

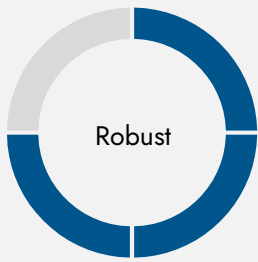
# SECOND PARTY OPINION

on the sustainability of the Government of the Hong Kong Special Administrative Region of the People’s Republic of China’s Green Bond Framework

V.E considers that the Green Bond Framework of the Government of the Hong Kong Special Administrative Region of the People’s Republic of China is aligned with the four core components of the ICMA’s Green Bond Principles 2021 (“GBP”)

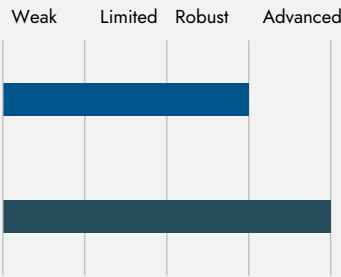
## Framework

Contribution to Sustainability:



- Advanced
- Limited
- Robust
- Weak

SDG Mapping



Characteristics of the Framework

Green Project Categories	⇒ 9 Green Project Categories
Project Locations	Hong Kong, China
Existence of Framework	Yes
Share of Refinancing	Lower than 50%
Look-back Period	Two financial years

## Issuer

The Issuer is not part of our ESG performance rating universe nor the V.E sovereign rating one and our methodology for identifying involvement in controversial activities does not cover local and non-sovereign authorities.

## Coherence

Coherent
Partially coherent
Not coherent

V.E considers that the contemplated Green Bond Framework is coherent with the Government of the Hong Kong Special Administrative Region of the People’s Republic of China’s strategic sustainability priorities and sector issues and that it contributes to achieving the Issuer’s sustainability commitments.

## Key findings

### Contextualisation:

*V.E has been commissioned to provide an SPO update for the Government of the Hong Kong Special Administrative Region of the People's Republic of China's Green Bond Framework first delivered to V.E in 2019.*

V.E considers that the HKSAR Government's Green Bond Framework is aligned with the four core components of the GBP.

### Use of Proceeds - aligned with the GBP

- The Eligible Categories are clearly defined. The Issuer has communicated the nature of the expenditures, the eligibility criteria, and location of Eligible Projects for all categories.
- The Environmental Objectives are clearly defined, relevant and set in coherence with sustainability objectives defined in international standards, for all the Eligible Categories.
- The Expected Environmental Benefits are clear, relevant, measurable, and will be quantified for all the Eligible Categories in the reporting.
- The Issuer has committed to limit the share of refinancing to lower than 50%. The look-back period for refinanced Eligible Categories will be equal or less than two financial years from the issuance date, in line with good market practices.

### Evaluation and Selection - aligned with the GBP

- The Process for Project Evaluation and Selection has been clearly defined and detailed by the Issuer. The process is well-structured in all the evaluation and selection steps (including the proposal, selection, validation, monitoring of Eligible Categories). The roles and responsibilities are clear and include relevant internal and external expertise. The Process is publicly disclosed in the Green Bond Framework.
- Eligibility criteria for project selection have been clearly defined by the Issuer, including relevant exclusion criteria for all of the Eligible Categories.
- The process applied to identify and manage potentially material environmental and social (E&S) risks associated with the projects is publicly disclosed in this Second Party Opinion. The process is considered advanced: it combines monitoring, identification, corrective and preventive measures, for all Eligible Projects (see detailed analysis on pages 26 - 28).

### Management of Proceeds - aligned with the GBP and best practices identified by V.E

- The Process for the Management and Allocation of Proceeds is clearly detailed and defined, and is publicly available in the Green Bond Framework.
- The allocation period will be 24 months or less.
- The proceeds of the Bond will be placed in the Capital Works Reserve Fund ("CWRF") and tracked by the Issuer in an appropriate manner and attested to in a formal internal process.
- Information on the intended types of temporary placement for the balance of the unallocated proceeds is publicly disclosed. For as long as the Bond is outstanding, the Issuer has committed to periodically adjust the balance of tracked proceeds to match allocations to Eligible Projects. The Issuer has provided information on the procedure that will be applied in case of project divestment or postponement and has committed to reallocate divested proceeds to projects that comply with the Green Bond Framework within 12 months.



### Reporting - aligned with the GBP

- The Issuer has committed to report on the Use of Proceeds on an annual basis through a Green Bond Report, until full allocation and on a timely basis in case of material developments. The report will be publicly available on the Issuer's website<sup>1</sup>.
- The Issuer has committed to include in the reports relevant information related to the allocation of Bond proceeds and the expected sustainable benefits of the Eligible Projects.
- The reporting methodology and assumptions used to report on environmental benefits of the Eligible Projects will be publicly disclosed in the Green Bond Reports.
- An external reviewer will verify the tracking and allocation of funds to Eligible Projects until full allocation and in case of material changes. An external reviewer will verify the reporting on environmental benefits of the Eligible Projects until full allocation and in case of material changes.

### Contact

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<sup>1</sup> <https://www.hkgb.gov.hk/en/greenbond/>

# SCOPE

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V.E was commissioned to provide an updated independent Second Party Opinion (“SPO”) on the sustainability credentials and management of the Green Bonds<sup>2</sup> (the “Bonds”) to be issued by the Government of the Hong Kong Special Administrative Region of the People’s Republic of China (the “Issuer” or “HKSAR Government”) in compliance with the Green Bond Framework (the “Framework”) created to govern their issuance(s). V.E was first commissioned by the HKSAR Government in 2019 to provide an independent SPO on a first version of the Green Bond Framework.

Our opinion is established according to V.E’s Environmental, Social and Governance (“ESG”) exclusive assessment methodology and to the latest version of the voluntary guidelines of ICMA’s Green Bond Principles (“GBP”) - edited in June 2021.

Our opinion is built on the review of the following components:

- Framework: we assessed the Green Bond Framework, including the coherence between the Framework and the Issuer’s environmental commitments, the Bond’s potential contribution to sustainability and its alignment with the four core components of the GBP 2021.

Our sources of information are multichannel, combining data (i) gathered from public sources, press content providers and stakeholders, and (ii) information provided from the Issuer through internal documentation.

We carried out our due diligence assessment from January 12<sup>th</sup> to February 28<sup>th</sup>, 2022. We consider that we were provided access to all documents and interviewees we solicited. For this purpose, we made reasonable efforts to verify the accuracy of all data used as part of the assessment.

## Type of External Reviews supporting this Framework

<input checked="" type="checkbox"/>	Pre-issuance Second Party Opinion	<input checked="" type="checkbox"/>	Independent verification of impact reporting
<input checked="" type="checkbox"/>	Independent verification of funds allocation	<input type="checkbox"/>	Climate Bond Initiative Certification

<sup>2</sup> The “Green Bonds” is to be considered as the bonds to be potentially issued, subject to the discretion of the Issuer. The name “Green Bonds” has been decided by the Issuer: it does not imply any opinion from V.E.

# COHERENCE

Coherent
Partially coherent
Not coherent

V.E considers that the contemplated Green Bond Framework is coherent with the Government of the Hong Kong Special Administrative Region of the People's Republic of China Government's strategic sustainability priorities and sector issues and that it contributes to achieving the Issuer's sustainability commitments.

Asia and the Pacific account for more than 50 per cent of global Greenhouse Gas ("GHG") emissions and is one of the most rapidly developing regions of the world, with a significant proportion of the global population. Main urban area and cities of the region have therefore the great potential to play a key role driving significant positive changes towards sustainable development and environmental protection. By implementing actions targeting clean transportation, urban planning, green buildings, energy efficiency or waste and water management, major cities could effectively support the attainment of the goals of the Paris Agreement and drive meaningful, measurable and sustainable action on climate change. Pursuing a green recovery in the aftermath of COVID-19 presents an opportunity for the region to direct recovery spending into stimulating sustainable jobs and growth.

