



JAN-OCT  
2022

STAKEHOLDER ENGAGEMENT REPORT

# DEVELOPING HONG KONG AS A GLOBAL GREEN FINANCE CENTRE

Theme-Based Research



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# ABBREVIATIONS

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BD	Buildings Department
BIS	Bank of International Settlement Innovation Hub
CARE	Centre for Climate Adaptation and Resilience/HKUST
CARE2022	Climate Change Adaptation and Resilience Conference 2022
CIC	Construction Industry Council
CX	Cathay Pacific Airways
EEB	Environment and Ecology Bureau
EMSD	Electrical and Mechanical Services Department
ENVR	Division of Environment and Sustainability/HKUST
EPD	Environmental Protection Department
EUI	Energy Utilization Index
FSDC	Financial Services Development Council
FSTB	Financial Services and the Treasury Bureau
Gammon	Gammon Construction Limited
GBA	Greater Bay Area
GIFC	Green International Finance Centre
HAD	Home Affairs Department
HKEX	Hong Kong Exchanges and Clearing Limited
HKGBC	Hong Kong Green Building Council
HKGFA	Hong Kong Green Finance Association
HKIQEP	Hong Kong Institute of Qualified Environmental Professionals
HKMA	Hong Kong Monetary Authority
HKO	Hong Kong Observatory
HKQAA	Hong Kong Quality Assurance Agency
HKUST	Hong Kong University of Science and Technology
IA	Insurance Authority
IENV	Institute for the Environment/HKUST
IFC	International Finance Centre
IPCC	Intergovernmental Panel on Climate Change
LINK	Link Real Estate Investment Trust
M&A	Merger and Acquisition
MTR	MTR Corporation Limited
NGO	Non-governmental organization(s)
PICO	Policy Innovation and Co-ordination Office
RGC	Research Grants Council
SBM	School of Business and Management/HKUST
SEP	Stakeholder Engagement Plan
SET	Stakeholder Engagement Team
SFC	Securities and Futures Commission
SHK	Sun Hung Kai Properties
SINO	Sino Group
SPL	Swire Properties Limited
WMO	World Meteorological Organization

Stakeholder engagement is the process to engage relevant stakeholders for a clear purpose to achieve agreed outcomes. In addition to the individual research Tasks of the Theme-based Research Project, *Developing Hong Kong as a Global Green Finance Centre* (the Project), the Stakeholder Engagement Plan (SEP) is designed to assist the “Think and Do” approach of the Project through (a) improving communication within the various Task Teams conducting the Project to discover synergies, as well as (b) assisting the Task Teams to connect and engage with external parties (External Stakeholders) who can influence the outcomes of or have an interest in the Project.

This Report briefly and broadly describes the theory and practice of stakeholder engagement before outlining the SEP for the Project. The Report records what took place between January–October 2022 in terms of stakeholder engagement, notes observations about each of the Tasks and Sub-Tasks, and how the SEP could be helpful to the Project going into the following year.

In this Report, Stakeholders are grouped into two broad sets of Internal Stakeholders and External Stakeholders. The former relates to those who are involved in the research and are responsible for the deliverables of the Project. The latter are external parties who have an interest and/or influence in the outcomes or outputs of the Project. The External Stakeholders include government policymakers, regulators, and market participants in the finance and industry sectors.

In general, 2022 is the year when the Task leaders put their research teams together to start collecting data. Preparatory work was somewhat delayed due to the Omicron outbreak in the Spring of 2022 for several teams although progressed picked up in the Summer. The work of the SET was similarly affected as a result although the impacts are minor.

## 1. SYNERGIES AND DEEPER COLLABORATION

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An assumption behind the SEP was that synergies and deeper collaboration is possible among the Internal Stakeholders with a conscious process of engagement. An early case is Task 3 where scholars from the business school and environment division have decided to co-supervise the research. In Task 6, a new team member has been added who wished to contribute his experience and work to the Project.

## 2. PERIODIC COMMUNICATION

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Periodic communication among the research teams will greatly enhance the discovery of synergies. An overall Project website is being created in early 2023, which the SET intends to use as an efficient platform for internal updating. The website could also serve as an excellent platform for updating other parties.

## 3. OUTREACHING TO AND MANAGING LARGE AND DIVERSE STAKEHOLDERS

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The Project covers a range of research tasks that are diverse. It requires active outreach and management of a large number of stakeholders. Some of the Task Teams are familiar with external parties from their previous work, such as government officials or corporate professionals, but some are unfamiliar with external parties they will need to engage with for the purposes of this Project. Hence, existing relationships need to be tapped or reignited for this Project, and many new relationships need to be made to ensure the “Do” part of the Project could reflect the views and needs of policymakers and/or market participants.

#### **4. PREPARATORY AND ENGAGEMENT STAGES**

Some of the Task and Sub-Task Teams are still in the preparatory and/or data collection mode and have not yet needed engagement with External Stakeholders although some teams have already started engagement (Task 2; Task 3; Task 4 and Task 5), with Task 5 already completing a portion of its work. As such, the engagement process for the Project varies depending on the pace of the Task Teams.

#### **5. MANAGING EXPECTATIONS OF COMMERCIAL STAKEHOLDERS**

From the engagements that have taken place so far, one observation is the need to bridge the respective interests between the Internal and External Stakeholders. The Internal Stakeholders conduct research and must ensure their work is academically robust; whereas, External Stakeholders, especially those in the commercial sector, are interested in speedy outcomes and whether the outputs could be useful from a commercial perspective. The challenge is to maintain good relationships over time so that External Stakeholders are kept abreast of the research and willing to be engaged from time to time as the Project proceeds.

#### **6. FAST-MOVING TOPIC**

Green finance and sustainability have become highly popular topics in Hong Kong. There is huge demand on the time and attention of many of the External Stakeholders relevant to this Project. It requires the Internal Stakeholders to stay abreast of how green finance and sustainability issues are evolving internationally and locally to engage successfully with the External Stakeholders. Hence, it is important for good communication and sharing among the Internal Stakeholders to stay effective when engaging with the External Stakeholders, as well as take advantage of any opportunities that could benefit the Project.

