

Green Bond Framework The Government of the Hong Kong Special Administrative Region

Dated

28 March 2019

Introduction

The Government of the Hong Kong Special Administrative Region of the People's Republic of China (the "**HKSAR Government**") is committed to developing the Hong Kong Special Administrative Region (the "**HKSAR**" or "**Hong Kong**") into a more sustainable and liveable city.

The good health of our environment determines whether we and other species can be sustained and thrive in the longer term. The HKSAR Government has made efforts in improving the environment, including air quality, water quality, waste management, biodiversity conservation; promoting energy efficiency and conservation, green buildings and renewable energy; as well as making Hong Kong climate-resilient. This Green Bond Framework ("GBF" or the "Framework") sets out how the HKSAR Government intends to issue Green Bonds to fund projects that will improve the environment and facilitate the transition to a low carbon economy.

1. Background on HKSAR's commitments and/or environmental policies

Hong Kong's Climate Actions

In January 2017, the Environment Bureau ("**ENB**") published Hong Kong's Climate Action Plan 2030+¹, which represents the outcome of the dedicated work of all bureaux and relevant departments, in support of the Steering Committee on Climate Change chaired by the Chief Secretary for Administration². The Action Plan sets out Hong Kong's carbon emissions reduction target for 2030 and the concerted plans for achieving it.

The Paris Agreement, which came into force in November 2016, applies to the HKSAR. As such, Hong Kong will implement the Paris Agreement and will follow its reporting timeline. Hong Kong targets to reduce its carbon intensity (carbon per unit of Gross Domestic Product (GDP)) by between 65% and 70% by 2030 compared with 2005 level, which is equivalent to an absolute reduction of 26% to 36%, or a reduction in per capita emissions from 5.7 tonnes in 2016 to 3.3 - 3.8 tonnes by 2030.

In order to support the transition to a low carbon economy and minimise climate change's impact on our environment, various Bureaux and Departments ("**B&Ds**") have carried out a number of measures and published policy documents to address major

The Chief Secretary for the Administration is the most senior official in the HKSAR Government under the Chief Executive.

https://www.enb.gov.hk/sites/default/files/pdf/ClimateActionPlanEng.pdf

environmental issues in Hong Kong and to map out blueprints for low carbon and sustainable development. The following is a summary of these measures, blueprints and policies:

Pollution Prevention and Control

Clean Air for Hong Kong

ENB launched A Clean Air Plan for Hong Kong ("CAP 2013")³ in March 2013 to set out comprehensive polices to control air emissions from various sources, including land and sea transport, and power plants. CAP 2013 also outlines measures for strengthening collaboration with Guangdong Province of the Mainland to address regional pollution. In June 2017, ENB released the Clean Air Plan for Hong Kong, 2013-2017 Progress Report⁴ to give an account of the results of CAP 2013.

Taking into account various possible measures (such as the use of low sulphur fuel in ocean-going vessels at berth and improvement of energy efficiency of buildings, etc.) and views from stakeholders, ENB and the Environmental Protection Department ("EPD") are reviewing the Air Quality Objectives to identify possible scope for further tightening.

Water Quality Improvement

To safeguard public health and aquatic life, ENB and EPD are committed to improving water quality in Hong Kong. EPD has devised the Harbour Area Treatment Scheme ("HATS") and Sewerage Master Plans ("SMPs") to provide a blueprint of the sewerage infrastructure required to collect the sewage and direct it to treatment facilities before disposal into the sea in an environmentally acceptable manner. The HATS and recommendations of these SMPs are being carried out progressively to cater for the present and future development needs of Hong Kong. With the implementation of the HATS and SMPs, the sewerage network now covers 93% of our population with a total treatment capacity of 2.8 million cubic metres per day.

Waste Management / Resource Recovery

In order to tackle the imminent waste challenge, ENB has released the Hong Kong: Blueprint for Sustainable Use of Resources 2013-2022⁵ (the "**Blueprint**") to map out

³ https://www.enb.gov.hk/en/files/New_Air_Plan_en.pdf

 $^{^{4} \}quad https://www.enb.gov.hk/sites/default/files/CleanAirPlanUpdateEng_W3C.pdf$

⁵ https://www.enb.gov.hk/sites/default/files/pdf/WastePlan-E.pdf

comprehensive strategies with targets, policies and action plans for waste management. The Blueprint has recommended, as a sustainable and environmental waste disposal method, to build a network of integrated waste management facilities to turn municipal solid waste to energy and also to construct various facilities to handle large quantities of organic wastes being disposed of on a daily basis. The Blueprint also recommends the implementation of producer responsibility schemes as a major policy tool to promote resource recovery and the creation of a circular economy.