In January 2017, the HKSAR Government published "Hong Kong's Climate Action Plan 2030+" to set out the target to reduce Hong Kong's carbon intensity by 65% to 70% by 2030 from the 2005 levels and respond to the goal of the Paris Agreement.

Following the publication of the Central People's Government's plan entitled "The Outline of the 14<sup>th</sup> Five-Year Plan for National Economic and Social Development of the People's Republic of China and the Long-Range Objectives Through the Year 2035", the Chief Executive ("CE") of the HKSAR Government announced in the 2020 Policy Address that Hong Kong would strive to achieve carbon neutrality before 2050 (10 years before China's 2060 target) through "Hong Kong's Climate Action Plan 2050" issued in October 2021. The Climate Action Plan 2050 is based on four major decarbonization strategies including different targets and measures, namely: (i) net-zero electricity generation, (ii) energy saving and green buildings, (iii) green transport and (iv) waste reduction.

The HKSAR Government appears to acknowledge its role in addressing these challenges and has formalised several strategies and environmental policies coupled in some cases with quantified targets, including but not limited to:

- Pollution Prevention and Control:
  - Clean Air Plan for Hong Kong 2035 ("CAP 2035") to enhance in the air quality in Hong Kong and meet the ultimate standards of the World Health Organisation Air Quality Guidelines;
  - Hong Kong Roadmap on Popularisation of Electric Vehicles ("EV Roadmap") issued in March 2021, setting out long-term objectives and plans to promote the adoption of electric vehicles and attain zero vehicular emissions by 2050;
  - Harbour Area Treatment Scheme ("HATS") and Sewerage Master Plans ("SMPs") addressing water quality improvement in Hong Kong;
- Waste Management and Resource Recovery:
  - "Waste Blueprint for Hong Kong 2035" issued in February 2021, outlining the strategies, goals and measures to tackle the challenge of waste management up to 2035;
- Nature Conservation / Biodiversity:
  - The Biodiversity Strategy and Action Plan ("BSAP") for Hong Kong issued in December 2016 towards Biodiversity protection within and outside Hong Kong;

- Green Buildings:
  - Green Government Buildings Circular for government buildings, setting specific requirements in terms of, among other things, energy efficiency and targeted ratings of green building certification;
- Energy Efficiency and Conservation:
  - “Energy Saving Plan for Hong Kong’s Built Environment 2015~2025+” setting the target of reducing Hong Kong’s energy intensity by 40% by 2025 using 2005 as the base and implementing projects to meet a projected increase in cooling demand;
- Renewable Energy:
  - Promoting the development of Renewable Energy (“RE”) by earmarking HKD 3 billion (USD 385 million) for the provision of small-scale RE installations;
- Clean Transportation:
  - “Railway Development Strategy 2014” and other dedicated plans focused on the expansion of the railway network in Hong Kong to respond to mobility, traffic congestion and pollution challenges;
  - The HKSAR Government will take forward the measures under the EV Roadmap and the CAP 2035, including the development of green transport network, adoption of environmentally friendly transport modes in new development areas and promotion of the use of new energy ferries.

By creating a Green Bond Framework to issue Bonds to finance or refinance projects related to pollution prevention and control, waste management and resource recovery, nature conservation/biodiversity, green buildings, energy efficiency and conservation, renewable energy, clean transportation, water and wastewater management and climate change adaptation, the HKSAR Government coherently aligns with its sustainability strategy and commitments and addresses main issues in terms of cities’ environmental responsibility.

# FRAMEWORK

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The HKSAR Government has described the main characteristics of the Bonds within a formalised Green Bond Framework that covers the four core components of the GBP 2021 (the last updated version was provided to V.E on February 22<sup>nd</sup>, 2022). The HKSAR Government has committed to make this document publicly accessible on HKSAR Government Bonds website<sup>3</sup>, in line with good market practices.

## Alignment with the Green Bond Principles

### Use of Proceeds



The proceeds of the Bonds will exclusively finance or refinance, in part or in full, projects falling under nine Green Project Categories (“Eligible Categories”), as indicated in Table 1.

- The Eligible Categories are clearly defined. The Issuer has communicated the nature of the expenditures, the eligibility criteria, and location of Eligible Projects for all categories.
- The Environmental Objectives are clearly defined, relevant and set in coherence with sustainability objectives defined in international standards, for all the Eligible Categories.
- The Expected Environmental Benefits are clear, relevant, measurable, and will be quantified for all the Eligible Categories in the reporting.
- The Issuer has committed to limit the share of refinancing to lower than 50%. The look-back period for refinanced Eligible Categories will be equal or less than two financial years from the issuance date, in line with good market practices.

#### BEST PRACTICES

- ⇒ Relevant environmental benefits are identified and measurable for all project categories
- ⇒ The Issuer has committed to limit the share of refinancing to lower than 50%
- ⇒ The look-back period for refinanced assets is equal or less than two financial years, in line with good market practices

<sup>3</sup> <https://www.hkgb.gov.hk/en/greenbond/>

Table 1. V.E's analysis of Eligible Categories, Sustainability Objectives and Expected Benefits as presented in the Issuer's Green Bond Framework

- Nature of expenditures: CAPEX and OPEX
- Location of Eligible Projects: Eligible Projects should be within the territory of the HKSAR Government

ELIGIBLE CATEGORIES	DESCRIPTION	SUSTAINABILITY OBJECTIVES AND BENEFITS	V.E'S ANALYSIS
Renewable Energy	Design, construction, installation, operation and connection of renewable energy systems, including solar (photovoltaic), wind and hydropower, at buildings, venues, facilities and infrastructure.	<p style="text-align: center;"><u>Climate change mitigation</u></p> <p style="text-align: center;">Reduction of GHG emissions</p> <p style="text-align: center;">Increase in the use of renewable energy for electricity generation</p>	<p>The Eligible Category is clearly defined. The Issuer has communicated the nature of the expenditures, the eligibility criteria, and the location of Eligible Projects.</p> <ul style="list-style-type: none"> <li>• Eligible solar and wind projects will include onshore and offshore projects and will exclude concentrated solar power</li> <li>• Eligible hydropower projects will exclude plants with a reservoir and with power density below 5W/m<sup>2</sup> (unless they meet the life cycle-based GHG emission intensity threshold of 100gCO<sub>2</sub>e/kWh)</li> </ul> <p>The Intended Environmental Objective is clearly defined and set in coherence with sustainability objectives defined in international standards.</p> <p>The Expected Environmental Benefit is clear. It is considered relevant, measurable, and will be quantified in the reporting.</p> <p>The eligibility criteria of the projects are in line with the technical screening criteria defined by the EU Taxonomy Climate Delegated Act for the "Energy" category.<sup>4</sup></p>

<sup>4</sup> [https://ec.europa.eu/info/publications/210421-sustainable-finance-communication\\_en#taxonomy](https://ec.europa.eu/info/publications/210421-sustainable-finance-communication_en#taxonomy)