#### **7. POLICY-RELEVANT OBSERVATIONS**

Another challenge is the lack of data for calculations and estimations of the energy saving potentials and the related financing needs in Task 3, as the data for Hong Kong's buildings profile (categories, numbers, and age) and their energy consumption have not been compiled and made publicly available by government departments. This points to gaps in Hong Kong's own databases, which would in turn affect evidence-based policymaking in areas relating to energy saving in buildings. Considerable time will be needed to search widely for relevant data, as well as to request data from many sources.

## 2 PROJECT BACKGROUND

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Hong Kong has played the role of a business “connector” between Mainland China and the rest of the world for much of its history. It has a strategic role both in Mainland China’s national plans, and as part of the development of the Greater Bay Area (GBA). As such, Hong Kong has an important role in the GBA transition towards a thriving regional low-carbon-and-sustainable economy that leverages its advantages as an international finance centre (IFC).

In China’s 14th Five Year Plan (2021-25), Hong Kong is to leverage its capabilities in financial services to help raise capital for national reform and transformation, which includes green finance opportunities for China to achieve the “30/60” climate goals.<sup>1</sup> Locally, Hong Kong peaked its carbon emissions in 2014, and the HKSAR Government has committed to achieve carbon neutrality by 2050 and is pursuing an interim target to reduce carbon emissions by 50% before 2035 compared to the 2005 level.<sup>2</sup> Furthermore, the HKSAR Chief Executive, John Lee, has committed to “promote green finance and ESG (Environment, Society, Governance), and develop Hong Kong into a regional carbon trading centre to support the development of green finance globally”.<sup>3</sup>

The Hong Kong University of Science and Technology (HKUST) has been engaging government, regulators, industry stakeholders, corporates, and professionals in various fields to conduct purposeful research for policy development to strengthen Hong Kong’s capacities and capabilities to be a strong Green IFC (GIFC).

With the Research Grants Council’s (RGC) funding support, HKUST launched the five-year Theme-based Research Project *Developing Hong Kong as a Global Green Finance Centre* (the Project) in January 2022. The project goals are to advance the intellectual frontier of green finance by conducting SIX research tasks:

1. Assessing the impacts of environmental risks on financial markets and decisions.
2. Modeling climate risks to create new derivative products.
3. Stimulating the financing of green infrastructure projects.
4. Enabling the creation and use of green finance technologies.
5. Developing green finance talent; and
6. Assessing the policy and regulatory instruments necessary for Hong Kong to be a major GIFC.

This Project has a sizable interdisciplinary team of scholars and experts from a wide range of disciplines. The research team members are from HKUST and other universities in Hong Kong and elsewhere covering business and finance, economics, science, engineering and technology, as well as government and public policy. This Stakeholder Engagement Report (Report) reflects what is unique about this RGC-funded project – that there is a Stakeholder Engagement Process (SEP) integrated into the research that records the SEP.

The SEP is designed to support the Project’s “Think and Do” approach. This approach has the intellectual and conceptual research-exploration aspects (Think) running together with the practical (Do) component of applying research observations, findings and results that could be developed into policy solutions, and/or prototypes and proof-of-concept financial products. To dovetail “Thinking and Doing”, it is necessary for the research Task Teams and Sub-Task Teams to engage with each other to discover synergies, as well as with external parties who can provide information, critique, and ideas to enable more effective “Thinking and Doing” that could be implementable in policy terms and in markets. The SEP is

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1. China’s policy goals are to achieve carbon peak by 2030 and carbon neutrality by 2060.  
2. The Government of the Hong Kong Special Administrative Region. (2021). Hong Kong’s Climate Action Plan 2050. <https://www.info.gov.hk/gia/general/202110/08/P2021100800588.htm>.  
3. The Government of the Hong Kong Special Administrative Region. (2022). Election Manifesto of 2022 Chief Executive Election. <https://www.ceo.gov.hk/en/manifesto.html>.

supported by a dedicated Stakeholder Engagement Team (SET) for the Project as a specialized function.<sup>4</sup>

This Report, the first of several as part of the RGC grant, covers the first 10 months of the Project (from January to October 2022, including the pre-launch preparatory work in 2021). It articulates the general concept of Stakeholder Engagement (which will not need to be repeated in future reports), how the SEP has been developed for the Project, the strategy for engaging stakeholders, spelling out the methodology, records engagement activities for the various Tasks and Sub-Tasks, updates progress, and lays out the engagement work going forward in 2023.

There were inconveniences during this early period of the project in 2022 due to the significant spread of COVID-19 in Hong Kong when in-person engagements were difficult, but they did not affect fundamentally the overall planning and implementation of the project.

Appendix I provides Internal Stakeholders' Profiles.

Appendix II provides External Stakeholders' Profiles (includes Project Partners and others).

Appendix III provides a record of in-person and on-line engagements of various Task Teams (Internal Stakeholders) by the SET, the purpose of which was to encourage communication and cooperation.

Appendix IV provides a record of external parties (External Stakeholders) engaged by the SET and Task and Sub-Task Teams, the purpose of which was to assist the Task Teams in identifying and engaging with the external parties who could help with the research.

Appendix V provides a record of events that were relevant to the research project.

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4. In the RGC Funding Proposal, Stakeholder Engagement is under Task 6.

# 3 STAKEHOLDER ENGAGEMENT IN GENERAL

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“Stakeholder Engagement” is the process to engage relevant stakeholders for a clear purpose to achieve agreed outcomes. Organizing stakeholder engagement is a well-trodden path for many types of projects although each project has its own uniqueness. There exists a large body of academic literature and practitioner’s guides on SEP. For the sake of completeness, this section of the Report provides a general introduction of SEP so that the specific elements of the SEP designed for the *Developing Hong Kong as a Global Green Finance Centre* research project (discussed in Section 4 and Section 5 below) can be seen within the “Think and Do” approach noted in Section 2 above.

