Discussion Paper

Prototype of a Green Classification Framework for Hong Kong

HONG KONG MONETARY AUTHORITY
香港金融管理局

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Introduction

Climate change is one of the most pressing issues facing the world today. Its impact on the planet can be felt in the form of rising temperatures, melting glaciers, rising sea levels, and more frequent natural disasters. The continued burning of fossil fuels and other human activities are causing greenhouse gas (GHG) emissions, which are trapping heat in the atmosphere and accelerating the process. Asia is one of the most vulnerable hotspots to climate change as the region is experiencing changes in rainfall patterns, rising sea levels, and more frequent extreme weather events, such as typhoons and floods. These events can lead to crop failures, water scarcity, and infrastructure damage, which can have a significant impact on the region's economies. Moreover, the low-lying landscape also makes this region particularly vulnerable to rising sea levels.

Hong Kong is no exception and is similarly affected by the impact of climate change. Temperature increased at a rate of 0.28℃ per decade during 1993-2022[i] whilst, on average, the mean sea level at Victoria Harbour rose at a rate of 32 millimetres per decade during 1954-2022[ii]. In addition, in recent years the jurisdiction is experiencing more frequent and intense weather events, such as typhoons and heavy rainfalls. These events disrupt the city's transportation and communication networks, affecting its economy and the well-being of its citizens.

In an effort to combat climate change, 196 Parties at the United Nations Climate Change Conference adopted the Paris Agreement in 2015[iii]. The Agreement sets ambitious targets for limiting global warming to well below 2℃ above pre-industrial levels and pursues efforts to limit the temperature increase to 1.5℃. The Agreement also calls upon its signatories *"to cooperate with the private sector, civil society, financial institutions, cities and regions in order to mobilise stronger and more ambitious climate actions in the world*[iv]*"*.

As part of China, the Hong Kong Special Administrative Region has the duty to make its contribution in order to achieve the goals of the Paris Agreement. In 2021, the Government announced "*Hong Kong's Climate Action Plan 2050*", which set out four major decarbonisation strategies to allow it to achieve carbon neutrality before 2050: the "*net-zero electricity generation*", "*energy saving and green buildings*", "*green transport*" and "*waste reduction*". To support the global action on climate change, the financial sector has a key role to play. It can green the world by directing capital flows towards sustainable investments and away from high-emitting industries, hence driving the transition to a sustainable future.

In this regard, a green taxonomy is an important tool as it provides a standardised framework for classifying and labelling financial products and investments based on their environmental sustainability. This classification system allows investors to identify and invest in activities that are making a positive impact on the environment while avoiding those that have a negative impact. It helps to align investment decisions with climate goals and reduce the risk of investing in assets that are not aligned with a low-carbon future. It can also help unlock new investment opportunities for green technologies and sustainable projects and increase transparency and accountability in the financial sector.

Given the critical role a green taxonomy can play in shaping green financial markets, the Hong Kong Monetary Authority (HKMA) has commissioned Climate Bonds Initiative (Climate Bonds) to work on a green classification framework for adoption in the local market. This will help underpin Hong Kong's instrumental role in bridging green financial flows between the Mainland and the rest of the world, and hence strengthening Hong Kong's status as an international green finance hub. This paper outlines the structure and core elements of our proposed prototype framework and provides the basis for a consultation to gather feedback from market stakeholders on how to improve the prototype.

Please submit your feedback in relation to this paper, if any, on or before **30 June 2023** to hongkong.consultations@climatebonds.net.

Potential benefits brought about by a taxonomy

Taxonomies promote sustainable investments that meet robust sustainability goals, increase transparency and measurability on sustainability objectives, and help direct capital flows to achieve environmental, social and governance benefits and net-zero emission targets. Apart from financial market participants and their customers, different stakeholders could also benefit from making use of a green taxonomy.

- **For investors**, a taxonomy provides clear and standardised information about their investments, reducing information asymmetry and allowing for better decision-making. It also helps to mitigate the risks associated with climate change and promote long-term sustainable investments.

- **For issuers** of green bonds, a taxonomy provides credibility and legitimacy, making it easier to attract green investments.

- **Regulators** can also benefit from a green finance taxonomy, as it can help ensure compliance with environmental regulations and provide a basis for measuring progress towards sustainability goals.

- Finally, for **society,** a green finance taxonomy can support the transition towards a low-carbon and sustainable economy, fostering economic growth and job creation while reducing environmental impact.

More specifically, a taxonomy is a multipurpose tool that can be used for a variety of objectives. These include:

- **To steer the market and provide guidance, frameworks and standards for all stakeholders including issuers and investors**. It helps to avoid greenwashing and to increase capital flows to green projects as more stakeholders and institutions strengthen their efforts on sustainability. It can also be used to provide better clarity when complying with other frameworks such as the Taskforce on Climate-Related Financial Disclosures (TCFD)[v] Recommendations.

- **To attract international climate-oriented capital**. A local taxonomy which is interoperable with international standards and other recognised taxonomies can increase investment flows into the domestic market and facilitate domestic borrowers operating on global markets.