ELIGIBLE CATEGORIES	DESCRIPTION	SUSTAINABILITY OBJECTIVES AND BENEFITS	V.E'S ANALYSIS
Energy Efficiency and Conservation	<ul style="list-style-type: none"> <li>Design, construction, installation and operation of energy-efficient and energy-saving systems and installations in buildings and properties;</li> <li>Design, construction and operation of energy-efficient infrastructure.</li> </ul>	<p><u>Climate change mitigation</u></p> <p>Reduction of GHG emissions</p> <p>Energy saving in the private and public sectors</p>	<p>The Eligible Category is clearly defined. The Issuer has communicated the nature of the expenditures, the eligibility criteria, and the location of Eligible Projects.</p> <ul style="list-style-type: none"> <li>In 2015, the Government published the "Energy Saving Plan for Hong Kong's Built Environment 2015~2025+"<sup>5</sup> which set the target to reduce energy intensity in Hong Kong by 40%, including a reduction in electricity consumption by government buildings by 5% from 2015-16 to 2019-20, using the operating conditions in 2013-14 as the baseline. The target was achieved 1 year in advance and reached a final saving of 7.8% (2.8% above target).</li> <li>The 2019 Policy Address announced the "Green Energy Target" that aims to further improve the Government's energy performance by 6% in the five years ending 2024-2025.</li> </ul> <p>The Intended Environmental Objective is clearly defined and set in coherence with sustainability objectives defined in international standards.</p> <p>The Expected Environmental Benefit is clear. It is considered relevant, measurable, and will be quantified in the reporting.</p> <p>The eligibility criteria of the projects are in line with the technical screening criteria defined by the EU Taxonomy Climate Delegated Act for the "Installation, maintenance and repair of energy efficiency equipment" category.<sup>6</sup></p>

<sup>5</sup> <https://www.enb.gov.hk/sites/default/files/pdf/EnergySavingPlanEn.pdf>

<sup>6</sup> [https://ec.europa.eu/info/publications/210421-sustainable-finance-communication\\_en#taxonomy](https://ec.europa.eu/info/publications/210421-sustainable-finance-communication_en#taxonomy)

ELIGIBLE CATEGORIES	DESCRIPTION	SUSTAINABILITY OBJECTIVES AND BENEFITS	V.E'S ANALYSIS
Pollution Prevention and Control	Monitoring, treatment systems and facilities for improvement of air quality.	<p><u>Pollution prevention and control</u></p> <p>Improvement of air quality through the reduction of air pollutant emissions</p>	<p>The Eligible Category is clearly defined. The Issuer has communicated the nature of the expenditures, the eligibility criteria, and the location of Eligible Projects.</p> <p>The Intended Environmental Objective is clearly defined and set in coherence with sustainability objectives defined in international standards.</p> <p>The Expected Environmental Benefit is clear. It is considered relevant, measurable, and will be quantified in the reporting.</p>
Waste Management and Resource Recovery	<ul style="list-style-type: none"> <li>Waste treatment, recycling and resource recovery projects;</li> <li>Waste-to-energy projects: Power generation projects from solid waste and sewage sludge with 25% waste-to-energy efficiency, as well as life-cycle GHG emissions intensity below 100gCO<sub>2</sub>e/kWh and where waste has been sorted prior to input;</li> <li>Recycling of organic waste.</li> </ul>	<p><u>Pollution prevention and control</u></p> <p>Reduction in waste generation and improvement of the rate of resource recovery through recycling; ensuring proper treatment of waste for final disposal</p> <p><u>Climate change mitigation</u></p> <p>Reduction of GHG emissions through renewable energy generation</p>	<p>The Eligible Category is clearly defined. The Issuer has communicated the nature of the expenditures, the eligibility criteria, and the location of Eligible Projects.</p> <ul style="list-style-type: none"> <li>The Issuer declared a medium-term goal to gradually reduce the per capita Municipal Solid Waste (MSW) disposal rate by 40-45% (2019 baseline) and raise recovery rate to about 55% (2019 baseline) by 2035 through the implementation of MSW charging and other waste reduction and recycling initiatives</li> <li>Eligible projects include improvements of sewage treatment plant to help reduce pollution areas in designated areas of Hong Kong</li> <li>The major types of waste being treated and collected are metals, paper and plastic. Further details on the type of waste collected can be found in the HKSAR Government Waste Statistics for 2020.<sup>7</sup></li> </ul> <p>The Intended Environmental Objectives are clearly defined and set in coherence with sustainability objectives defined in international standards.</p> <p>The Expected Environmental Benefits are clear. It is considered relevant, measurable, and will be quantified in the reporting.</p>

<sup>7</sup> <https://www.wastereduction.gov.hk/sites/default/files/msw2020.pdf>

ELIGIBLE CATEGORIES	DESCRIPTION	SUSTAINABILITY OBJECTIVES AND BENEFITS	V.E'S ANALYSIS
Water and Wastewater Management	<ul style="list-style-type: none"> <li>Establishment of intelligent network management system with analytical tools and associated works to reduce water consumption;</li> <li>Collection, treatment and recycling facilities for grey water, treated effluent and rainwater;</li> <li>Provision and rehabilitation of sewerage infrastructure for the collection and treatment of sewage;</li> <li>Construction and maintenance of water infrastructure which help enhance climate resilience.</li> </ul>	<p><u>Conservation and sustainable use of water resources</u></p> <p>Increase of the proportion of wastewater treated, reused and avoided</p> <p>Reduction of water consumption</p> <p><u>Climate change adaptation</u></p> <p>Strengthen resilience of the water infrastructure in case of extreme weather and climate events including droughts and flood</p>	<p>The Eligible Category is clearly defined. The Issuer has communicated the nature of the expenditures, the eligibility criteria, and the location of Eligible Projects.</p> <ul style="list-style-type: none"> <li>The Issuer declared that the energy efficiency of the water and wastewater treatment facilities is regularly monitored and that measures for the reduction of GHG emissions will be reviewed as part of the ongoing environmental auditing and reporting system.</li> </ul> <p>The Intended Environmental Objectives are clearly defined and set in coherence with sustainability objectives defined in international standards.</p> <p>The Expected Environmental Benefits are clear. It is considered relevant, measurable, and will be quantified in the reporting.</p> <p>An area for improvement would be to implement GHG mitigation measures over the operational lifetime of the projects, in line with international standards (i.e., EU taxonomy and CBI)</p>
Nature Conservation / Biodiversity	Conservation and restoration of natural environment and biodiversity.	<p><u>Biodiversity conservation</u></p> <p>Conservation and sustainable use of terrestrial inland freshwater and marine ecosystems</p>	<p>The Eligible Category is clearly defined. The Issuer has communicated the nature of the expenditures, the eligibility criteria, and the location of Eligible Projects.</p> <ul style="list-style-type: none"> <li>The Issuer has declared that the Eligible Projects in this category will exclusively be related to the sustainable management of Hong Kong's protected areas.</li> </ul> <p>The Intended Environmental Objective is clearly defined and set in coherence with sustainability objectives defined in international standards.</p> <p>The Expected Environmental Benefit is clear. It is considered relevant, measurable, and will be quantified in the reporting.</p>