In general, stakeholder engagement involves, enables, and facilitates dialogue with stakeholders, communicating with them, and collaborating with them for a desired outcome. Connecting with stakeholders requires a process of engaging them. The concept of “Stakeholder Engagement” is the systematic identification/mapping, analysis, prioritizing, planning and implementation of actions designed to communicate with and influence stakeholders. It is a strategic process to interact with people and groups to gather information of their views, preferences, shared interest, and explore the potential for taking joint action (Franklin, 2020).<sup>5</sup> The goal is to address the deeper questions of how to enhance individual and group capacity, as well as identifying what might be the future challenges that may be encountered (Kasperson, 2006).<sup>6</sup> To sustain an engagement process, stakeholders need to have confidence and trust in the process and be motivated to continue to be engaged. Stakeholders of a specific project needs to understand why the engagement process exists and its purpose, as well as see the benefits for all concerned to engage in dialogue.

The AA1000 Stakeholder Engagement Standard (AA1000SES) is a well-known framework for the design, implementation, and communication of stakeholder engagement, which this Project uses as a general guide, as it is applicable to all types and levels of stakeholder engagement. It is applicable to both internal and external engagement, and to public, private and civil society organizations of all sizes. Successful engagement depends on understanding why the engagement is necessary (the purpose), what issues to engage on (the scope), and who needs to be involved in the engagement (stakeholders).

A brief discussion about several important aspects of stakeholder engagement is appropriate that relates to Purpose, Scope, and Stakeholders, as well as related concepts.

## 3.1 PURPOSE AND SCOPE

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Every SEP should have a purpose that is connected to the overall strategy of a project. The scope also needs to be defined – what are the subjects matter the engagement will address and its timeframe. Stakeholders may be important to help define the scope of the engagement.

## 3.2 DEFINITION OF STAKEHOLDERS

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A “stakeholder” is an individual or group that has an interest in the subject at hand, such as having an interest in a decision or activity or may be affected by the decision. One can take a broad or narrow view, depending on specific situations:

- (i) The term “stakeholder” at its broadest (usually political narratives), may be regarded or conceived of as giving all members of society a stake in its success,<sup>7</sup> although not all members of the public are stakeholders in specific projects.

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5. Franklin, A. (2020). *Stakeholder Engagement*. Springer.

6. Kasperson, R. (2006). *Rerouting the Stakeholder Express*. *Global Environmental Change*, 16(4), 320-322

7. Hutton, W. (1996). *The State We're In*. Vintage Books. Proposed the idea of the stake holding society that gives due weight to the interests of the workforce and community.




(ii) At a business management level, the term is derived from the thinking that corporations should have a higher sense of awareness of their broader social responsibility beyond the interest of shareholders.<sup>8</sup> The term “stakeholders” in business management comprises of “internal” and “external” stakeholders. Internal stakeholders are owners, managers, and employees; and external stakeholders consist of customers, suppliers/contractors, creditors, labour unions and non-government organizations (NGOs), government, and communities. Listed companies have many shareholders, who are considered external stakeholders rather than internal owners.

(iii) The term “stakeholder management” is often used in project management (which could be public projects or private sector projects) as part of a process to understand different perspectives of those affected and to address them to achieve the intended outcomes of the project.

(iv) [iv] The term “stakeholder engagement” have similarities but also differences with “stakeholder management”. The former implies a willingness to listen and be open to make changes because of engagement, whereas the latter usually already has a view or preference with the subject in question.<sup>9</sup> The skills in engagement and management are both useful in advancing outcomes.

FIGURE 1

### Comparing Stakeholder Management and Stakeholder Engagement<sup>10</sup>

Stakeholder Management 	Stakeholder Engagement 
• Proactive	• Interactive
• Anticipate	• Encourage
• Regular	• Inclusive
• Defensive	• Open-minded

### 3.3 INTEREST AND INFLUENCE

The term “interest” may be defined as the degree to which a stakeholder or a stakeholder group is motivated by and mobilized around an issue. Stakeholder engagement often includes identification of the specific interest(s) of a stakeholder so that those involved in the engagement work are reminded of the specific interest(s) of each stakeholder or stakeholder group. The identified “interest” should be that seen through the perspective of the stakeholder. A stakeholder’s interest may be “high” or “low” and it may be positive or negative about the subject in question.

The term “influence” may be defined as the ability to affect the outcome of the matter in question. The level of a stakeholder’s influence may be high or low regarding the subject. “Influence” may be formal influence, usually tied to the stakeholder’s hierarchical position on the subject that gives that stakeholder certain power over decisions. Informal influence – such as that of an expert – is not tied to hierarchical position, but the influence arises from that stakeholder’s knowledge and/or experience.

8. Freeman, R.E. (1984) Strategic Management: A Stakeholder Approach. Pitman, Boston. Also see another book from Stiglitz, J. E.. (2019). People, Power, and Profits: Progressive Capitalism for an Age of Discontent.

9. Jeffrey, N. (2009). Stakeholder Engagement: A Roadmap to Meaningful Engagement, Doughty Centre, Cranfield School of Management. <https://www.fundacionseres.org/lists/informes/attachments/1118/stakeholder%20engagement.pdf>.

10. Ibid.

A technique in stakeholder engagement is to “profile” and then carry out a “mapping” exercise to identify the relative interest and influence of each stakeholder and stakeholder group to have a good understanding of the field and landscape of stakeholders of the subject in question, which helps to determine how one should engage with the different stakeholders. For example, a stakeholder could have high interest and high influence, or high influence but low interest. Likewise, a stakeholder could have low influence and high interest. By identifying the landscape of the subject in question and mapping the field of stakeholders for the subject in question, it should be possible to identify which are the relevant stakeholders most relevant for the subject in question and devise a SEP that could assist in dealing with the subject in question.

In general, where stakeholders have high interest and influence, paying attention to them proactively becomes important – better still is to involve them in the subject in question. Likewise, stakeholders with high and medium interest (even if influence level is moderate or low) requires more attention as they could be helpful or disruptive. Those with low influence and interest usually need less attending to. Over the course of time, the relative interest and influence of a stakeholder may change. For example, a stakeholder may have low influence, but a promotion may increase influence. Likewise, a transfer out of a certain hierarchical position may reduce influence – likewise for interest – although it may be advisable to keep this group informed about the subject in question.

