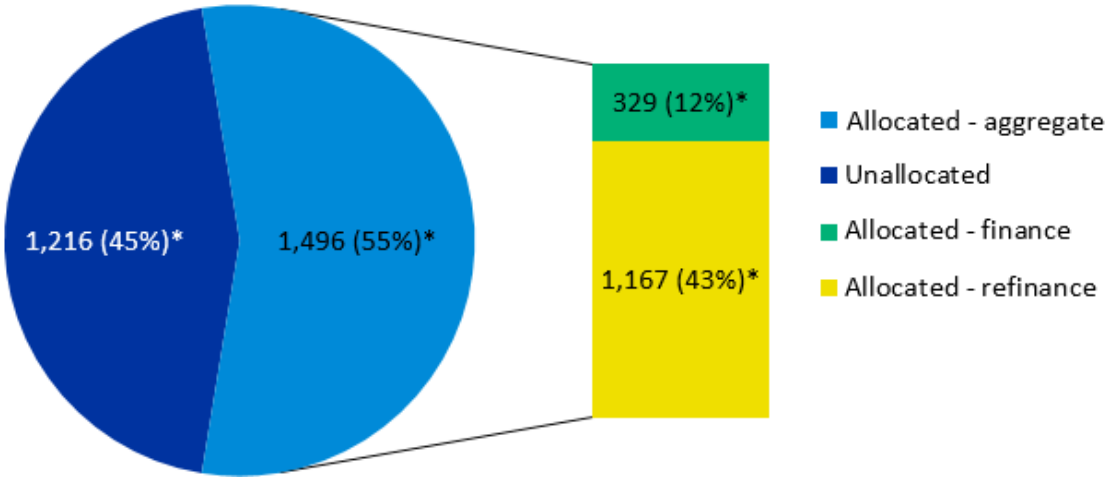


Allocation of Net Proceeds of CAPCO's New Energy Bond for Landfill Gas Renewable Energy Generation Project (in HK$ million)

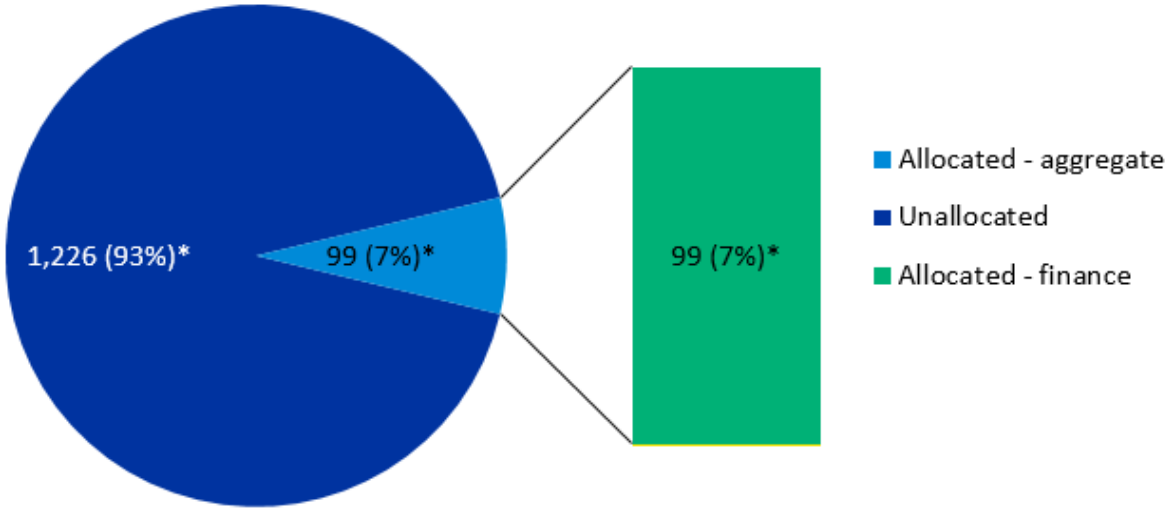


Information has been subject to independent limited assurance by PwC

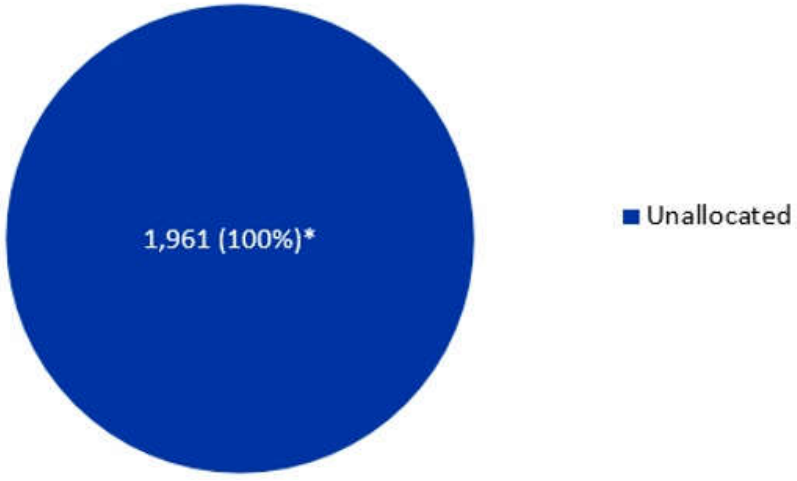
Allocation of Net Proceeds of CAPCO's Energy Transition Bond for Offshore LNG Receiving Terminal Project (in HK$ million)



Allocation of Net Proceeds of CAPCO's Energy Transition Loan (ETL01) for Offshore LNG Receiving Terminal Project (in HK$ million)



Allocation of Net Proceeds of CAPCO's Energy Transition Loan (ETL02) for Offshore LNG Receiving Terminal Project (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":

- For each CLP Climate Action Finance Transaction, the followings are disclosed:
  - identity of the CLP Group Business Unit that has entered into a CLP Climate Action Finance Transaction;
  - type of CLP Climate Action Finance Transaction entered into (i.e. Energy Transition Finance Transaction or New Energy Finance Transaction);
  - aggregate amounts of proceeds allocated;
  - estimation of beneficial impact of the use of proceeds;
  - the remaining balance of unallocated proceeds at the reporting period end;
  - a Climate ActionFinance Transaction is added to this report when the transaction was entered into during the reporting period; and
  - a Climate Action Finance Transaction is removed from this report when the bond or loan has been fully repaid.