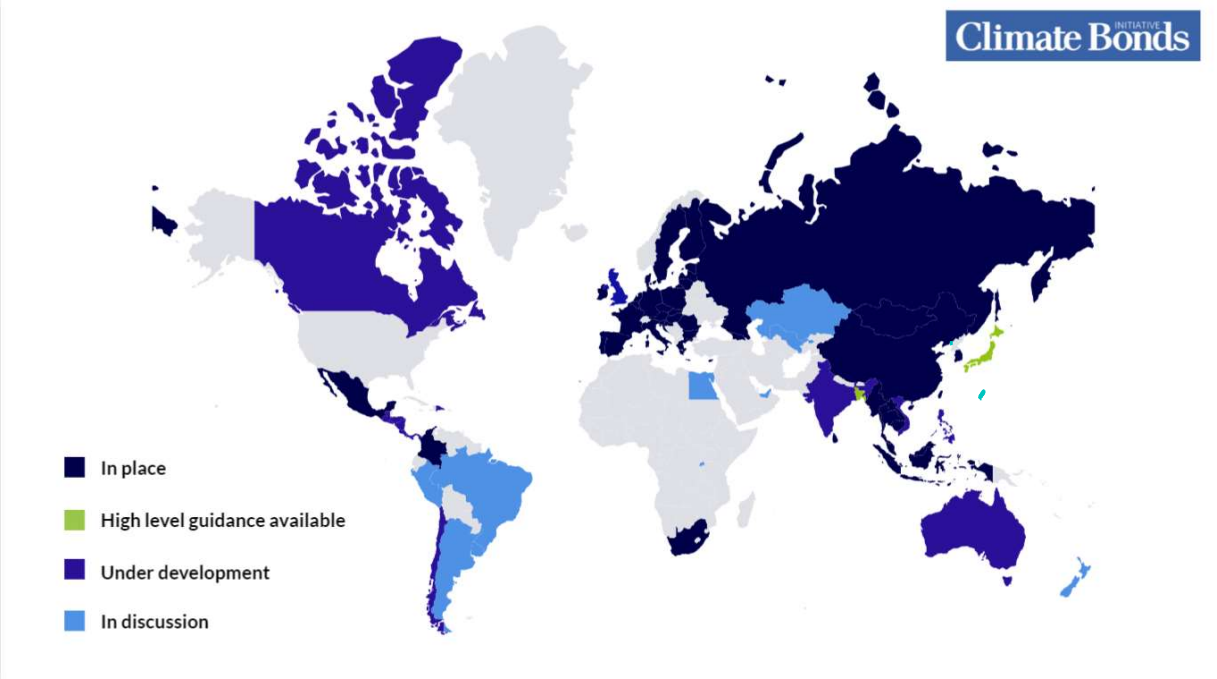
- **To enable and harmonise data disclosure**. As the taxonomy is adopted by financial institutions, it will become possible to benchmark the share of green investments and assets in their portfolios.

- **To assess environmental risks and risk mitigation options.** Compliance with the taxonomy criteria can provide valuable information on climate-related risks for risk assessment specialists within the financial sector.

- **To support climate goals**. A taxonomy provides governments with a tool to define target activities and develop support policies to achieve a jurisdiction's emissions reductions targets in line with the goals of the Paris Agreement.

The World of Green Taxonomies

In 2012, the Climate Bonds Initiative developed a green taxonomy as a voluntary guideline for the green bond market. Since then, it has evolved from a market-led tool to one that is increasingly led by governments. Currently, over 20 jurisdictions have established or are in the process of establishing a green or sustainable finance taxonomy or similar classification schemes, including Mainland China, the European Union (EU), the Association of Southeast Asian Nations (ASEAN), Russia, Colombia, and South Africa.



***Source**: Climate Bonds Initiative*

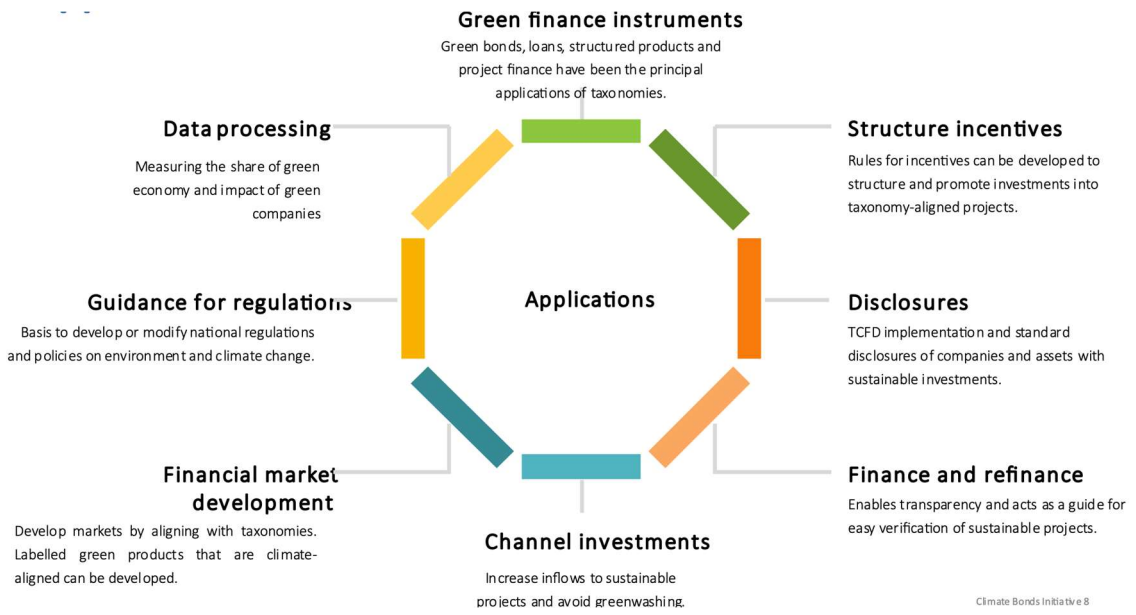
A key feature of taxonomies is the criteria used to identify green activities and to separate them from non-green activities. Globally, there are three different methods used to define green:

- ***Whitelist-based taxonomies**, which identify compliant projects or economic activities under each sector or sub-sector (Mainland China, Russia, Mongolia)*
- ***Technical screening criteria-based taxonomies**, which define quantitative thresholds and screening criteria for economic activities and their compliance with specific environmental objectives such as climate change mitigation or adaptation and resilience (EU, Colombia, South Africa)*
- ***Principle-based taxonomies** define a set of core overarching principles for the market without specifying compliant activities or thresholds (Japan, Malaysia, ICMA)*

The EU Taxonomy as well as the Climate Bonds Initiative Taxonomy are using technical screening criteria, while the China Green Bond Endorsed Projects Catalogue is whitelist-based with some inclusions of specific thresholds.

However, as taxonomies multiply around the world, concerns of market fragmentation arise as discrepancies between them may confuse investors and discourage cross-border capital flows. Consequently, efforts are being made to harmonise compliant assets and metrics covered by different taxonomies across jurisdictions. An example is the development of the Common Ground Taxonomy (CGT) by the International Platform on Sustainable Finance (IPSF).

Figure 1. Possible venues for using a taxonomy



Source: Climate Bonds Initiative

As an international finance centre, Hong Kong would gain unique benefits from a taxonomy:

- Firstly, Hong Kong will be **the first market to operationalise the CGT**, which was jointly developed by the authorities of Mainland China and the EU under the IPSF to identify commonalities between their taxonomies. Through operationalising the CGT, Hong Kong could strengthen its position as a hub and contribute positively to the growing need for interoperability among standards within the green finance space. An operationalised CGT would also provide international issuers and investors with a tool for reporting and communicating sustainability impacts that could help them meet the regulatory and investor needs they face across global markets.
- Secondly, a credible and scientifically robust taxonomy would help Hong Kong underpin its ambitions to capitalise on the opportunities presented by the Mainland to develop into a green finance centre in the Guangdong-Hong Kong-Macao Greater Bay Area.
- Lastly, a locally tailored green taxonomy would support Hong Kong to achieve its goals of carbon neutrality before 2050.

Taxonomy development in Hong Kong

Green and sustainable finance is a focus area of work for Hong Kong. One of the key action items of the Green and Sustainable Finance Cross-Agency Steering Group (CASG)[1] is to adopt a taxonomy for use across financial

[1] Established in May 2020, the CASG is co-chaired by the HKMA and the Securities and Futures Commission (SFC). Members include the Environment and Ecology Bureau, Financial Services and the Treasury Bureau, Hong Kong Exchanges and Clearing Limited, Insurance Authority and the Mandatory Provident Fund Schemes Authority. The CASG aims to co-ordinate the management of climate and environmental risks to the financial sector, accelerate the growth of green and sustainable finance in Hong Kong and support the Government's climate strategies.

sectors in Hong Kong. Following the publication of the CGT by the IPSF[2], the CASG, with the aim of aligning with the CGT, has been exploring the development of a green classification framework for adoption in the local market which facilitates easy navigation among the CGT, Mainland China's and EU's taxonomies.

The framework is planned to be developed in phases. In the current phase, it is intended that a prototype will be developed. The prototype will contain a limited number of sectors, activities and additional operational tools. Its main objective is to work out the internal structure, core elements and key mechanisms for gathering feedback from local and international stakeholders. This feedback will be further processed and integrated as much as possible into the prototype taxonomy.

In this regard, the HKMA has commissioned Climate Bonds to assist in the development of the prototype. As the CGT is not a single taxonomy or international standard and some of the criteria in the Mainland China and EU taxonomies are only usable within their respective jurisdictions, one of the main challenges during this exercise has been to maintain interoperability by formulating a set of economic-activity level criteria which match the ambition of those criteria outlined in the CGT, Mainland China and EU's taxonomies. Another challenge is about the introduction of appropriate adaptations to consider local circumstances and standards commonly adopted by the industry, so that the framework can be applicable and operable in the financial sectors in Hong Kong, while at the same time, ensuring that the overarching criteria outlined in each activity can be applied to international investments and maintain scientific rigour for the setting of decarbonisation pathways.

Design and structure of the prototype

Key reference taxonomies

The major taxonomy referenced in developing the prototype is the **CGT**[vi]. It was developed by the IPSF[vii] as a bridge between the Mainland China and the EU taxonomies. In July 2020, the EU and the Mainland China convened a Working Group with the objective to undertake a comprehensive assessment of existing taxonomies for environmentally sustainable investments, including identifying the commonalities and differences in their respective approaches and outcomes. The CGT is designed to be flexible and adaptable to different contexts, allowing different jurisdictions to tailor it to their specific needs while ensuring a common approach to sustainable finance. It is intended to serve as a reference point for financial institutions, investors, and policymakers in the development and implementation of sustainable finance initiatives that would be acceptable across different jurisdictions.

The **EU Taxonomy** is another benchmark that is widely accepted as the basis for constructing national taxonomical systems. It consists of advanced technical screening criteria and activity thresholds as well as extensive set of supplementary documents related to the issuance of financial instruments, disclosures, sectoral operational principles etc. Although many of the requirements of the taxonomy include references to specific EU laws and regulations, many other taxonomies use it as a reference point. It is also at the centre of the IPSF efforts to build the CGT. The EU Taxonomy contains a well-developed set of additional Do No Significant Harm (DNSH) and Minimum Social Safeguards (MSS) criteria that are also used as a basis for many other developments.