### 3.4 MAPPING STAKEHOLDERS

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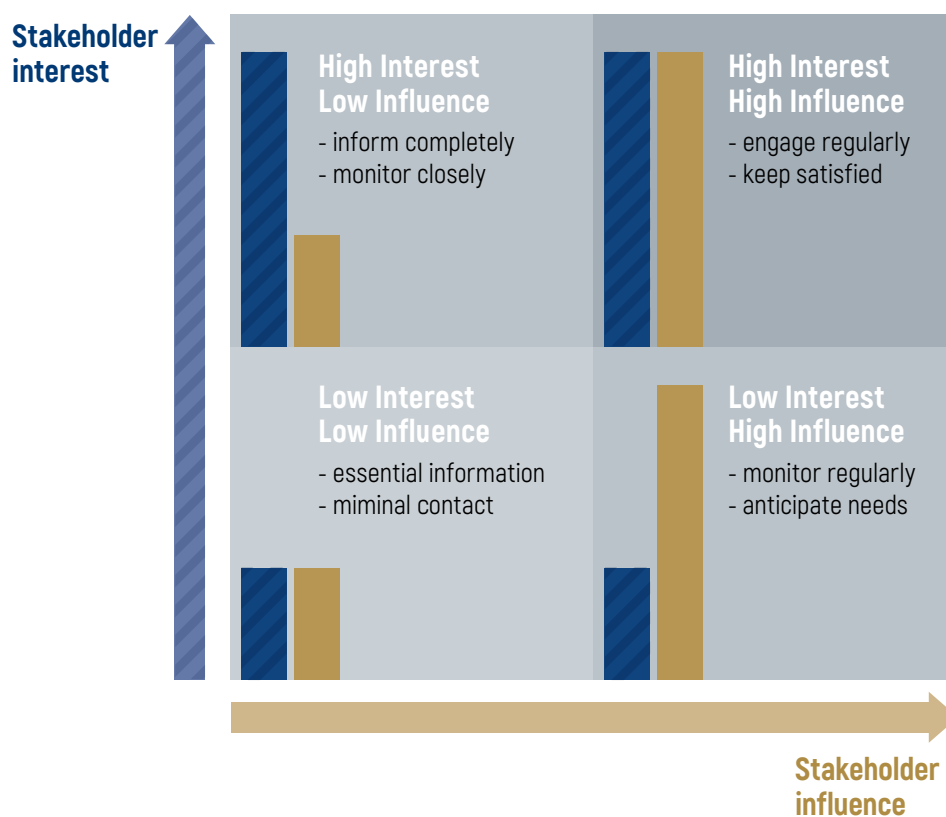
Mapping stakeholder is the process of identifying and laying out stakeholders relevant to a project in one diagram so that they could be easily visualized. The key aim of producing a Stakeholder Map is to see who are the critical parties to a project and their degree of interest are and/or influence. Stakeholder mapping is not a one-time process. Stakeholders may change over time and thus the map should be updated from time to time. Stakeholder mapping and analysis help to:

- Engage key stakeholders early on to gather critical input and support.
- Give momentum needed to move the project forward.
- Improve communication and build understanding among stakeholders.
- Anticipate stakeholder questions and perspectives.

Figure 2 provides a typical mapping and prioritization diagram. This basic structure can be adapted to suit different types of projects. For example, a public sector project where political considerations are dominant will be different from a corporate project that focusses on maximizing sales. Likewise, a research project that may benefit policymakers and industry participants with new ideas and proof-of-concept outcomes will be very different from research that has a highly politicized context with outcomes that may be highly contested by different groups of stakeholders.

FIGURE 2

## Typical Stakeholder Mapping and Prioritisation



### 3.5 STAKEHOLDER ENGAGEMENT PLAN (SEP)

After profiling and mapping stakeholders, the next step is to develop an engagement plan, determine what resources are needed to sustain the process over the course of the project, what tactics are needed, and how to communicate with the stakeholders. Designing a SEP requires relevant tools and techniques to identify appropriate ways for engaging and building relationship with stakeholders. The tools to be applied depend on the context and type of stakeholders being engaged, while the methodologies applied should be able to increase the

level of stakeholder involvements and elicit responses.<sup>11</sup> Customizing the engagement activities will help draw better results. A successful SEP may involve sharing research data and findings early to seek feedback from stakeholders.

To develop the plan at the initial stage, as well as to continue to develop the engagement plans over the course of the project, there are many tools that may be useful – the choice of which tools to use depend on the nature of the project being planned. Figure 3 provides a range of typical engagement tools.

11. International Finance Corporation. (2007). *Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets*. [https://www.ifc.org/wps/wcm/connect/topics\\_ext\\_content/ifc\\_external\\_corporate\\_site/sustainability-at-ifc/publications/publications\\_handbook\\_stakeholderengagement\\_\\_wci\\_\\_1319577185063](https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_handbook_stakeholderengagement__wci__1319577185063).

**FIGURE 3****Typical Range of Engagement Tools**

<b>Tools /Techniques</b>	<b>Description</b>
<b>Correspondence</b>	Various means to correspond with stakeholders, such as emails, phone calls, letters etc to make connections and to communicate.
<b>Project website and social media channels</b>	Dedicated project website; and using other social media channels to provide information and updates.
<b>Meetings (one-on-one or small gatherings)</b>	In-depth discussion to increase understanding and build trust.
<b>Advisory groups</b>	Participants put together to give specific advice.
<b>Field visits</b>	Short trips to understand on-the-ground conditions where necessary.
<b>Survey, questionnaire, and interviews</b>	Solicit views on specific data and information; could be in-person and/or on-line.
<b>Focus groups</b>	Small group led by facilitators for providing in-depth inputs on targeted information and specific questions.
<b>Workshops</b>	For relatively small group of stakeholders designed to complete a specific purpose within a short time.
<b>Seminars</b>	Useful for knowledgeable practitioners to discuss specific issues.
<b>Public meetings/conferences</b>	Large meeting for various groups of stakeholders where the public is included.

The stakeholder map arising from the mapping exercise will help the planning of engagement and management, following-up and tracking progress. After a SEP has been developed, it may be necessary to share the plan with the stakeholders to build trust and to set the stage to engage them on an on-going basis. As stakeholder engagement

is continuous and ongoing, continuous communication is necessary – and the tactics of engagement could include many forms of communication, such as newsletters, social media posts, website updates, meetings, visits, webinars, conferences etc.