Assurance of Climate Action Finance Report

CLP has engaged PricewaterhouseCoopers (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
Plant Performance Information	Adopting the latest advanced H-Class CCGT technology, the new CCGT unit (D1) has an installed capacity of 550MW and is more efficient than the existing Black Point Power Station gas-fired generation units adopting F-Class CCGT technology
Beneficial Environmental Impact	· CO_2emission intensity of 346 gCO_2/kWh in 2020[1,2,3] · Estimated CO_2 avoidance of 138 kT in 2020[1,2,4]

1 The reporting of carbon emission intensity and estimation of carbon emission avoidance was after the project was commissioned in October 2020.
2 Information has been subject to independent limited assurance by PwC.
3 CO_2 emission intensity is the actual CO_2 emission from D1 divided by the electricity sent-out from D1.
4 Methodology and assumptions used in estimating CO_2 emissions avoidance:
The CO_2 avoidance is the difference in CO_2 emission by Black Point Power Station (BPPS) and Castle Peak Power Station (CPPS) with D1 and without D1. For the scenario of "with D1" in CLP's electricity generation system, the CO_2 emissions by BPPS and CPPS were based on the actual figures recorded. For the scenario of "without D1", the CO_2 emissions by BPPS and CPPS were estimated on monthly basis based on their respective estimated hourly electricity generation multiplied by their respective actual carbon emission intensity (gCO_2/kWh) in that month. The electricity generation by BPPS and CPPS was estimated hourly based on the actual electricity demand and plant dispatch requirements to meet the customers load demand environmentally, reliably and economically in the hour.

Progress in 2020

- Completed all construction and equipment installation works.
- Achieved the key milestone of unit first-fire and synchronization in January 2020.
- The new CCGT unit went into operation as baseload unit in early July 2020 and was commissioned in October 2020.
- 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.
- Construction methods to minimize fugitive dust generation and prevent off-site waste water discharge were effectively employed.

Project Updates – Landfill Gas Energy Generation

CAPCO's Landfill Gas Renewable Energy Generation at West New Territories (WENT) Landfill (WE Station)	
Location	WENT Landfill, Tuen Mun, Hong Kong
Installed Capacity	10MW
Plant Performance Information	Installation of 5x2MW landfill gas (LFG) generator sets at WE Station to utilize the excess LFG of around 4,500m^3/hour for electricity generation in support of local renewable energy (RE) development.
Beneficial Environmental Impact	· RE generation of 22 GWh in 2020[1,2,3] · Estimated CO_2 avoidance achieved in 2020: 12 kT[1,2,4]

1 The reporting of RE generation and the estimation of carbon emission avoidance was after the project was commissioned in March 2020.
2 Information has been subject to independent limited assurance by PwC.
3 The annual renewable energy generated was based on the actual electricity generation from LFG generation units as recorded by CLP.
4 Methodology and assumptions used in estimating CO_2 emissions avoidance:
Since the RE generation from WE Station had displaced the electricity generation that would have been required from the existing fossil fuel plants at CPPS and BPPS if the LFG generation units at WE Station were not commissioned, the avoidance of the associated CO_2 emission was estimated on monthly basis from the displaced electricity generation multiplied by the average actual carbon emission intensity of BPPS and CPPS in that month.

Progress in 2020

- Completed all construction works and equipment installation works.
- The 5x2MW LFG generator sets went into operation in March 2020 after completing all the required commissioning tests.

Project Updates – Offshore LNG Receiving Terminal

CAPCO's Hong Kong Offshore LNG Receiving Terminal (HKOLNGT)	
Location	Offshore waters to the east of the Soko Islands, Hong Kong
Plant Performance Information	The terminal is built to provide reliable and secure supply of natural gas at competitive prices for CAPCO's gas-fired generation units, and to support Government's energy policies for reducing carbon intensity. Major facilities of the project include: · A double berth jetty with LNG unloading equipment · A Floating Storage and Regasification Unit (FSRU) with LNG storage tanks and regasification equipment · A subsea pipeline connecting the jetty and a gas receiving station at Black Point Power Station
Estimation of Beneficial Environmental Impact	Expected around 0.7 to 1.9 million tons of CO_2 emissions avoided per year during normal operation

Progress in 2020

- Awarded engineering, procurement and construction (EPC) contracts.
- Offsite fabrication works on the jacket structures for the jetty continued.
- Completed marine engineering surveys.
- Completed the first jacket structure marine installation at the jetty site.
- Scheduled to have the offshore LNG receiving terminal in commercial operation by 2022.

Loading out of the first Jacket structure from fabrication yard to the jetty site

Implementation of marine mammal exclusion zone monitoring to minimize disturbance to marine mammals during piling

Use of bubble curtain as mitigation measure to further reduce underwater noise from piling during jetty construction