In Mainland China, regulators responsible for the green bond market jointly released the **Green Bond Endorsed Projects Catalogue** for consultation in May 2020, which marked the beginning of the harmonisation of domestic green finance definitions[viii]. Unlike the EU Taxonomy, it is a whitelist-based taxonomy that, in most cases, does not have specific thresholds, but it defines assets and activities that are considered green. The Mainland China Taxonomy (just as the EU one) contains a lot of references to domestic

[2] In November 2021, the IPSF published the CGT Instruction Report and consulted stakeholders on the CGT activities' table. In June 2022, the IPSF published the updated version of both documents.

law, which makes it difficult to apply outside Mainland China. The 2021 version of the Catalogue is used as a reference and referred to as Mainland China Taxonomy in this document.

ASEAN Taxonomy is still a work in progress, but its second version with the first batch of criteria was published in March 2023[ix]. This is a multilayer "traffic lights system" taxonomy which allows different ASEAN states to choose different decarbonisation criteria baselines depending on their economic capabilities. The baseline should be subsequently updated as the market grows and becomes more developed. The taxonomy currently covers only one environmental objective (mitigation) and only one sector (energy generation), but it is expected that in the future it will cover other sectors and objectives.

The Climate Bonds Taxonomy (CBT) is the oldest and one of the most developed taxonomies used as a reference for the prototype. At the heart of the CBT lies a suite of sector-specific eligibility criteria. The sector criteria set climate change benchmarks for that sector that are used to screen assets and capital projects. They are determined through a multi-stakeholder engagement process, including Technical and Industry Working Groups, convened and managed by Climate Bonds, and are subject to public consultation and revised as needed as a result of that feedback. Finally, they are reviewed and approved by the Climate Bonds Standard Board.

Core principles

Our taxonomy is intended to provide financial sectors professionals with consistent and internationally recognised definition of "green" and "environmentally sustainable" (collectively referred to as "green" hereafter) economic activities. It will be guided by scientific principles and be interoperable, comparable and inclusive of other green definitions globally. More specifically, it will be based on the following core principles that ensure its credibility, scientific approach, and alignment with all important benchmarks:

1) **Alignment with the Paris Agreement**. The proposed Hong Kong Taxonomy is primarily focused on providing clear definitions regarding the emissions intensity performance required of economic activities in order to keep global warming well below 2℃, ideally aiming for 1.5℃. The criteria represent the maximum GHG-emissions intensity an economic activity can have to avoid breaching the remaining carbon budget. As a consequence, at this stage, climate change mitigation is the central environmental objective of the taxonomy.
2) **A proof from greenwashing**. By synthesising existing taxonomies' best practices into an easy-to-use set of criteria, the Hong Kong Taxonomy's goal is to provide more clarity about what can be considered 'green', and to ensure that claims of meeting this definition can be verified accordingly.
3) **Interoperability with other taxonomies**. The proposed Hong Kong Taxonomy prototype considers significant sustainable finance taxonomy developments that have occurred in other jurisdictions, particularly the Mainland China, the EU and the ASEAN. It is also designed to be compatible with the CBT. This was accomplished by categorising activities in accordance with the International Standard Industrial Classification of All Economic Activities (ISIC) and Hong Kong Standard Industrial Classification (HSIC) codes, and as far as possible, using universally applicable metrics.
4) **Science-based criteria and thresholds**. The thresholds reflect the ambition required to meet global decarbonisation objectives. In many instances, the thresholds follow a trajectory that aligns with the overall need to transition the global economy to net-zero emissions by 2050.
5) **Foundations of Do No Significant Harm and Social Safeguards**. While the focus of the proposed Hong Kong Taxonomy is on climate change mitigation, it is also recognised that sustainability issues are inextricably linked. To acknowledge the importance other environmental objectives such as climate change adaptation, biodiversity, water use, pollution and circular economy, as well as wider sustainable development goals, the proposed Hong Kong Taxonomy will outline the foundations for DNSH and MSS.

Layering and Decision Tree

Layering

The Hong Kong Taxonomy is proposed to have three layers of depth to provide green definitions of different degrees of preciseness, taking into account complexity of the activities and applicability in the Hong Kong circumstances.

Layer 1. The first layer is intended to map activities to standardised industrial classification codes and categorise them according to whether they could be considered either:

1. Automatically eligible and adopted immediately for Hong Kong because they are universally considered green based on existing taxonomies without any major refinement (such as solar and wind); or
2. Potentially green, i.e., activities that are considered green subject to meeting specific technical screening criteria (such as building).

Specifically, standardised industrial classification codes (such as ISIC and HSIC) are used to form the structure and as the basis for mapping at the granular level. CGT, the EU Taxonomy, the Mainland China Taxonomy, the ASEAN Taxonomy, the CBT and others are then referenced to assess whether an activity can be seen as green without any further refinement.

Layer 2. The second layer identifies the key metrics, based on a review of existing global guidance and other national/regional taxonomies on whether:

1. Any existing metrics that can be applied for an activity;
2. the metrics are relevant in the local context; and,
3. They are usable for adoption by financial institutions in Hong Kong.