ELIGIBLE CATEGORIES	DESCRIPTION	SUSTAINABILITY OBJECTIVES AND BENEFITS	V.E'S ANALYSIS
Clean Transportation	<p>Development, construction and operation of and investment in zero direct carbon emission transportation solutions:</p> <ul style="list-style-type: none"> <li>Projects to build or operate public, urban metro, heavy or light electric rail, non-motorised, multi-modal transportation;</li> <li>Construction of infrastructure that supports zero direct carbon emission transportation: ground preparation, stations, signalling equipment, network interfaces (passenger access, ancillary passenger services, facilities required for the safe, clean and efficient operation of the network, utilities and other enabling infrastructure);</li> <li>Construction of infrastructure and related expenditure which facilitate cycling.</li> </ul>	<p><u>Climate change mitigation</u></p> <p>Reduction of GHG emissions through the promotion of zero direct carbon emission transportation</p> <p>Improvement of air quality</p> <p>Reduction of air pollutant emissions through the promotion of zero direct carbon emission transportation</p>	<p>The Eligible Category is clearly defined. The Issuer has communicated the nature of the expenditures, the eligibility criteria, and the location of Eligible Projects.</p> <ul style="list-style-type: none"> <li>The eligible projects apply zero direct emission criteria which is part of the environmental criteria for clean transportation in line with international thresholds (i.e., EU taxonomy and CBI).</li> </ul> <p>The Intended Environmental objective is clearly defined and set in coherence with sustainability objectives defined in international standards.</p> <p>The Expected Environmental Benefit is clear. It is considered relevant, measurable, and will be quantified in the reporting.</p>
Green Buildings	<p>Construction of new buildings/ facilities and renovation/ retrofitting of existing buildings/ facilities that have received or are expected to receive a recognised green building certification<sup>8</sup>:</p> <ul style="list-style-type: none"> <li>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</li> <li>U.S. Leadership in Energy and Environmental Design (LEED) with a rating at "Gold" or "Platinum".</li> </ul>	<p><u>Climate change mitigation</u></p> <p>Enhance the sustainability performance of a building, including reduction of GHG emissions through the development of green buildings</p>	<p>The Eligible Category is clearly defined. The Issuer has communicated the nature of the expenditures, the eligibility criteria, and the location of Eligible Projects.</p> <ul style="list-style-type: none"> <li>The accepted Green Buildings certifications rely on locally and internationally recognised sector standards.</li> </ul> <p>The Intended Environmental Objective is clearly defined and set in coherence with sustainability objectives defined in international standards.</p> <p>The Expected Environmental Benefit is clear. It is considered relevant, measurable, and will be quantified in the reporting.</p> <p>An area for improvement would be to provide further details on the exhaustivity of the international certifications that can be received.</p>

<sup>8</sup> 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

ELIGIBLE CATEGORIES	DESCRIPTION	SUSTAINABILITY OBJECTIVES AND BENEFITS	V.E'S ANALYSIS
Climate Change Adaptation	<ul style="list-style-type: none"> <li>Design, development, installation, operation and connection of observation and early warning systems for extreme weather and climate events;</li> <li>Design, construction, maintenance and operation of infrastructure, buildings and installations for combating climate change and extreme weather and climate events: sea level rise, extreme rainstorms, tropical cyclones, drought and heat.</li> </ul>	<p style="text-align: center;"><u>Climate change adaptation</u></p> <p style="text-align: center;">Strengthen adaptation and resilience capabilities of Hong Kong to combat climate change and extreme weather and climate events</p>	<p>The Eligible Category is clearly defined. The Issuer has communicated the nature of the expenditures, the eligibility criteria, and the location of Eligible Projects.</p> <p>The Intended Environmental Objective is clearly defined and set in coherence with sustainability objectives defined in international standards.</p> <p>The Expected Environmental Benefit is clear. It is considered relevant, measurable, and will be quantified in the reporting.</p>

## SDG Contribution

The Eligible Categories are likely to contribute to 8 of the United Nations' Sustainable Development Goals ("SDGs"), namely:

ELIGIBLE CATEGORY	SDG	SDG TARGETS
Pollution Prevention and Control Clean Transportation		3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination
Water and Wastewater Management		6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations 6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
Renewable Energy Energy Efficiency and Conservation Green Buildings		7.2 By 2030, increase substantially the share of renewable energy in the global energy mix 7.3 By 2030, double the global rate of improvement in energy efficiency
Energy Efficiency and Conservation Clean Transportation		9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities
Pollution Prevention and Control Waste Management and Resource Recovery Clean Transportation		11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons 11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management
Waste Management and Resource Recovery Water and Wastewater Management		12.2 By 2030, achieve the sustainable management and efficient use of natural resources 12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

ELIGIBLE CATEGORY	SDG	SDG TARGETS
Renewable Energy		
Energy Efficiency and Conservation		
Clean Transportation		
Waste Management and Resource Recovery		<p>The projects are likely to contribute to SDG 13 which consists in adopting urgent measures to combat climate change and its impacts.</p>
Green Buildings		
Climate Change Adaptation		<p>13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries</p>
Nature Conservation / Biodiversity		<p>15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements</p> <p>15.a Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems</p>

## Evaluation and Selection of Eligible Projects



- The Process for Project Evaluation and Selection has been clearly defined and detailed by the Issuer. The process is well-structured in all the evaluation and selection steps (including the proposal, selection, validation, monitoring of Eligible Categories). The roles and responsibilities are clear and include relevant internal and external expertise. The Process is publicly disclosed in the Green Bond Framework.
- Eligibility criteria for project selection have been clearly defined by the Issuer, including relevant exclusion criteria for all of the Eligible Categories.
- The process applied to identify and manage potentially material environmental and social (E&S) risks associated with the projects is publicly disclosed in this Second Party Opinion. The process is considered advanced: it combines monitoring, identification, corrective and preventive measures, for all Eligible Projects (see detailed analysis on pages 26 - 28).

### Process for Project Evaluation and Selection

- For the purpose of the Bonds, The Steering Committee on the Government Green Bond Programme (the “SC”) has been created and chaired by the Financial Secretary. This Committee is composed of representatives of but not limited to:
  - Secretary for Financial Services and the Treasury
  - Secretary for the Environment
  - Deputy Chief Executive of the Hong Kong Monetary Authority
- The Project Evaluation and Selection follows the procedure below:
  - HKSAR Government has formalised the Public Works Programme (“PWP”) to govern and control all public works projects of non-recurrent nature. The PWP financing is managed through the CWRF.
  - The CWRF was established as a Resolution passed by Hong Kong’s Legislative Council, which states that the fund is to be administered by the Financial Secretary. The approval power of public works projects is vested with the Finance Committee (“FC”) or public officers under the delegated authority. The Public Works Subcommittee (“PWSC”) falls under the FC and its role is to examine capital works expenditures and make recommendations to the FC.
  - The PWP has clearly structured the stages for the approval of public work projects, from its conception to its implementation that explicitly determine the authority, responsibilities and the specific requirements that must be completed at each stage:
    - Category D: smaller projects/consultancies estimated to cost not more than the prevailing financial ceiling (in general \$50M). Finance Committee has delegated to the Financial Secretary the approval of funding for Category D projects.
    - Category B: The inclusion of the public work project in the PWP of which its preliminary technical feasibility is established on a prima facie basis. Once all procedures are completed, the director of the relevant works department seek funding for the project from the legislature through the presentation of the PWSC paper.



- Category A: The approval of the FC upgrades the project to Category A status with funding approval.
- After receipt of competitive tenders, the authority to accept a tender shall be given from either the relevant tender board or the Controlling Officers, depending on the value of the contract and whether the contract is awarded to the highest combined price-quality scorer or not. When the authority has given its approval, the works department can accept the tender and get construction under way.
- Bureaux and Departments of the HKSAR Government will submit potential Eligible Projects to the SC for consideration against the eligibility criteria outlined in the Use of Proceeds section of the Green Bond Framework, 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 the Green Bond Framework, it may be earmarked for the use of proceeds.
- Bonds Procedure:
  - HKSAR Government has set up the SC, which is responsible for the review and approval of the allocation of proceeds to Eligible Projects
- The traceability and verification of the selection and evaluation of the projects is ensured throughout the process:
  - The SC will annually verify that the Eligible Projects financed by the Bond continue to comply with the eligibility criteria.
  - Minutes of each meeting will be created to ensure decision traceability.

### Eligibility Criteria

The process relies on explicit eligibility criteria (selection and exclusion), relevant to the environmental objectives defined for the Eligible Categories.