Nature Conservation/ Biodiversity

Country parks and nature reserves cover about 40% land area of Hong Kong. A total of 24 country parks have been designated for the purposes of nature conservation, countryside recreation and outdoor education. There are 22 special areas created mainly for the purpose of nature conservation. In December 2016, the HKSAR Government released the first city-level Biodiversity Strategy and Action Plan 2016-2021 ("BSAP")⁶ for Hong Kong. The BSAP outlines the strategy and actions to be taken for conserving biodiversity within and outside Hong Kong as well as supporting sustainable development. It also sets out an action plan of 67 specific actions in four major areas, i.e. enhancing conservation measures, mainstreaming biodiversity, improving knowledge and promoting community involvement, so as to step up biodiversity conservation and support sustainable development in Hong Kong according to our own conditions and capabilities.

Green Buildings

As buildings account for about 90% of electricity consumption in Hong Kong, the HKSAR Government is working on multiple fronts to promote green buildings. In 2015, ENB and Development Bureau updated a joint circular entitled Green Government Building which states that all new government buildings of construction floor area above 5,000 square metres with central air-conditioning or those above 10,000 square metres should aim to obtain the second highest grade (i.e. "Gold" rating) or above under the Building Environmental Assessment Method ("BEAM") Plus as far as practicable⁷. All new government buildings are also required to outperform the Building Energy Code under the Buildings Energy Efficiency Ordinance (Cap. 610) by 3% to 10%. As regards existing government buildings, B&Ds are also encouraged to seek green building certifications in particular those that are planned to undergo major renovation

⁶ https://www.afcd.gov.hk/tc_chi/conservation/Con_hkbsap/files/HKBSAP_ENG_2.pdf

Other internationally recognised building environmental assessment systems which are suitable for Hong Kong's local use and the relevant building types may be considered with full justifications.

or retrofitting works to showcase the green achievements made. Please refer to the Appendix for details on the local green building certification.

Energy Efficiency and Conservation

In May 2015, ENB published the Energy Saving Plan for Hong Kong's Built Environment 2015-2025+8, which sets a target of reducing Hong Kong's energy intensity by 40% by 2025 compared to the 2005 level. The Plan sets out the strategy and policies measures to promote green buildings and energy efficiency on multiple fronts. The HKSAR Government is leading by example with a commitment to making both new and existing government buildings more energy efficient. The phased implementation of the District Cooling System ("**DCS**") at the Kai Tak Development, the first of its kind in Hong Kong, is on track. The maximum annual saving in electricity consumption upon completion of this entire DCS project is estimated to reach 85 million kilowatt-hour (or about 35% reduction as compared with the original electricity consumption using traditional air-cooled air-conditioning system). The HKSAR Government will consider the provision of DCS in new development areas and redevelopment areas to foster low-carbon development.

Renewable Energy

The HKSAR Government has been taking the lead in promoting the development of renewable energy where technically and financially feasible. The HKSAR Government has also committed to applying renewable energy on a wider and larger scale in the coming years based on mature and commercially available technologies. To do so, the HKSAR Government has earmarked HK\$1 billion (US\$127 million) for the provision of small-scale renewable energy installations in government buildings, venues and community facilities. The HKSAR Government is also actively exploring the development of large-scale renewable energy projects, such as floating photovoltaic systems at impounding reservoirs and photovoltaic systems at suitable landfills.

Further to this, the HKSAR Government supports private development of renewable energy projects such as rooftop solar panels or wind systems by introducing the Feedin tariff ("**FiT**") rates at HK\$3-5/kWh (or US\$0.384 - 0.641/kWh)⁹ depending on the generation capacity, which is estimated to reduce the payback period of most renewable energy systems within 10 years.

https://www.enb.gov.hk/sites/default/files/pdf/EnergySavingPlanEn.pdf

The current residential tariff rates (excluding rebate) of the two power companies in Hong Kong are about US\$0.144 for the CLP Power Hong Kong Limited and US\$0.107 for the Hongkong Electric Company Limited.