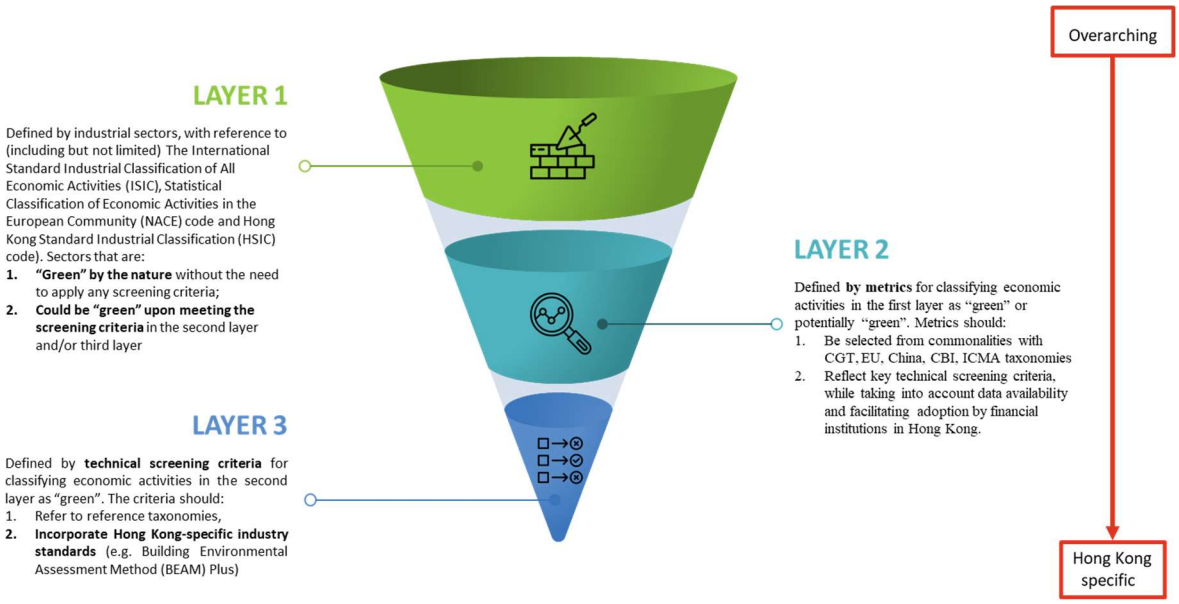
The metrics identified in this layer could be included in investor reports or annual reports as a standing item for disclosure. They can also be considered as a guide for bond issuers and financial institutions to better understand what type of data to gather and disclose to prove eligibility against the taxonomy.

Layer 3. This layer aims to propose technical screening criteria. Specifically, existing global guidance and other national/regional taxonomies have been reviewed to propose:

- Technical screening criteria from existing taxonomies that can be applied to an activity
- Adaptations to either the metric or ambition level of an existing screening criteria for it to be applied locally
- New metrics and criteria required to be usable in the Hong Kong context.

As much as possible, technical screening criteria have been proposed in consultation with industry experts. This may be the case particularly for sectors or activities where there is limited or no guidance in existing taxonomies - for instance shipping. Thresholds have been based on thorough research by the technical experts of the best available science and best available local data to demonstrate a pathway towards zero over time. Where data or scientific pathways are not available, the threshold may have been set based on current best practices with the intention to strengthen this over time following a pathway to zero.

Figure 2. Taxonomy layers scheme



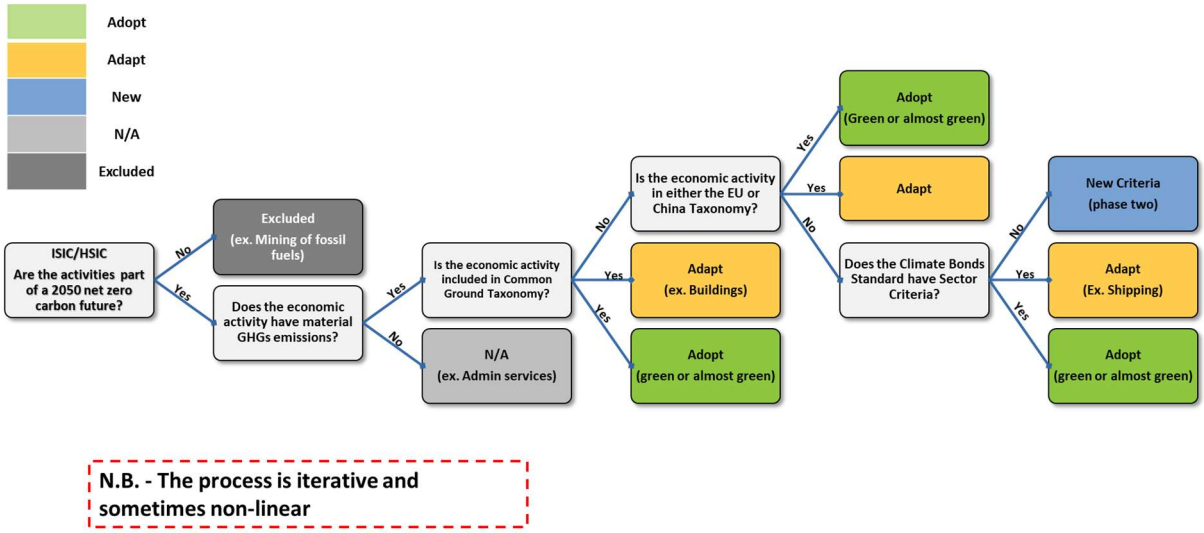
Source: *Climate Bonds Initiative*

In some instances, to cater for the local circumstances and activities in Hong Kong, some proposed metrics or thresholds are not seen in other taxonomies. For example, the proposed "*Construction of New Buildings*" criteria reference **Hong Kong-specific industry standard** such as Building Environmental Assessment Method (BEAM) Plus. In such instances, the prototype endeavours to draw an equivalence in ambition between this scheme and those used in international taxonomies.