- The selection criteria are based on the definitions in the Eligible Categories defined in Table 1 in the Use of Proceeds section.
- The exclusion criteria included in the Green Bond Framework are clear and relevant as they cover the main topics in terms of environmental and responsibility for the Eligible Categories.

An area for improvement includes:

- Specify whether and how the Issuer will monitor potential ESG controversies throughout the life of the bond.

### BEST PRACTICES

⇒ The Issuer reports that it will monitor compliance of selected projects with eligibility and exclusion criteria specified in the Green Bond Framework throughout the life of the instrument and has provided details on content/frequency/duration and on procedure adopted in case of non-compliance.

## Management of Proceeds



- The Process for the Management and Allocation of Proceeds is clearly detailed and defined, and is publicly available in the Green Bond Framework.
- The allocation period will be 24 months or less.
- The proceeds of the Bond will be placed in the Capital Works Reserve Fund (“CWRF”) and tracked by the Issuer in an appropriate manner and attested to in a formal internal process.
- Information on the intended types of temporary placement for the balance of the unallocated proceeds is publicly disclosed. For as long as the Bond is outstanding, the Issuer has committed to periodically adjust the balance of tracked proceeds to match allocations to Eligible Projects. The Issuer has provided information on the procedure that will be applied in case of project divestment or postponement and has committed to reallocate divested proceeds to projects that comply with the Green Bond Framework within 12 months.

## Management Process

- The proceeds of each Green Bond will be credited to the CWRF, administered by the Financial Services and the Treasury Bureau (“FSTB”) pending earmarking to Eligible Projects. For each Green Bond Transaction (“GBT”) issued, the FSTB will maintain an internal register to keep track of the GBT details and allocation of proceeds.
- 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.
- The proceeds of each GBT will only be allocated to expenditures within the last two and next two financial years<sup>9</sup> from the GBT issuance date.
- The SC will annually verify that the proceeds of the Bond match the allocations to Eligible Projects.

### BEST PRACTICES

- ⇒ The allocation period is 24 months or less.
- ⇒ The Issuer has committed not to invest temporarily unallocated proceeds in Green House Gas (GHG) intensive activities or controversial activities.
- ⇒ The Issuer has provided information on the procedure that will be applied in case of project divestment or postponement and it has committed to reallocate divested proceeds to projects that are compliant with the Green Bond Framework within 12 months.

<sup>9</sup> A financial year of the HKSAR Government runs from 1 April of a calendar year to 31 March of the next calendar year.

## Reporting



- The Issuer has committed to report on the Use of Proceeds on an annual basis through a Green Bond Report, until full allocation and on a timely basis in case of material developments. The report will be publicly available on the Issuer's website<sup>10</sup>.
- The Issuer has committed to include in the reports relevant information related to the allocation of Bond proceeds and the expected sustainable benefits of the Eligible Projects.
- The reporting methodology and assumptions used to report on environmental benefits of the Eligible Projects will be publicly disclosed in the Green Bond Reports.
- An external reviewer will verify the tracking and allocation of funds to Eligible Projects until full allocation and in case of material changes. An external reviewer will verify the reporting on environmental benefits of the Eligible Projects until full allocation and in case of material changes.

## Indicators

The Issuer has committed to transparently communicate at Eligible Project level, on:

- Allocation of proceeds: The indicators selected by the Issuer to report on the allocation of proceeds cover all relevant information.

### REPORTING INDICATORS

- ⇒ 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.

- Environmental benefits: The indicators selected by the Issuer to report on the environmental benefits are clear and relevant.

ELIGIBLE CATEGORIES	ENVIRONMENTAL BENEFITS INDICATORS	
	OUTPUTS AND OUTCOMES	IMPACT INDICATORS
Renewable Energy	- Installed capacity (kW) and renewable energy generated (kWh)	- Carbon dioxide (CO <sub>2</sub> ) and other GHG avoided, in CO <sub>2e</sub> where appropriate (in tonnes)

<sup>10</sup> <https://www.hkgb.gov.hk/en/greenbond/>

ELIGIBLE CATEGORIES	ENVIRONMENTAL BENEFITS INDICATORS	
	OUTPUTS AND OUTCOMES	IMPACT INDICATORS
Energy efficiency and conservation	<ul style="list-style-type: none"> <li>- Energy saving in the private and public sectors</li> </ul>	<ul style="list-style-type: none"> <li>- Annual reduction of energy consumption (% or MWh)</li> <li>- CO<sub>2</sub> and other GHG avoided, in CO<sub>2</sub>e where appropriate (in tonnes)</li> </ul>
Pollution prevention and control	<ul style="list-style-type: none"> <li>- Improvement of air quality through the reduction of air pollutant emissions</li> </ul>	<ul style="list-style-type: none"> <li>- Reduction in NO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> emissions (in tonnes)</li> </ul>
Waste management/ resource recovery	<ul style="list-style-type: none"> <li>- Reduction in waste generation and improvement of the rate of resource recovery through recycling; ensuring proper treatment of waste for final disposal</li> <li>- Reduction of GHG emissions through renewable energy generation</li> </ul>	<ul style="list-style-type: none"> <li>- Waste that is reused, recycled, or otherwise treated (in tonnes)</li> <li>- Share of waste reused, recycled or otherwise treated (in % of total tonnes per year)</li> <li>- Waste diverted from landfills (in tonnes)</li> <li>- Reduction of waste sent to landfill (%)</li> <li>- CO<sub>2</sub> and other GHG avoided, in CO<sub>2</sub>e where appropriate (in tonnes)</li> <li>- Renewable energy generated (MWh)</li> <li>- Waste-to-Energy efficiency (%)</li> </ul>
Water and wastewater management	<ul style="list-style-type: none"> <li>- Strengthen resilience of the water infrastructure in case of extreme weather and climate events including droughts and flood</li> </ul>	<ul style="list-style-type: none"> <li>- Water and wastewater treated (in cubic metres)</li> <li>- Volume of leakage prevented</li> <li>- Annual volume (or population equivalence) of sewage / wastewater collected, conveyed, treated, reused and avoided (in cubic metres)</li> </ul> <p>Social Co-Benefit:</p> <ul style="list-style-type: none"> <li>- Population (number of people) with access to improved sanitation facilities</li> </ul>
Nature conservation/ biodiversity	<ul style="list-style-type: none"> <li>- Number of nature conservation/biodiversity facilities constructed</li> </ul>	<ul style="list-style-type: none"> <li>- Area conserved/restored/sustainably managed (in hectare)</li> </ul>
Clean transportation	<ul style="list-style-type: none"> <li>- Tracks built/repared/modernised (in km)</li> <li>- Number of rolling stocks, carriages/ locomotives bought or repaired</li> <li>- Number of passengers carried</li> </ul>	<ul style="list-style-type: none"> <li>- CO<sub>2</sub> and other GHG avoided, in CO<sub>2</sub>e where appropriate (in tonnes)</li> </ul>
Green buildings	<ul style="list-style-type: none"> <li>- Number and types of green building certifications obtained</li> <li>- Total floor area of buildings concerned (in metre square)</li> </ul>	<ul style="list-style-type: none"> <li>- Rating level of certifications obtained</li> <li>- Amount of energy saved (MWh)</li> <li>- CO<sub>2</sub> and other GHG avoided, in CO<sub>2</sub>e where appropriate (in tonnes)</li> </ul>



ELIGIBLE CATEGORIES	ENVIRONMENTAL BENEFITS INDICATORS	
	OUTPUTS AND OUTCOMES	IMPACT INDICATORS
Climate Change Adaptation	- Strengthen adaptation and resilience capabilities of Hong Kong to combat climate change and extreme weather and climate events	- Number and type of adaptation and resilience measures or systems installed

BEST PRACTICES
<ul style="list-style-type: none"> <li>⇒ The Issuer report will be publicly available.</li> <li>⇒ The Issuer will report on allocation of proceeds and on environmental benefits at project level.</li> <li>⇒ The indicators selected by the Issuer are exhaustive with regards to allocation reporting</li> <li>⇒ The indicators selected by the Issuer are clear and relevant and cover all expected benefits associated with the Eligible Categories.</li> <li>⇒ The reporting methodology and assumptions used to report on environmental benefits of the Eligible Projects will be disclosed publicly.</li> <li>⇒ Environmental benefits and impacts will be externally verified, until full allocation and in case of material changes.</li> </ul>

## Contribution to Sustainability

### Expected Impacts

The potential positive Impact of the eligible projects on environmental and social objectives is considered to be robust.