Clean Transportation

In order to enhance the sustainability, connectivity, livability and mobility of our city, the HKSAR Government has been developing a comprehensive public transport system combined with different means of transport of which railway, a clean transportation, forms the backbone of the system. The HKSAR Government accords high priority in developing railway network to alleviate traffic congestion and attenuate air pollution. In September 2014, Transport and Housing Bureau announced "Railway Development Strategy 2014" which recommends seven new railway schemes in new towns. On completion of the schemes, there will be over 300 kilometres of railways in Hong Kong covering areas inhabited by 75% of local population. The railways would bring environmental benefits of about 2% to 4% reduction of emissions of roadside air pollutants and greenhouse gases each year.

2. HKSAR's Support for Green Bond Market

As an international trade, commercial and financial centre, Hong Kong plays a critical role in channelling global capital to green assets as a bridge between the Mainland as well as international enterprises and investors. Hong Kong has an important role to play in the global economy's transition towards a low carbon and sustainable economy and is well positioned to be primary leading centre for green finance in the region and around the world, especially given the HKSAR Government's determination to continue moving forward in its efforts to protect the environment. To this end, the HKSAR Government is taking forward various initiatives to develop green finance in Hong Kong.

In considering the crucial importance to develop local expertise in green certification services, the HKSAR Government has been encouraging the Hong Kong Quality Assurance Agency ("HKQAA") to develop a Green Finance Certification Scheme ("GFCS"), which provides third-party conformity assessment on green financial instruments by making reference to a number of international and national standards.

As announced in the Chief Executive's 2017 Policy Address and the Financial Secretary's 2018-19 Budget (the "2018-19 Budget"), the HKSAR Government will launch a Government Green Bond Programme ("GGBP") with a borrowing ceiling of HK\$100 billion (US\$12.8 billion), to demonstrate our support for sustainable

The seven railway proposals are Northern Link (and Kwu Tung Station), Tuen Mun South Extension, East Kowloon Line, Tung Chung West Extension, Hung Shui Kiu Station, South Island Line (West) and North Island Line.

 $^{^{10} \}quad https://www.thb.gov.hk/eng/psp/publications/transport/publications/rds2014.pdf$

development and determination to improve the environment and combat climate change, as well as to promote the development of green finance in Hong Kong.

In June 2018, the HKSAR Government announced the launch of the Green Bond Grant Scheme ("GBGS"), as promulgated in the 2018-19 Budget, to subsidise eligible green bond issuers in obtaining certification under the GFCS established by the HKQAA. The full cost of obtaining certification under the GFCS for eligible green bond issuances will be granted, up to a maximum of HK\$800,000 (US\$102,564) per bond issuance. First time and repeated issuers with their green bonds of any tenor issued and listed in Hong Kong, and denominated in any currency at a minimum size of HK\$500 million (US\$64.1 million) (or the equivalent in foreign currency), are eligible to apply. The GBGS will be valid for a period of three years.

With the support of the HKSAR Government, the Hong Kong Green Finance Association ("HKGFA") was launched in September 2018 with an aim and mission to gather industry experts and provide policy suggestions to the HKSAR Government and other regulators in developing green finance in the city and positioning Hong Kong as a leading international green finance centre.

3. Framework Overview

This Green Bond Framework sets out how the HKSAR Government intends to raise Green Bonds under the GGBP to fund new financing or the re-financing of works projects under the Public Works Programme of the HKSAR Government that are consistent with its vision to improve the environment, combat climate change and transition to a low carbon economy.

All Green Bond Transactions ("**GBT**") will conform to the principles and conditions set out in this GBF. Green bonds issued under the GBF will be aligned with the Green Bond Principles 2018 ("**GBP**")¹² or as they may be subsequently amended.

The GBT may be done in any currency or tenor and with other terms and conditions including covenants to reflect the financing strategy and plan of the HKSAR Government as updated from time to time and the outcome of the commercial discussions between the Issuer and Manager/Arranger.

¹² http://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/green-social-and-sustainability-bonds/green-bond-principles-gbp

For each GBT, the HKSAR Government asserts that it will comply with the following principles, as set out in this GBF: (i) Use of Proceeds, (ii) Project Evaluation and Selection, (iii) Management of Proceeds and (iv) Reporting.