Decision Tree

In order to build a robust taxonomy and to clearly understand its potential scope of decarbonisation, the thought process was based on a sequence of decision points that have been summarised in the decision tree below **(Figure 3)**. As a preamble, the decision-making process included an in-depth preparatory assessment of all economic activities as defined by the ISIC[x] and the HSIC (V.2.0)[xi].

Figure 3. Taxonomy criteria decision tree



Activities and thresholds

The prototype focused on specific activities in the energy, transport, buildings, waste and water sectors to demonstrate different principles and ideas that could be further used for the building of a full-scale taxonomy. The activities were selected for their applicability to the specific circumstances of Hong Kong as well as for their ability to serve as good prototype material. The following sectors and twelve prototype activities were selected:

- **Electricity, Gas, Steam and Air Conditioning Supply**
  - Electric Power Generation, Transmission and Distribution
    - Electricity generation using concentrated solar power technology
    - Electricity generation using solar photovoltaic technology
    - Electricity generation from wind power

- **Transportation and Storage**
  - Land Transport Including Railways
    - Construction and operation of public transportation system in urban and rural areas
    - Construction and operation of personal mobility devices, cycle logistics
  - Water Transport
    - Transportation of freight by sea
    - Transportation of passengers by sea

- **Water supply; sewerage, waste management and remediation activities**
  - Sewage Sludge Treatment
    - Sewage sludge treatment – anaerobic digestion
  - Waste Collection, Treatment and Recycling
    - Collection and transport of non-hazardous waste in source segregated fractions
    - Utilisation/ treatment of domestic waste – anaerobic digestion

- **Construction**
  - Construction and Renovation of Buildings
    - Construction of new buildings
    - Renovation of existing buildings

Other sectors that are equally important for the purpose of climate change mitigation (such as heavy industries and carbon intensive manufacturing sectors such as aluminium, cement and steel) will be considered in the next phase when the Hong Kong Taxonomy expands to cover other activities in its future iterations.

Thresholds and criteria development

In order to be eligible as contributing to the environmental objective of climate change mitigation, the activity must be compliant with specific technical screening criteria and related thresholds. These criteria are developed on the basis of technical work conducted for the CGT, Mainland China taxonomy, EU taxonomy and CBT, having regard to the applicability in Hong Kong.

Criteria can be either generic (postulating a general principle) or based on an absolute threshold. Concrete criteria are usually constructed in one of the following manners:

- **Upper boundary based**. These are the most common types of criteria. This criterion usually utilises emission metric of some kind, expressed as emission of GHG in CO_2 equivalent per unit of production specific to this industry.
    - Example*: "Lifecycle emission of the installation must not exceed 100gCo_2e/kWh"*

- **Best in class**. The threshold for the activity may be established as representing the top 10-15% of best installations in the jurisdiction, region, or globally. This method is widely used in sectors with no clear way to calculate a 1.5℃-aligned path such the manufacturing sector (Cement, Steel, Chemicals).
    - Example: *"Emissions from the production of the sintered ore must not exceed 0.163 tCO2e/t product, calculated as average performance of 15% of the best installations in the EU"*

- **Percentage change**. If retrofitting or modernisation of the facility is discussed, a fixed percentage change may be an excellent way to establish a threshold.
    - Example: "*New Buildings must be at least 25% more emissions-efficient than their peers according to a constructed baseline*"

Prototype spreadsheet

The prototype spreadsheet provides a summary of the activities, three layers (as conceptualised by **Figure 2**) and interoperability with other taxonomies. Please see **Annex** this paper for the spreadsheet.

Structurally, the prototype spreadsheet is divided into three layers:

- **Layer 1**: Layer 1 columns of the Spreadsheet represent the mapping of HSIC codes for each activity, including the activity name and description. More details are provided below:
    - To support interoperability and ease of comparison to other taxonomies, the HSIC Industry class for each activity is also mapped against its corresponding ISIC and NACE codes
    - It is noted that a prototype activity can be mapped against one or more HSIC Industry subclass based on the specific activity description as the HSIC and ISIC classification systems do not perfectly align.

- **Layer 2**: The corresponding Layer 2 columns of the Spreadsheet represent the activity codes of the specific taxonomy from which the metrics and criteria for the prototype activity have been adopted/adapted. In addition, the adopted/adapted metrics have been explicitly mentioned. In most cases, prototype activities align and adopt/adapt CGT activity metrics and criteria.

- **Layer 3**: The layer 3 column of the Spreadsheet defines the substantial contribution criteria of the prototype activity. For ease of review, this column references the activity cards, which contain a more granular description of the prototype activity's technical screening criteria.

Sectoral activity cards

For the purpose of the prototype taxonomy, a specific activity card was developed for each of the twelve prototype activities. The cards are an important tool for understanding and evaluating the process of forming the criteria and thresholds. They facilitate the use of the taxonomy and its regular update due to developments in climate science. Each card contains detailed description of one or more activities depending on whether metrics, criteria and thresholds for these activities are similar in nature (e.g., different kinds of renewable energy) or must be viewed together because they are interconnected in the real economy. In most cases, one activity card covers several activities with identical sectoral affiliation (e.g., sewage sludge treatment (1 activity), waste collection, treatment and recycling (2 activities), water transport (2 activities) etc.