ELIGIBLE CATEGORY	EXPECTED IMPACT	ANALYSIS
Renewable Energy	ADVANCED	<p>As of 2019, around 84% of global primary energy still came from coal, oil and gas.<sup>11</sup> Coal continues to be a critical energy source and is also the most polluting, both in terms of the amount of CO<sub>2</sub> it produces per unit of energy, but also the amount of local air pollution it creates. Developing renewable energy is key for the decarbonisation of the country's energy mix and reducing its GHG emissions but only accounts for 11.4% of the global energy mix as of 2019.<sup>12</sup></p> <p>In Hong Kong, CO<sub>2</sub> emissions for 2019 totalled 40.1 million tons<sup>13</sup> with approximately 66% coming from the power sector alone. Therefore, decarbonisation of the sector is critical for the city to achieve its carbon neutrality goal. The Eligible Projects will help increase Hong Kong's installed capacity of renewable energy as well as its share in the domestic energy mix, through the design, construction, installation, operation and connective of renewable energy systems, including solar photovoltaic assets (onshore and offshore), wind (onshore and offshore) and small hydropower.</p> <p>Nevertheless, Hong Kong is limited by its geographical conditions and resources which means that domestic renewable energy can only play a limited role in Hong Kong's energy mix<sup>14</sup>. Additionally, there may be some short-term negative impacts during the construction and operational phase (e.g., pollution and energy usage during construction, waste, etc.). However, the Eligible Projects overall will bring positive impacts in terms of avoidance of GHG emissions and mitigating climate change. The eligibility criteria of the projects are in line with the technical screening criteria defined by the EU Taxonomy Climate Delegated Act for the "Energy" category, which are one of the most stringent international standards.</p>
Energy Efficiency and Conservation	ADVANCED	<p>As of 2019, around 64% of the world's electricity came from fossil fuels.<sup>15</sup> Reducing energy demand by promoting energy-efficient equipment and appliances is a crucial step to reduce the consumption of fossil fuels globally as well as GHG emission associated with energy usage.</p> <p>The Eligible Category is relevant with Hong Kong's Built Environment 2021-2025 roadmap, which sets target of reducing Hong Kong's energy intensity by 40% in 2025. The HKSAR Government is leading initiatives to implement District Cooling Systems (DCS) to make new and existing government buildings more energy efficient. One of these</p>

<sup>11</sup> <https://ourworldindata.org/fossil-fuels>

<sup>12</sup> <https://ourworldindata.org/energy-mix>

<sup>13</sup> <https://www.climate.gov.hk/files/pdf/Greenhouse%20Gas%20Emissions%20and%20Carbon%20Intensity%20in%20Hong%20Kong.pdf>

<sup>14</sup> <https://www.wri.org.cn/sites/default/files/Pathways%20towards%20a%20Net-Zero%20Emissions%20Power%20System%20for%20Hong%20Kong.pdf>

<sup>15</sup> <https://ourworldindata.org/fossil-fuels#:~:text=Globally%2C%20fossil%20fuels%20account%20for,electricity%20came%20from%20fossil%20fuels.>

ELIGIBLE CATEGORY	EXPECTED IMPACT	ANALYSIS
		<p>initiatives, the Kai Tak Development, will generate an annual saving in electricity consumption of 85 million kilowatt-hour (equivalent to a 35% reduction as compared with the electricity consumption using traditional air-cooled air-conditioning system). The eligibility criteria of the projects are in line with the technical screening criteria defined by the EU Taxonomy Climate Delegated Act for the “Installation, maintenance and repair of energy efficiency equipment” category, which are one of the most stringent international standards.</p>
Pollution Prevention and Control	ROBUST	<p>According to the World Health Organization (WHO) Air Quality Guidelines (AQG), the outdoor air quality of Hong Kong has been considered poor, in particular levels of particulate matters (PM2.5 and PM10) exceeded WHO guidelines by more than 100% in 2016.<sup>16</sup></p> <p>Hong Kong’s air pollution is mainly due to three factors: (i) motor vehicles, (ii) marine vessels and (iii) power plants. The two greatest challenges are local street-level pollution and regional smog. Diesel vehicles (particularly trucks, buses and light buses) are the main source of street-level pollution. Hong Kong’s smog is caused by a combination of pollutants mainly from motor vehicles, industry and power plants in Hong Kong and the Pearl River Delta.</p> <p>The project category is centred around Hong Kong’s Clean Air Plan for Hong Kong 2035 (“CAP 2035”) issued in June 2021 and the EV Roadmap issued in March 2021. The Eligible Projects aim to popularise the wide adoption of electric vehicles to attain zero vehicular emissions before 2050. The Eligible Projects will enable the reduction of negative environmental impacts (e.g., CO<sub>2</sub> emissions from diesel vehicles).</p>
Waste Management and Resource Recovery	ROBUST	<p>According to a 2018 World Bank study, globally 70% of waste is landfilled or just dumped, and around 11% of waste is incinerated. GHG emissions from waste management is estimated to represent 5% of global GHG emissions or 1.6 billion tonnes CO<sub>2</sub>e, primarily from open dumping and disposal in landfills without landfill gas capture systems.<sup>17</sup></p> <p>The Eligible Projects aim to promote recycling and reuse of waste, and potentially reduce the amount of waste ending in landfills and hence reduce associated environmental impacts (e.g., methane emission from landfill, groundwater pollution, etc.). Hong Kong produces over 15,000 tonnes of MSW per day. In 2019, the city exported 1.44 million tonnes of recycled material as a result of the HKSAR Government’s actions for the three largest waste categories: Waste paper, waste plastic and food waste. For waste that cannot be recycled, it will be transformed into energy.</p> <p>Nevertheless, investments in Waste-to-Energy (WtE) projects could lead to lock-in such facilities, diverting further investment needed for waste recycling and reuse. According to the EU Taxonomy, Waste-to-energy plants are activities which would ultimately undermine climate change mitigation objectives and harm environmental objectives. In this sense, waste-to-energy has been excluded as it may harm one of</p>

<sup>16</sup> <https://sph.hku.hk/en/News-And-Events/Press-Releases/2017/HKU-School-of-Public-Health-Launches-New-Version-of-Hedley-Environmental-Index-Better-Inform-and-Ass>

<sup>17</sup> Kaza, S., Lisa, Y., Bhada-Tata, P. and Van Der Woerden, F., (2018). *What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050*. Overview booklet. World Bank, Washington, DC.