(i) Use of Proceeds

The proceeds of Green Bonds will be used exclusively to finance or refinance projects that fall under one or more of the "Eligible Categories" in the below table, which will provide environmental benefits and support the sustainable development of Hong Kong. Such projects are defined as "Eligible Projects" under this Framework.

Eligible Projects should be within the territory of HKSAR.

No.	Eligible Categories	Alignment with GBP 2018	Objective and benefits	Description
1.	Renewable energy	Renewable energy	 Climate change mitigation Reduction of GHG emissions Increase of Hong Kong's renewable energy installed capacity and generation. 	Design, construction, installation, operation and connection of renewable energy systems, including solar (photovoltaic), wind and hydropower, at government buildings, venues, facilities and infrastructure.
2.	Energy efficiency and conservation	Energy efficiency	 Climate change mitigation Reduction of GHG emissions Energy savings in the private and public sectors. 	 Design, construction, installation and operation of energy-efficient and energy-saving systems and installations in government buildings and properties; Design, construction and operation of energy-efficient infrastructure, such as the development of DCS.

No.	Eligible Categories	Alignment with GBP 2018	Objective and benefits	Description
3.	Pollution prevention and control	Pollution prevention and control	 Pollution prevention and control Improvement of air quality through the reduction of air pollutant emissions 	Monitoring, treatment systems and facilities for improvement of air quality.
4.	Waste management and resource recovery	Pollution prevention and control	Pollution prevention and control • Reduction in waste generation and improvement of the rate of resource recovery through recycling; ensuring proper treatment of waste for final disposal Climate change mitigation	 Waste treatment, recycling and resource recovery projects; Waste-to-energy projects such as power generation projects from solid waste and sewage sludge with 25% waste-to-energy efficiency¹³, Recycling of organic waste, e.g. food waste into biogas/renewable energy (i.e. biomass energy).
			Reduction of GHG emissions through renewable energy generation	

¹³ Part of the residual will be recycled while the remaining part not suitable for recycling will be disposed of at landfills

No.	Eligible Categories	Alignment with GBP 2018	Objective and benefits	Description
5.	Water and wastewater management	Sustainable water and waste water management	Conservation and sustainable use of water resources Increase of the proportion of wastewater treated, reused and avoided Reduction of water consumption Climate change adaptation Strengthen resilience of the water infrastructure in case of severe weather (droughts, flood) and climate change events	 Establishment of intelligent network management system with analytical tools and associated works to reduce water consumption; Collection, treatment and recycling facilities for grey water, treated effluent and rainwater Provision and rehabilitation of sewerage infrastructure for the collection and treatment of sewage; Construction and maintenance of water infrastructure which help enhance climate resilience.
6.	Nature conservation/ biodiversity	Terrestrial and aquatic biodiversity conservation Environmentally sustainable management of living natural resources and land use	Biodiversity conservation Conservation and sustainable use of terrestrial inland freshwater and marine ecosystems	Conservation and restoration of natural environment and biodiversity such as improvement projects at sites of high conservation value.

No.	Eligible Categories	Alignment with GBP 2018	Objective and benefits	Description
7.	Clean transportation	Clean transportation	 Climate change mitigation Reduction of GHG emissions through the promotion of low carbon transportation. Improvement of air quality Reduction of air pollutant emissions through the promotion of low carbon transportation 	Development, construction and operation of low carbon transportation solutions, including investment in: • projects to build or operate public, urban metro, heavy or light electric rail, nonmotorized, multi-modal transportation; • Construction of infrastructure that supports low carbon transportation, such as ground preparation, stations, signalling equipment, network interfaces including passenger access, ancillary passenger services, facilities required for the safe, clean and efficient operation of the network, utilities and other enabling infrastructure; • Construction of infrastructure and related expenditure which facilitate cycling, such as construction of cycling tracks and bike storage.