## 4.1 PROJECT PURPOSE, SCOPE AND FEATURES

The SEP for the *Developing Hong Kong as a Global Green Finance Centre* research project must be fit for purpose with a defined scope. The Project is a research project designed to advance the intellectual and knowledge horizons of specific and related topics, where the following features are relevant:

- (i) The Project is a publicly-funded, university-led research project with sizable groups of researchers working on six specific Tasks and several Sub-Tasks each with its own research leader(s).
- (ii) The Project would benefit from cooperation among the Task and Sub-Task Teams, which requires them to be periodically updated on each other's work so as to share ideas and discover synergies.
- (iii) The Project requires testing of ideas with diverse stakeholders because the outcomes of the research would hopefully have policy relevance and market applicability for the HKSAR Government and business.
- (iv) The scope of the Project is wide with many tasks. It requires reaching out to a large and diverse number of stakeholders, the relationships with which need to be managed. Some of the stakeholders are interested parties to more than one Task and Sub-Task. It would be important to manage the relationships with them in terms of time efficiency.
- (v) The Project is multi-year (5 years) requiring annual reporting.
- (vi) The SEP needs to have elements of both stakeholder engagement and stakeholder management (Figure 1), minus the "defensive" element, as there is no preconceived or fixed outcome, as the research project is exploratory in nature.

## 4.2 PROJECT STAKEHOLDERS

In the context of this Project, a "stakeholder" is an individual or organization that contributes to realizing the outcomes and outputs of this Project, has an interest in the outcomes or outputs, and/or benefits from the research activities and the outcomes or outputs. The types and number of stakeholders are high because the Project has six Tasks and numerous Sub-Tasks and the research activities span a wide range of government policies and regulatory areas, as well as numerous types of industry-business activities.

## 4.3 STAKEHOLDER ENGAGEMENT

The SEP for this Project is to create opportunities for dialogue that are flexible and of value to all parties concerned. The process should help to identify material issues for dialogue for Task members and external parties to enable deeper understanding of complex operating environments, including policy and market developments where relevant. The aim of the SET is to craft a well-designed process to facilitate regular communication that enables mutual learning that could result in positive and innovative outcomes that inform, educate, and influence researchers and stakeholders in ways that can help them with their outlook and decisions beyond the publications stated in the funding proposal.

If done well, the SEP will help to build confidence in the research, as well as mutual trust among the researchers and stakeholders to sustain a longer-term positive relationship. It should help to enhance group capacity in pursuit of the exploration of the Tasks and Sub-Tasks together with other stakeholders. The Project hopes that its outcomes would both add to scholarship, as well as provide policymakers, regulators, and businesses with data, perspectives, insights, and ideas for society and markets.

## I. Stakeholder Context of the Project

There are essentially TWO groups of stakeholders for the Project: Internal Stakeholders who are related to the delivery of the Project; and External Stakeholders who can contribute to the research activities of the Tasks and Sub-Tasks, and some of whom also have an interest in the outcomes and outputs of the Project.

- (a) "Internal Stakeholders" comprise of the Project Owner of the Project, which is HKUST's School of Business and Management (SBM) that applied for and succeeded in obtaining funding from the RGC; HKUST's Division of Environment and Sustainability (ENVR) and Institute for the Environment (IENV) that have partnered with SBM to link environment and finance scholarship; many Task and Sub-Task Team members (which includes the SET), as well as the management team responsible for good governance of the Project. In October 2022, two members of HKUST joined the Project (pending formal approval from RGC): one is from the School of Engineering who has been actively involved in Task 3, and the other is an economist from ENVR who has contributed work to Task 6.

The SET has engaged with the Internal Stakeholders in the first 10 months of the Project to understand their research, get to know the team members and to share with them how the SET could work with them to assist them on an on-going basis.

Appendix I provides a list of Internal Stakeholders and their relationship to the Project.

- (b) "External Stakeholders" include Project Partners and others in public offices, business, industry, finance, and among professional bodies who have various degrees of interests and influence in defining and possibly even implementing the outcomes of the Project. In general, the External Stakeholders consist of a broad church of individuals and institutions, many of whom are related, and some of whom have an interest in more than one of the Tasks and Sub-Tasks.

The Project Partners stated in the RGC Funding Proposal were contacted prior to submitting the proposal to RGC in anticipation that they would be important External Stakeholders, some of which would likely be relevant to more than one Task. The Project Partners are government policymaking and regulatory bodies and agencies, and NGOs that have relevant green agendas that fit the Project:

### (i) Project Partners

Bank of International Settlement Innovation Hub (BIS)  
 Financial Services Development Council (FSDC)  
 Gammon Construction Limited (Gammon)  
 Hong Kong Exchanges and Clearing Limited (HKEX)  
 Hong Kong Green Building Council (HKGBC)  
 Hong Kong Green Finance Association (HKGFA)  
 Hong Kong Institute of Qualified Environmental Professionals (HKIQEP)  
 Hong Kong Monetary Authority (HKMA)  
 Hong Kong Quality Assurance Agency (HKQAA)  
 Link Real Estate Investment Trust (LINK)  
 Securities and Futures Commission (SFC)

### (ii) Potential Project Partners

There are other External Stakeholders to be engaged too. Some have been identified since the Project started:

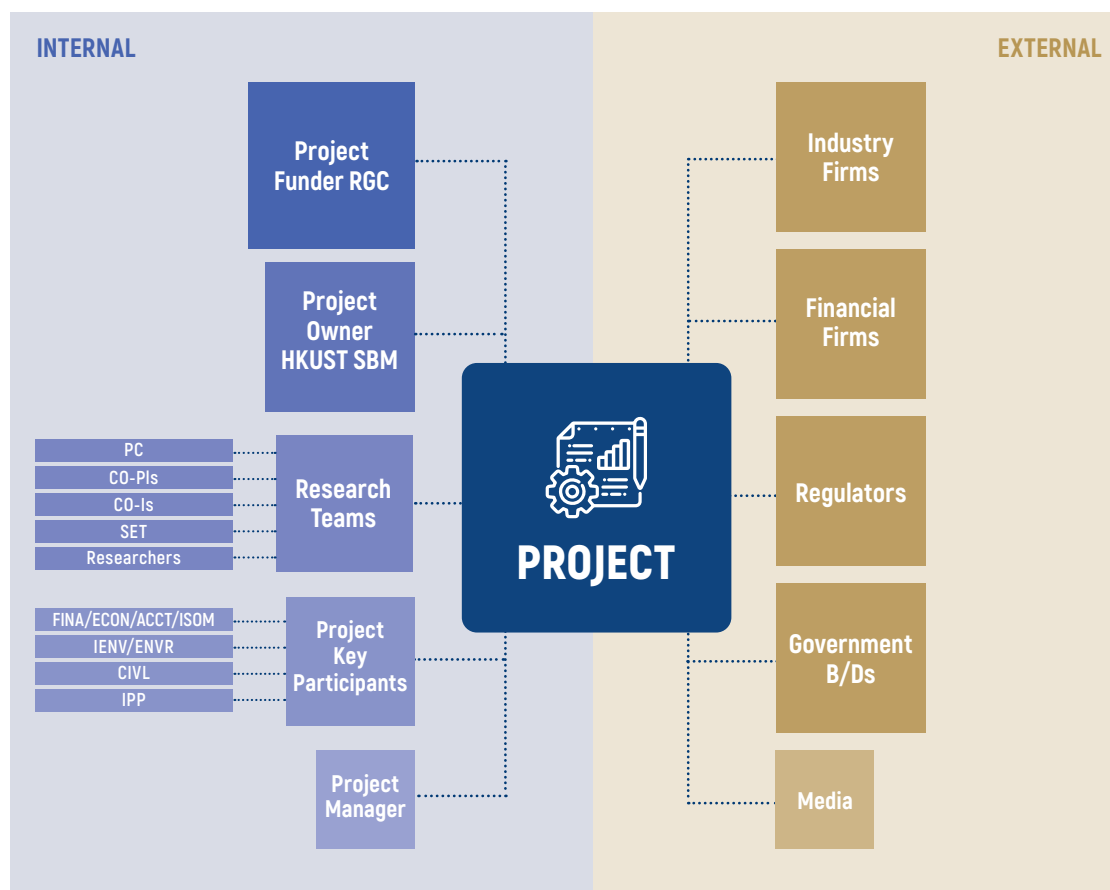
Buildings Department (BD)  
 Construction Industry Council (CIC)  
 Electrical and Mechanical Services Department (EMSD)  
 Environment and Ecology Bureau (EEB)  
 Financial Services and the Treasury Bureau (FSTB)  
 Home Affairs Department (HAD)  
 Hong Kong Observatory (HKO)  
 Insurance Authority (IA)  
 MTR Corporation Limited (MTR)  
 Sino Group (SINO)  
 Sun Hung Kai Properties (SHK)

Most likely, there will be others in due course.

Appendix II profiles the abovementioned Project Partners and other identified stakeholders, as well as their interests.

FIGURE 4

## The Project's Stakeholder Context



## II. Stakeholder Communication

Both the Internal and External Stakeholders require communication about the aims, challenges, and progress of the Project. While the Internal Stakeholders do not all have to work together in the various Tasks and Sub-Tasks, they are part of a larger enterprise – periodic information about progress would keep them informed and to enhance group capacity. Moreover, some of the Internal Stakeholders will likely connect with the same External Stakeholders – hence, knowing who is connecting with whom could lend credence to the good management of the Project. Regular but judicious communication between the relevant Internal and External Stakeholders

would sustain their interest and trust in the progress and advancement of the research, as well as willingness to be continuously engaged. The SEP should help to facilitate such capacity building.

### • Dedicated website – communication tool

At the overall management level, a decision was made that the *Developing Hong Kong as a Global Green Finance Centre* research project should have a dedicated website. For Stakeholder Engagement, the dedicated website will be used as a tool by the SET for stakeholder update and communication although there will also be

communication via other means. The website is expected to enable the Task and Sub-Task Teams to also use as a tool for showcasing their team members and on-going work in cooperation with the SET. The SET aims to follow the “5Cs” principals in assisting with crafting introductions and updates to External Stakeholders to generate coherence, clarity, consistency, as well as concerted and coordinated effort of the Project.<sup>12</sup> The website is expected to be created in early 2023.

### III. External Stakeholders Mapping

Some Sub-Tasks that are research oriented have no or limited engagement needs, at least not at the early stage of the Project when the teams are sorting out data and research materials, which is the majority in the first year of the Project in 2022. The pace and complexity of engagements are expected to pick up in 2023.

An early step is to understand the External Stakeholder spectrum, as it is wide and could include many parties, that will need to be engaged as the Project continues. For a university led “Think and Do” research project, the major external engagement needs are for those aspects that relate to:

- (a) Public policy and regulation, where the views of the policymakers and regulators may have an impact on how the research outcomes and outputs are shaped.
- (b) Public policy and regulation, where the relevant policymakers and regulators may find the outcomes and outputs useful for their work.
- (c) Market interest in the outcomes and outputs (such as in financial products), where the prior consultation and involvement of market participants would be vital.

The External Stakeholders for the above three types of cases are diverse and complex. The SET works with the Task and Sub-Task Teams to understand their external engagements needs. The SET would also need to be able to follow those engagements to see how it could be helpful on an on-going basis, such as through identifying more stakeholders, finding new stakeholder groups that may be needed, and maintaining communication and relations between the research teams and the External Stakeholders.

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12. Anastasi, C. (2018). *Strategic Stakeholder Engagement*. Routledge.



This section notes the needs of each Task and Sub-Task Teams from the perspective of Stakeholder Engagement. As the Tasks and Sub-Tasks Teams are at various stages of their research, they are at different stages of readiness for Stakeholder Engagement, particularly with External Stakeholders. This section summarizes each of the Tasks and Sub-Tasks with respect to Stakeholder Engagement up until the end of October 2022 and pointing forward to 2023. It is too early for stakeholder mapping to be done at this stage but stakeholder profiling has been done for the stakeholders who are Project Partners and others added as per page 12. The SEP for each Task or Sub-Task will be reviewed and adjusted as they proceed from year to year.<sup>13</sup>

### 5.1 INTERNAL STAKEHOLDERS

An initial meeting for the whole research team was held on 6 November 2021 to enable most of the team members to be introduced and say a few words about their research topic. It also enabled Task Teams to introduce their research and the SET to explain their functions.