Structurally, the cards consist of several subsections:

- **Sector overview.** This subsection describes how the sector operates in Hong Kong, its share of emissions, what technology is used, what kind of economic agents are involved in the sector (municipality or private companies), what the most pressing problems present in the sector are, and how the sector can be broken down for the purpose of its taxonomical classification

- **Metrics.** This subsection describes in detail what kind of metrics are going to be used to define criteria and thresholds and why, including the units of measurement and justification for their use

- **Criteria and thresholds.** This section identifies the specific criteria and thresholds for each activity and provides a justification in terms of scientific rigour, applicability in the local context, and consistency with other taxonomies.
    - **The criteria (requirements) are divided into Main and Additional**. Main criteria are the criteria taken from the CGT to the extent practicable. In most cases, the same criteria exist in both EU and Mainland China taxonomies and use universal metrics that do not require further adjustment. Hence, they should be applied regardless of the jurisdiction where the project is executed.
    - **Additional criteria** are primarily those considered more stringent and/or detailed for specific markets by the CGT. These criteria are only relevant when the project is executed in the jurisdiction mentioned in the criterion.

- **Questions and outstanding issues.** This section refers to what underlying issues were resolved in developing the criteria, what additional information (if any) would the criteria need to be better suited to local conditions. It may also include possible criteria development options. It is generally included only at the initial stages of a taxonomy's development process for the purpose of conceptualising specific criteria and will be removed when any outstanding issues have been resolved.

Activity table. This section contains the final product that constitutes the "body" of the taxonomy as seen by the end user. In most cases, it contains all information needed to use the taxonomy in practice. **Figure 4** below provides a breakdown of the different sections included in each activity table.

Figure 4. Activity card parts and description

Basic information about the activity

Activity scope that defines what kind of operation are included here. Usually this can include construction, operation or retrofitting

HSIC Classification and references to other taxonomies for the ease of navigation and compatibility

Main universal eligibility criteria

Additional criteria for certain jurisdictions

Activity cards

Electricity generation using concentrated solar power technology

Sector	Electricity, gas, steam and air conditioning supply				
Activity Category	Electric power generation, transmission and distribution				
Activity Description	Electricity generation using concentrated solar power (CSP) technology. Construction and operation of facilities using solar thermal power to generate electricity				
HSIC Code	351000	**CGT Code**	D1.2 Electricity generation using concentrated solar power (CSP) technology	**Corresponding ISIC Code**	3510
Closest EU Taxonomy Code	4.2. Electricity generation using concentrated solar power (CSP) technology	**Closest Chinese Green Bond Endorsed Projects Catalogue Codes**		3.2.2.2 Construction and operation of solar energy utilization facilities	
HSIC Description	Operation of generation facilities that produce electric energy; including thermal, nuclear, hydroelectric, gas turbine, diesel and renewable				
Criteria and Thresholds					
Main Criteria	Automatically eligible if Use of Proceeds comply with activity description				
Additional Requirements and Comments	None				

Assessing alignment with an activity-based taxonomy

Entities, assets, and projects are the main actors of the real economy. To assess whether an entity, asset, or project (or some of their components) is aligned with a taxonomy whose basic unit is activity, the following illustrative steps could be applied.

(1) Breaking down into activity level

An entity, asset, or project is first broken down at the activity level, e.g., according to the HSIC/ISIC codes provided in the Activity Card. Expenditure (such as capital expenditure (CapEx) and operating expense (OpEx) or revenue/turnover can then be tagged against each identified activity.

(2) Assess eligibility against the technical screening criteria

Information including granular data should then be collected and processed so as to determine the eligibility of the identified activities against the technical screening criteria. A combination of third-party provided data together with in-house research should support the process.

(3) Determining the eligibility of entities, assets, and projects

If an activity is aligned, the expenditure (CapEx or OpEx) or revenue/turnover linked to the implementation of the activity could then be considered green. The eligible expenditure could then form the basis of the underlying use of proceeds of a potential green financial instrument - for instance, a green bond or a loan[3].

Similarly, if 100% of the activities of a company is aligned with the screening criteria of the taxonomy, the company in its entirety may be considered green. By contract, if only 75% of the activities of the company is aligned with the criteria, then only the expenditure, turnover or revenue related to that 75% of the activities of the company can be considered eligible as green.

[3] In order to operationalise the bond or loan labelling process, an external set of principles (the Green Bond Principles) or a standard (the Climate Bonds Standard) are required, which are both separate frameworks independent of this taxonomy.

How should emissions be calculated? What scope should be considered?
Emissions should be calculated using internationally acceptable tools and standards, such as the GHG Emission Protocol[xii]. The scope of the emissions that need to be considered are usually indicated in the sectoral activity card in the "Activity scope" section. The default scopes are 1 and 2 (direct emissions plus emissions from electricity, water, heating and steam consumed) unless stated otherwise. Other options: • *Only Scope 1 emissions (e.g., direct tailpipe emissions of the car in case of transportation activities)* • *Lifecycle emission (Scopes 1+2+3), e.g., in the case of energy.*

Alignment of the Prototype Taxonomy

As more and more jurisdictions, regions and organisations provide their green definitions, there is potential for fragmentation across the global financial market. Our prototype taxonomy aims to achieve interoperability with other reference taxonomies. The table below presents whether and how reference taxonomies are adopted/adapted in our prototype taxonomy.