No.	Eligible Categories	Alignment with GBP 2018	Objective and benefits	Description
8.	Green buildings	Green buildings	 Climate change mitigation Enhance the sustainability performance of a building, including reduction of GHG emissions through the development of Green Buildings. 	Construction of new government buildings/ facilities and renovation/ retrofitting of existing government buildings/ facilities that have received or are expected to receive a recognised green building certification, such as: • schemes under BEAM Plus with a provisional/ final rating at "Gold" or "Platinum", or "Excellent" or "Good" under the Selective Scheme of BEAM Plus Existing Buildings; or • U.S. Leadership in Energy and Environmental Design (LEED) with a rating at "Gold" or "Platinum".

For the avoidance of doubt, in any case, the Eligible Projects shall not include any project of fossil fuel-based electric power generation or improvement in the efficiency of fossil fuel-based electric power generation. The Eligible Projects shall exclude large scale hydropower plants (>20MW capacity) and concentrated solar power. Biomass generation feedstock will be limited to municipal solid waste, food waste and sewage sludge which will not deplete existing terrestrial carbon pools, such as agricultural or forestry resources.

(ii) Project Evaluation and Selection

The Steering Committee on the Government Green Bond Programme (the "SC") chaired by the Financial Secretary and comprising the Secretary for Financial Services and the Treasury, the Secretary for the Environment and Deputy Chief Executive of the Hong Kong Monetary Authority among others have been set up to oversee the

implementation of the GGBP, to review and approve (a) each GBT under this Framework (b) the allocation of proceeds of each GBT issued to Eligible Projects (c) Eligible Projects continue to meet the eligibility criteria during the life of the bond and (d) reports prepared, in each case in accordance with the terms of this Framework. Senior officials of relevant B&Ds may be invited to join the SC on a need basis.

B&Ds of the HKSAR Government may submit Potential Eligible Projects to the SC for consideration against the eligibility criteria outlined in the Use of Proceeds section, based on the following:

- Description of the project and the technical/scientific approach setting out the environmental benefits to be obtained
- Preliminary, provisional or final certificates received in respect of compliance with relevant standards
- Where applicable, review of energy, water, waste management review data, against relevant standards or benchmarks

If such project is approved as an Eligible Project by the SC in accordance with this Framework, it may be earmarked for the use of proceeds under this GBF.

The secretariat of the SC will maintain notes and records of all approved Eligible Projects and the allocation of proceeds of any GBT.

The HKSAR Government may commission a qualified third party to investigate and report on the eligibility, or otherwise, of projects as Eligible Projects under this Framework.

(iii) Management of Proceeds

The proceeds of each Green Bond will be credited to the Capital Works Reserve Fund ("CWRF"), administered by the Financial Services and the Treasury Bureau ("FSTB") pending earmarking to Eligible Projects.

The proceeds of each GBT will only be allocated to expenditures within the last two and next two financial years¹⁴ from the GBT issuance date. It is also expected that more than half of the proceeds will be allocated to future expenditures.

¹⁴ A financial year of the HKSAR Government runs from 1 April of a calendar year to 31 March of the next calendar year.

For each GBT issued, the FSTB will maintain an internal register to keep track of the following:

(1) Green Bond Transaction details: key information including issuer entity, transaction date, principal amount of proceeds, maturity date, and interest or coupon, the International Securities Identification Number (ISIN), etc.;

(2) Allocation of Proceeds: Information including:

- Confirmation of SC's approval that the project is considered to be an Eligible Project;
- Summary detail of Eligible Projects to which the proceeds of the GBT have been allocated in accordance with this Framework;
- Amount of GBT proceeds allocated to each Eligible Project;
- Aggregate amount of proceeds of GBT allocated to Eligible Projects;
- The remaining balance of unallocated proceeds;
- Estimated environmental benefits;
- Phase of the Eligible Projects (i.e. construction or operational);
- Look-back period of Eligible Projects under re-financing;
- Other necessary information.

Proceeds pending allocation will remain at the CWRF which, as part of the Operational and Capital Reserves of the fiscal reserves, and in accordance with the existing arrangement between the HKSAR Government and the Hong Kong Monetary Authority, is placed with the Exchange Fund at a fixed rate of return determined every year.

(iv) Reporting

The FSTB will provide information on the allocation of the net proceeds of GBT(s) via a Green Bond Report. Such information will be provided on an annual basis. The Green Bond Report will contain the following details:

(1) Summary:

A list of all GBT executed in the reporting period and outstanding at the reporting date and summary terms of each transaction. Key information to be provided will include issuer entity, transaction date, principal amount of proceeds, maturity date, and interest or coupon, the ISIN, etc.