Subsequent internal engagements have mainly been within the various Task and Sub-Task Teams to get themselves organized to start the Project in 2022, including finding research assistants. The SET began to connect with team members to check on their research progress in the Spring and Summer of 2022, and to connect Sub-Task teams with each other where relevant. The SET also had discussions with the Project Manager on the timeline for the creation of a dedicated website and how it could be used by the SET for internal and external communication. The current schedule is 1Q23.

Appendix III provides a list of internal meetings that the SET had with various team members.

2021  
6 Nov

#### Initial Preparatory Meeting

After RGC confirmed funding for the project, the first gathering of Research Task Teams was called by the Project Coordinator (PC) on 9 November 2021, which was conducted in-person and via Zoom for those outside Hong Kong. Those who could not attend were contacted separately. The meeting accomplished the following:

- Task team members met each other, as not everyone knew each other.
- PC explained the background to the project objectives, timelines, and funding from RGC.
- Co-PIs gave brief presentations of all the six Tasks.
- SET introduced the engagement process.
- Project Manager introduced the administrative role in managing the project.



13. AccountAbility (2015). *AA1000SES Stakeholder Engagement Standard*. <https://www.accountability.org/standards/>

## 5.2 EXTERNAL STAKEHOLDERS

An important function of the SET is to understand the external engagement needs of the Task and Sub-Task teams and to develop SEPs to assist the research teams. The research teams knew some of the External Stakeholders they needed to engage with but in most of the cases, the research teams wished to connect with external parties that they did not already have contacts with. The on-going stakeholder identification and profiling process of External Stakeholders is vital for the SET to gain clarity as to which team needed what contacts, and to work out how and when it would approach those stakeholders.

The following section reports on each Task and Sub-Task and the SEP that are being developed. Appendix IV records the external engagements arranged by the SET that have taken place.

## 5.3 STAKEHOLDERS ENGAGEMENT PROCESS

### I. TASK 1:

#### The Impacts of Environmental Risks on Financial Markets and Financial Decisions

Task 1 has four Sub-Tasks that study different aspects of how listed firms react and manage environmental and climate risks.

##### Sub-Task 1.1:

#### Efficiency of Chinese Equity Markets with Respect to Environmental Information

The assumption behind Sub-Task 1.1 is that the Hong Kong listed market is more open and liquid than the Mainland Chinese market and that Hong Kong has a more sophisticated investor base that values sustainability. The research hypothesis is that the Hong Kong listed market prices environmental and related risks more effectively. The research collects and reviews data to examine if the hypothesis is correct and what insights could be gained from the research that may be useful to policymakers and firms. The research team is continuing to collect data in 2022 from open and published sources.

At a meeting between the Sub-Task Team and SET in August 2022, SET understood the following might be useful for Sub-Task 1.1 going forward:

- (i) Connecting with environmental science scholars at HKUST who have large quantities of data (as per Task 2, Task 3 and Task 4); and
- (ii) To connect the Sub-Task 1.1 Team with finance houses in 2023 that are paying more attention to the environmental performance of listed firms when the team has reflected on the data collected.

In the meantime, the SET would look out for relevant published information that may be useful for Sub-Task 1.1 and identify finance houses and others that may be useful External Stakeholders for this research.

##### Sub-Task 1.2:

#### Climate Risk and its Impact on Firm Performance

The purpose of Sub-Task 1.2 is to research how listed firms adapt their business to environmental and climate risks. It has two distinct parts to the research. The first part involves assessing the environmental and climate risks faced by listed firms across industries in Hong Kong and Mainland China using environmental and climate data from HKUST and other relevant sources and looking at the firms' profit and loss through published information such as their annual reports. The two sets of data would then be geo-coded and matched against the risks and performance of the listed firms over some years using econometric models. The second part of the research relates to mitigation strategies. This involves using a novel randomized controlled trial of the listed firms over three years – the firms will be divided into three testing groups. The Sub-Task Team will work with each group of firms to customize specific mitigation guidelines of different intensity in response to various risks (from light to more intense). Each group will be given its specific set of mitigation guidelines. This should enable Sub-Task 1.2 to track responses to how the firms respond to environmental and climate risks through applying mitigation strategies.

The Sub-Task Team is collecting data in 2022 under the first part of the research and that it could be ready to start engaging firms in early 2023, when the assistance of the SET would be needed. At a meeting between the Sub-Task Team and the SET in August 2022, the SET understood there could be three groups of External Stakeholders potentially useful for Sub-Task 1.2 to connect with in early 2023:

- (a) To survey and interview those responsible for disclosure and investor relations in listed firms in Hong Kong and Mainland China.
- (b) To connect with various industry experts on mitigation strategies.
- (c) To connect with rating agencies, such as MSCI, CDP, HSI and HKQAA.

At the stage:

- (i) Sub-Task 1.2. might benefit from knowing the science task teams' (Tasks 2, 3 and 4) research as they are using environmental and climate data that could be of mutual interest to each other; and
- (ii) The SET would wait for Sub-Task 1.2 to complete the first part of its research when it is ready to reconnect with SET to see when and how to engage External Stakeholders.

#### **Sub-Task 1.3:**

##### **Environmental Risk in Firm Investment Decisions**

Sub-Task 1.3 focuses on merger and acquisition (M&A) and whether the acquirers' familiarity with their targets' environmental risks affects M&A success and quality. The research team is reviewing archival data to test certain observations arising from existing studies. The team will then test the hypothesis that combining two firms with similar business downsides could improve deal quality. The research will also consider how environmental risk disclosure informs investors.

At a meeting between the Sub-Task Team and the SET in August 2022, the SET understood that the research team would wish to connect with market practitioners and

regulators. The SET will wait for greater clarity from the research team on which type of practitioners would be most useful. The research team would only wish to meet the relevant regulators when it has a complete set of results.

#### **Sub-Task 1.4:**

##### **Measuring the Green Bonds Benefits**

Sub-Task 1.4 examines and compares the listed firms that have issued green bonds with ones that have not in Hong Kong. It aims to test the hypothesis that the result of bond issuance has a positive impact on the values and environmental knowledge of those firms. The Sub-Task collects and reviews data to examine the benefits of green bond issuances and what insights could be gained from the research that may be useful to policymakers and listed firms, as well as green bond market development.