ELIGIBLE CATEGORY	EXPECTED IMPACT	ANALYSIS
		<p>the key environmental objectives, that is to ensure the transition to a circular economy, waste prevention and recycling, excluding any activity leading to significant inefficiencies in the use of materials in one or more stages of the life-cycle of products, including in terms of durability, reparability, upgradability, reusability or recyclability of products; or where that activity leads to a significant increase in the generation, incineration or disposal of waste.</p> <p>To curb such lock-in effects, the HKSAR Government have adopted some internationally recognised technical thresholds (i.e., Climate Bond Initiative criteria). However, the Climate Bond Initiative (CBI) thresholds adopted are insufficient to be fully eligible according to CBI's list of criteria for the activity.</p>
Water and Wastewater Management	ROBUST	<p>With no natural lakes, large rivers or underground water, Hong Kong, a densely populated centre of trade and industry, faces challenges of securing a stable and adequate supply of water to meet its development needs. The mountainous landscape of the territory's 1,104 km<sup>2</sup> of land has made collection and storage of the precious rainwater a big challenge.</p> <p>The project category is centred around Hong Kong's Harbour Area Treatment Scheme ("HATS") which came in operation in 2015 and Sewerage Master Plans ("SMPs") since the years 2000s. The Eligible Projects promote the conservation and sustainable use of water across the city with intelligent water management networks and treatment facilities, including the implementation of sewerage infrastructures required to collect the sewage and direct it to treatment facilities before disposal into the sea in an environmentally acceptable manner. Eligible projects will enable the reduction of negative environmental impacts (i.e., water pollution).</p> <p>The HKSAR Government has declared that the energy efficiency of the water and wastewater treatment facilities is regularly monitored and that measures for the reduction of GHG emissions will be reviewed as part of the ongoing environmental auditing and reporting system. We have suggested implementing GHG mitigation measures over the operational lifetime of the projects, in line with international standards (i.e., CBI criteria).</p>
Nature Conservation / Biodiversity	ADVANCED	<p>According to the World Bank, the global decline in biodiversity and ecosystem services creates obstacles for a country's potential attainment of the United Nations Sustainable Development Goals, and is likely to affect the poorest countries the most. The loss of ecosystem services has negative effects on food security, water supply, livelihoods, and output of many economic sectors.</p> <p>Country parks and nature reserves cover about 40% land area of Hong Kong and the Government of the Hong Kong Special Administrative Region of the People's Republic of China has designated a total of 24 country parks for the purposes of nature conservation, countryside recreation and outdoor education. The HKSAR Government has launched the Biodiversity Strategy and Action Plan (BSAP) in December 2016 which will exclusively be related to the sustainable management of Hong Kong's protected areas.</p>



ELIGIBLE CATEGORY	EXPECTED IMPACT	ANALYSIS
Clean Transportation	ADVANCED	<p>As of 2018, transportation accounted for 24% of global CO<sub>2</sub> emissions from energy which totalled 8 billion tonnes of CO<sub>2</sub>. Of these, 45.1% came from passenger transportation (cars, motorcycles, buses, taxis) and 29.4% came from freight transportation (trucks and lorries).<sup>18</sup></p> <p>As of 2019, oil &amp; coal products represented 82% of the fuel type used by Hong Kong's transportation sector. Gas and liquefied petroleum gas (LPG) represented 15% and electricity only 5% for the same year.<sup>19</sup> As such, Eligible Projects aiming at the development, construction and operation of zero direct carbon emission transportation solutions in Hong Kong will be critical to reduce local and global GHG emissions and air pollutants from traffic, providing Hong Kong an early start to its carbon neutrality objectives for 2050.</p> <p>Overall, the technologies proposed within this category align with international standards taxonomies (i.e. EU Taxonomy, CBI).</p>
Green Buildings	ROBUST	<p>According to the United Nations, the real estate sector accounts for 40% of global energy consumption and 30% of GHG emissions.<sup>20</sup> As a result, this sector can play a leading role in how CO<sub>2</sub> emissions are valued and integrated into the development, design and management of real estate assets.</p> <p>Eligible Projects aiming at constructing new buildings and renovating/retrofitting existing buildings in Hong Kong that have received or are expected to receive a recognised green building certification is critical to reduce the share of global energy consumption and GHG emissions of the real estate sector. Eligible categories include some examples of Green Building certifications, but an exhaustive list of recognised sector standards is required to fully assess the impact of the category.</p>
Climate Change Adaptation	ADVANCED	<p>Due to its geographical location, Hong Kong is particularly vulnerable to tropical cyclones between May and November each year which cause severe floods and landslides and ultimately bring long-term consequences such as loss of lives, infrastructure damage and economic downturns.</p> <p>Eligible Projects aim at strengthening Hong Kong's resilience towards natural disasters through the development of early warning systems and the construction of cyclone-proof buildings. The development and installation of weather observation and such early warning systems for extreme weather events is in line with CBI criteria.</p>
OVERALL ASSESSMENT	ROBUST	

<sup>18</sup> <https://ourworldindata.org/co2-emissions-from-transport>

<sup>19</sup> [https://www.emsd.gov.hk/filemanager/en/content\\_762/HKEEUD2021.pdf](https://www.emsd.gov.hk/filemanager/en/content_762/HKEEUD2021.pdf)

<sup>20</sup> <https://www.unepfi.org/publications/investment-publications/property-publications/sustainable-real-estate-investment-2/>

## ESG Risks Identification and Management Systems in Place at Project Level

The identification and management of the environmental and social risks associated with the Eligible Projects are considered advanced.

### Integration of ESG considerations into Public Works

The HKSAR Government has formalised procedures to govern the development, construction and operation of public works, namely the Public Works Programme (“PWP”). We consider that these procedures are exhaustive and adequately structured, covering the identification, monitoring and control of the relevant E&S risks in all the Eligible Projects:

The PWP procedures explicitly state the mandatory E&S requirements for a project to be approved for funding and the government authorities responsible for each stage of the project planning process. While tasks differ from one type of project to another, the general procedures and sequence of stages apply to all Eligible Projects to be financed or refinanced by the Bonds.

The monitoring and reporting of all projects financed by the HKSAR Government is ensured through a register in the Public Works Programme Information System (“PWPIIS”) and the publicly available Quarterly Report on Public Works Programme for major projects.

In addition, the procedures to monitor and control the environmental and social performance of contractors and suppliers entering into contracts for public works are formalised in the Contractor Management Handbook, which is publicly accessible. The Handbook includes:

- Explicit procedures for the admission of contractors and suppliers in the List of Approved Contractors for Public Works or the List of Approved Suppliers of Material and Specialist Contractors for Public Works. (hereafter “the List/Specialist List”). Contractors and suppliers, who would like to apply for admission into the List/Specialist List, must comply with a number of criteria covering, but not limited to, financial, technical and management experience and personnel as well as applicable legislation and regulations, including, for example, the statutory minimum wage under the Minimum Wage Ordinance. These approval criteria are in line with the E&S criteria recommended by V.E. covering the respect to human and labour rights, respect to working conditions including minimum wage and maximum working hours, ensure appropriate health and safety conditions and prevent corruption, fraud and conflict of interest.

In addition, consultants and contractors are required to provide certification of their quality management systems in accordance with ISO 9001:2015 standard and declaration of Conflict of interest.

- A central record system is maintained to monitor the workload, performance and financial status of contractors and suppliers entering into contracts for public works, the Report on Contractor’s Performance (“RCP”). The RCP is a scorecard that assesses 11 relevant criteria and sub-criteria. The first ten criteria assessed are: 1) Workmanship, 2) Progress, 3) Site safety, 4) Environmental pollution control, 5) Organisation, 6) General obligations, 7) Industry awareness, 8) Resources, 9) Design, and 10) Attendance to emergency. Their assessment is based on a five-scale evaluation: 1) Very Good, 2) Good, 3) Satisfactory, 4) Poor and 5) Very Poor. The remaining criteria is the contractor’s attitude to claims and is based on a two-scale evaluation: reasonable/no claim submitted and unreasonable. The assessment of the performance of contractors includes onsite monitoring visits.
- The formalised Regulating Actions include the removal, suspension, downgrading or demotion of contractor/supplier from the List/Specialist List, if a contractor or supplier fails to comply with the standards set in the Handbook including, but not limited to, unsatisfactory performance, misconduct or suspected misconduct, winding-up, bankruptcy or other financial problems, poor site safety record, poor environmental performance, and violation to Hong Kong laws.