Figure 5. Taxonomy compatibility table

Sectors in Hong Kong Prototype Taxonomy	Common Ground Taxonomy	EU Taxonomy	Mainland China Taxonomy	ASEAN Taxonomy (V2)	Climate Bonds Taxonomy
Solar Energy Generation				Tier 1 Green	
Wind Energy Generation				Tier 1 Green	
Construction and operation of public transportation system in urban and rural areas					
Construction and operation of personal mobility devices, cycle logistics					
Water Transport (freight and passenger)					
Collection and transport of non-hazardous waste in source segregated fractions					
Utilisation/ treatment of domestic waste – anaerobic digestion					

Sewage sludge treatment – anaerobic digestion					
Construction of new buildings					
Renovation of buildings					

Colour Coding

Fully compatible	Criteria being developed	Partially compatible	Criteria not yet developed

Examples of application of taxonomies around the world

- *To **label green bonds.** A green bond standard/framework defines the use of proceeds, the evaluation and selection of projects and assets, management of proceeds, disclosure and reporting. Among the prominent examples of standards/frameworks are the Climate Bonds Standard[xiii], China Green Bond Principles[xiv], ICMA Green Bond Principles[xv], Asian Development Bank Green Bond Framework[xvi] etc.*
- *To **label green loans.** A green loan standard/framework is similar to a green bond standard, but it contains a few distinct features mostly attributed to the fact that loans issuances do not usually require the same level of transparency. Examples includes the Loan Markets Association Green Loan Principle[xvii], Green Finance Guidelines for the Banking and Insurance Industry of China[xviii], and Russia's Green Finance Standard[xix].*
- *To facilitate **disclosure**. Reporting guidelines/regulations may refer to a specific taxonomy. Examples include the Sustainable Finance Disclosure Regulation[xx] and the Corporate Sustainability Reporting Directive[xxi] issued by the EU.*
- *To direct domestic and foreign capital towards green projects. Examples of these measures can be found in Climate Bonds Initiative report "101 sustainable finance policies for 1.5°C"[xxii].*

Next steps

The prototype aims to provide a structure for classifying green activities. Our plan is to fine-tune the prototype as appropriate and summarise the consultation with recommendations on the future work around Q3 2023. Potentially, our future work may include an expansion of the coverage of activities and structural elements (such as the DNSH component) as below to make the taxonomy more complete and usable.

1. **New sectors**. The taxonomy should include a maximum of sectors and activities that are material for the purpose of climate change mitigation. Among them:
   - Energy
   - Transportation
   - Industry
   - Waste & Water
   - Agriculture
   - Construction & Buildings Management
   - Infrastructure
   - Important enabling activities: research and development, information and communication technologies, special purpose software development etc.

2. **Transition activities**. Many key sectors of the economy (production of cement, metals, chemicals etc.) have very limited low-carbon options and it is not feasible for them to transform overnight. Nevertheless, they must be decarbonised in line with the Paris Agreement targets and, therefore,

the taxonomy could play an important role in promoting the pathways to achieve a low carbon future for hard-to-abate sectors.

3. **New environmental objectives**. In addition to climate change mitigation, taxonomies can contribute to the goals of climate change adaptation, biodiversity conservation, promotion of circular economy, and many more. For example, a portion of Hong Kong is located in an area under constant threat of natural disasters and, as such, operationalising Adaptation and Resilience (A&R) processes through the taxonomy would help capital flow towards appropriate A&R solutions for the city.

4. **DNSH and MSS**. These two additional components have been popularised by the EU and have since become an important tool for enhancing the credibility of any taxonomy. However, experience shows that if not properly operationalised, DNSH and MSS can become a burden and hinder the development of the green finance market. A careful balance between the stringency of these requirements and the usability of the taxonomy as a whole should be achieved.

5. **Usability guides and "connectors" to different sections of the economy**. More work could be done to make use of the taxonomy connecting the real economy and financial markets. Examples include green bond frameworks, green loan frameworks, disclosure / reporting requirements.

Questions for discussion

We are inviting interested stakeholders to share their views on the questions below, as well as any other issues related to the development and use of the Hong Kong taxonomy.

Taxonomy design and structure

1. What are your views on the design and structure of the prototype? Do you agree with the principles on which the prototype is built?

Metrics, technical screening criteria (TSC) and thresholds

2. Do you have any comments on the metrics, TSC and thresholds? If you foresee any operational difficulties in implementing the metrics, TSC and thresholds, please provide specific details of alternative/substitute with supporting information and evidence.

3. Are there any metrics, TSC and thresholds that could be further adapted in the local context?

4. Are there any other certification schemes or labels in Hong Kong that can be used as proxies for compliance with TSC?

Next steps

5. Do you have comments on the elements and activities to be included in the future development of the taxonomy, such as any new sectors, transitional activities, new environmental objectives and the DNSH and MSS criteria?

6. Do you have any comments on how the taxonomy should be used in Hong Kong?

Please submit your responses, together with the following information as appropriate, on or before **30 June 2023** to hongkong.consultations@climatebonds.net

- Organisation

- Nature and business of your organisation
- Contact details

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List of references

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[xii] https://ghgprotocol.org/

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[xxi] https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en

[xxii] https://www.climatebonds.net/policy/101-policymakers