(2) Allocation Reporting – for each GBT:

- Amount of proceeds allocated to the various Eligible Project categories;
- Description of major Eligible Projects;
- Aggregate amount of proceeds of GBT allocated that has been earmarked to Eligible Projects;
- The remaining balance of unallocated proceeds yet to be earmarked;
- Percentages of refinancing and financing of Eligible Projects.

(3) Impact Reporting – for each GBT:

Where possible, the FSTB will report on the environmental (and social impacts where relevant) resulting from Eligible Projects. Subject to the nature of Eligible Projects, availability of information and feasibility, the FSTB will report using impact indicators such as the following, and the relevant impact calculation methodologies and standards:

Eligible Categories	Impact Indicators
Renewable energy	 Installed capacity (MW) and renewable energy generated (MWh) Carbon dioxide (CO2) and other greenhouse gas (GHG) avoided, in CO2e where appropriate (in tonnes)
Energy efficiency and conservation	Annual reduction of energy consumption (% or MWh) CO2 and other GHG avoided, in CO2- equivalent (CO2e) where appropriate (in tonnes)
Pollution prevention and control	Reduction in NOx, PM10 and PM2.5 emissions (in tonnes)
Waste management/ resource recovery	 Waste that is reused, recycled, or otherwise treated (in tonnes) Share of waste reused, recycled or otherwise treated (in % of total tonnes per year) Waste diverted from landfills (in tonnes) Reduction of waste sent to landfill (%) CO2 and other GHG avoided, in CO2e where appropriate (in tonnes) Renewable energy generated (MWh) Waste-to-Energy efficiency (%)

Water and wastewater management	 Water and wastewater treated (in cubic meters) Volume of leakage prevented Annual volume (or population equivalence) of sewage / wastewater collected, conveyed, treated, reused and avoided (in cubic metres) Population (number of people) with access to improved sanitation facilities
Nature conservation/ biodiversity	 Area conserved/restored/sustainably managed (in hectare) Number of nature conservation/biodiversity facilities constructed
Clean transportation	 CO2 and other GHG avoided, in CO2e where appropriate (in tonnes) Tracks built/repaired/modernized (in km) Number of rolling stock, carriages/ locomotives bought or repaired Number of passengers carried
Green buildings	 Number and types of green building certifications obtained Rating level of certifications obtained Total gross floor area (GFA) of buildings concerned Amount of energy saved (MWh) CO2 and other GHG avoided, in CO2e where appropriate (in tonnes)

The Green Bond Report will be reviewed and approved by the SC. The Green Bond Report will be available on the website of the HKSAR Government Green Bond Programme.

The FSTB will engage an independent, qualified third party to assure the contents of the Green Bond Report.

External Review

A Second Party Opinion has been obtained for the Framework from Vigeo Eiris, an independent international provider of Environmental, Social and Governance (ESG) research and services. This Second Party Opinion is available on the website of the HKSAR Government Green Bond Programme.

The inaugural transaction under the Framework is a green bond which has received the 'Green Finance Certificate' (Pre-issuance) from the HKQAA.

Appendix

Building Environmental Assessment Method (BEAM) Plus ("BEAM Plus")

Recognised and certified by the Hong Kong Green Building Council, BEAM Plus offers a comprehensive set of performance criteria for a wide range of sustainability issues relating to the planning, design, construction, commissioning, management, operation and maintenance of a building. By providing a fair and objective assessment of a building's overall performance throughout its life cycle, BEAM Plus enables organisations and companies of all sizes to demonstrate their commitment to sustainable development. For more information, please visit www.hkgbc.org.hk.

Update in "Green Bond Framework of the Government of the Hong Kong Special Administrative Region"

Effective 1 October 2019, the Senior Executive Director replaced the Deputy Chief Executive in representing the Hong Kong Monetary Authority (HKMA) in the Steering Committee on the Government Green Bond Programme. The change in HKMA's representation in the Steering Committee is due to adjustment of duties amongst the senior management of the HKMA announced on 20 September 2019¹.

(Last update: 31 October 2019)

¹ https://www.hkma.gov.hk/eng/news-and-media/press-releases/2019/09/20190920-7/