### Public Works Programme E&S Due Diligence Procedures

In order to be considered part of the Public Works Programme, all Eligible Projects have to deliver the following relevant documents:

- The Project Definition Statement in which the need of the project and the potential contribution to local development is justified and the compliance with the HKSAR Government policies, policy committees and basic planning standards for the development is confirmed.
- Technical Feasibility Statement including:
  - Detailed project description, land requirements, development constraints (geotechnical aspects, management of construction and demolition material, interface problems, traffic impact, etc.), heritage considerations and greening and landscape considerations.
  - Environmental considerations: categorisation of the project under or not under the Environmental Impact Assessment Ordinance (“EIAO”). Projects under EIAO are required to conduct an Environmental Impact Assessment (“EIA”) study in accordance with the Technical Memorandum on EIA Process or seek permission to apply directly for an Environmental Permit. Other projects should provide dedicated measures to implement standard pollution control measures during construction or to carry out a Preliminary Environmental Review of the project, as appropriate.
  - Further feasibility studies if considered needed. Of note, the engagement of consultants to conduct feasibility studies is structured in a formalised procedure that includes price ceilings.
  - Sustainability Evaluations conducted at the early planning stage of a proposal. Examples of these evaluations include the regional or sub-regional planning studies, comprehensive transport studies, waste management plans, etc.
  - The PWSC paper, which is required for the submission of a project for approval under the PWP. This paper contains, amongst others, project scope, details, cost breakdown, etc.
  - If the project cost estimate is HK\$200M, the Systematic Risk Management has to be implemented. This system includes annual monitoring using a Risk Register, from the project’s inclusion in the PWP until the completion of the project.
- The PWP has a formalised framework of dispute resolution procedures with contractors and suppliers divided in three stages: a decision of the engineer, mediation and arbitration.
- The PWP process includes the consultation with the relevant government departments, district councils, rural committees, and local and industry stakeholders to ensure smooth coordination. In addition, the HKSAR Government has a formalised procedure to confidentially receive and manage complaints from members of the public throughout the lifetime of the project.

### Expansion of the scope of the Government Green Bond Programme (“GGBP”)

In July 2021, the Legislative Council (“LegCo”) of the HKSAR approved the Government’s proposal to expand the scope of the GGBP. Under the expanded scope, the bonds will finance a variety of green projects not limited to major public works mentioned above. The eligible projects and associated ESG procedures are expanded to cover the following:

- minor works projects: e.g. small-scale energy saving, recycling and greening projects;
  - Minor works projects (including pre-construction activity underlying major works), are part of the Government’s Public Works Programme mentioned above and are funded under the CWRF block allocations approved by Financial Secretary acting under the delegated power of Finance Committee (“FC”) of the LegCo.
  - On the management of E&S risks of minor works projects, the Controlling Officers in Bureaux and Departments (“B/Ds”) ensure that all E&S risks are solved prior to starting the projects.

- Project procedures follow the government's standards and guidelines including requirements under the Environmental Impact Assessment Ordinance mentioned above (i.e., Controlling Officers should ensure that the statutory environmental procedures are complied with and environmental permits obtained before the construction and operation of projects).
- Controlling Officers are also mandated to ensure that tree preservation requirements have been adequately addressed before works are committed.
- Major systems and equipment projects: e.g. pollution surveillance, climate observation and early warning projects;
  - Only eligible projects with environmental benefits will be selected for inclusion under the GGBP and would be covered by the same E&S risk mitigation measures prevented above.
- Projects under capital subventions: e.g. hospitals, school and welfare premises projects implemented by non-government organisations.
  - Major projects under capital subventions are approved by the FC like major public works projects.
  - Same as the major public works projects, the execution of all major projects under capital subventions are closely monitored by the relevant Government bureau as the proponent of the projects.
  - The project data are also included in the Public Works Programme Information System for monitoring.

# METHODOLOGY

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In V.E's view, Environmental, Social and Governance (ESG) factors are intertwined and complementary. As such they cannot be separated in the assessment of ESG management in any organisation, activity or transaction. In this sense, V.E provides an opinion on the Issuer's ESG performance as an organisation, and on the processes and commitments applicable to the intended issuance.

Our Second Party Opinions (SPOs) are subject to internal quality control at three levels (Analyst, Project Manager and Quality Reviewer). If necessary, this process is complemented by a final review and validation by the Expertise Committee and Supervisor. A right of complaint and recourse is guaranteed to all companies under our review.

## COHERENCE

Scale of assessment: not coherent, partially coherent, coherent

This section analyses whether the activity to be financed through the selected instrument is coherent with the Issuer's sustainability priorities and strategy, and whether it responds to the main sustainability issues of the sector where the Issuer operates.

## ISSUANCE

Alignment with the Green and/or Social Bond Principles

Scale of assessment: Not aligned, Partially aligned, Aligned, Best Practices

*The Framework has been evaluated by V.E according to the ICMA's Green Bond Principles - June 2021 ("GBP"), and on our methodology based on international standards and sector guidelines applicable in terms of ESG management and assessment.*

Use of proceeds

The definition of the Eligible Projects and their sustainable objectives and benefits are a core element of Green/Social/Sustainable Bonds and Loans standards. V.E evaluates the clarity of the definition of the Eligible Categories, as well as the definition and the relevance of the primary sustainability objectives. We evaluate the descriptions of the expected benefits in terms of relevance, measurability and quantification. In addition, we map the potential contribution of Eligible Projects to the United Nations Sustainable Development Goals' targets.

Process for evaluation and selection

The evaluation and selection process is assessed by V.E on its transparency, governance and relevance. The eligibility criteria are assessed on their clarity, relevance and coverage vs. the intended objectives of the Eligible Projects.

Management of proceeds

The process and rules for the management and the allocation of proceeds are assessed by V.E on their transparency, traceability and verification.

Reporting

The monitoring and reporting process and commitments defined by the Issuer are assessed by V.E on their transparency, exhaustiveness and relevance, covering the reporting of both proceeds' allocation and sustainable benefits (output, impact indicators).

## Contribution to Sustainability

Scale of assessment: Weak, Limited, Robust, Advanced

V.E's assessment of activities' contribution to sustainability encompasses both the evaluation of their expected positive impacts on environmental objectives, as well the management of the associated potential negative impacts and externalities.

### Expected positive impact of the activities on environmental objectives

The expected positive impact of activities on environmental objectives to be financed by the Issuer or Borrower is assessed on the basis of:

- i) the relevance of the activity to respond to an important environmental objective for the sector of the activity;<sup>21</sup>
- ii) the scope of the impact: the extent to which the expected impacts are reaching relevant stakeholders (i.e. the Issuer, its value chain, local and global stakeholders);
- iii) the magnitude and durability of the potential impact of the proposed activity on the environmental objectives (capacity to not just reduce, but to prevent/avoid negative impact; or to provide a structural/long-term improvement);
- iv) the extent to which the activity is adopting the best available option.

### ESG risk management for eligible activities

The identification and management of the potential ESG risks associated with the eligible projects/activities are analysed on the basis of V.E's ESG assessment methodology, international standards and sector guidelines applicable in terms of ESG management and assessment.

## STATEMENT ON V.E'S INDEPENDENCE AND CONFLICT-OF-INTEREST POLICY

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