As for 3Q2022, Sub-Task Team 1.4 is continuing to collect and compile data relating to green bonds to test its hypothesis tested. Engagement aspects have not been considered at this stage. The SET would further discuss with the team whether engagement may be needed in 2023.

## **II. TASK 2:**

### **Climate Risk Modeling and Derivative Products**

Task 2 has two Sub-Tasks. Sub-Task 2.1 is a science project that aims to generate publicly available fine-scale, long-term scenario climate related data as an important scientific pursuit relevant to Hong Kong, which will enable risk assessments down to a fine-scale in Hong Kong that could be used by policymakers and physical asset owners (such as property owners) to understand fine-scale location specific weather risks. Sub-Task 2.2 aims to use the best available weather data to design financial derivatives that could help to price and diversify a basket of weather-related risks relevant to asset owners and firms in Hong Kong and Mainland China.

The team members of the two Sub-Tasks met for the first time in August 2022 to discuss the types of weather-related data that the Sub-Task 2.1 had and which types and in which format the data might be useful to Sub-Task

2.2. After the meeting, data that Sub-Task 2.1 already had was provided to the team in Sub-Task 2.2. The teams could further discuss technical details on the usage of the data whenever necessary.

Sub-Task 2.1 is science driven using climate related data and their work has proceeded well. An important External Stakeholder is the Hong Kong Observatory (HKO), the department that is the climate science authority in the HKSAR Government. It is desirable that the data and models used by Sub-Task 2.1 are understood and supported by HKO. It was decided at a separate meeting between the SET and Sub-Task 2.1 that a meeting should be arranged between the members of Sub-Task 2.1 and HKO to exchange views.

Sub-Task 2.2 is finance driven, with the intention that climate related data would be used to price a basket of weather risks. The ability to price the risks could then lead to the creation of financial products to spread and manage weather risks for businesses that are weather-sensitive in Hong Kong. Sub-Task 2.1 expressed an interest to join some of the industry meetings for Task 2.2 because it may help them to package their data in a useful way for industry.

The outcomes of meetings between the SET and Task 2 members were:

- (i) The meteorological scholars at HKUST, which includes those working on Sub-Task 2.1, have a longstanding collaborative relationship with HKO and have collaborated on many research projects. With respect to Sub-Task 2.1, the SET will organize a meeting for Sub-Task 2.1 at an appropriate time with HKO as it is an important External Stakeholder.
- (ii) The SET would identify and connect with companies/ industries in Hong Kong whose businesses were weather-sensitive (such as energy utilities, aviation companies, property companies, insurers, and

reinsurers) so that the Sub-Task 2.2 Team could find out how those businesses were dealing with weather risks. At a meeting with Swire Properties Limited (SPL) on September 23, 2022, SPL raised the issue of the relative cost-benefit and competitive edge of derivatives versus insurance products. The issue will be explored – the SET will set up meetings with the insurance sector.

- (iii) Sub-Task 2.1 and 2.2 Teams met Cathay Pacific Airways Limited (CX) on October 7, 2022. CX buys weather data from specialized weather services as weather information is important for pilots of every flight. CX has a team that deals with the specialized services. It was agreed that it would be useful for the CX's specialized team to meet HKUST's experts so they could exchange views, since they both had an interest in weather data and science, and HKUST's experts are connected to HKO and World Meteorological Organization (WMO). The Sub-Task 2.2 Team understood from CX that the specific weather-related losses, such as flight delays caused by typhoon, were not covered by the general insurance products they bought but absorbed by CX's operational costs.
- (iv) The SET identified that the Securities and Futures Commission (SFC) was an important External Stakeholder to Sub-Task 2.2 because it regulates all financial products in Hong Kong. Sub-Task 2.2 Team should meet SFC at an appropriate time to understand how the SFC regulates derivative products so that the weather derivatives could fit into the SFC regulatory parameters. Likewise, the Insurance Authority should also be engaged at an appropriate time.

Appendix IV records all meetings arising from the above relevant to Task 2.

### III. TASK 3:

#### Financing Green Infrastructure and Facilitating Policy

Task 3 aims to combine knowledge and experimentation in science and engineering to save energy and costs and improve indoor air quality in commercial/institutional buildings, as well as to propose financing models to drive buildings retrofits in Hong Kong to meet the HKSAR Government's energy saving and carbon neutrality goals. This project is a collaboration between HKUST's environmental and business schools, to which the engineering school has been added (see below).

According to the HKSAR Government's energy saving and climate change plans, the relevant timelines and targets are:

#### CARBON EMISSIONS TARGET

- 50% reduction by 2035 from 2005 level.

#### ELECTRICITY USAGE TARGET



- Reduce the electricity consumption of commercial buildings by 20% by 2035.
- Reduce the electricity consumption of commercial buildings by 40% by 2050.
- Energy Intensity: as per Energy Saving Plan for Hong Kong's Built Environment 2015~2025+.
- 40% reduction by 2025 from 2015 level.

#### Challenges of Task 3

The success of Task 3 depends on not only the cooperation of Internal Stakeholders for using the HKUST Lee Shau Kee Library<sup>14</sup> as the energy saving experimentation of an institutional building but also the cooperation of many External Stakeholders in the property, government, and energy utility sectors. It also depends on finding ways to access information about the commercial building stock, their energy usage and carbon emissions in Hong Kong.

FIGURE 5

#### Internal and External Stakeholders

Internal Stakeholders	External Stakeholders
<ul style="list-style-type: none"> <li>• Provost Office</li> <li>• Sustainability Office</li> <li>• HKUST Library Management Office</li> <li>• Engineering Team</li> <li>• Science Team</li> </ul> 	<ul style="list-style-type: none"> <li>• Commercial property owners</li> <li>• Government departments (building stock and energy data)</li> <li>• Utilities (energy usage data)</li> </ul> 

- (i) The science and engineering teams need institutional and commercial buildings to test their energy saving methodologies. HKUST's Library is a good example of an institutional building. In addition, it is necessary for the team to work with owners of commercial properties to verify the methodologies. While LINK is a Project Partner, it would be desirable to engage with other property owners for two reasons: first, the Library could become a demonstration project for the property industry as a whole to observe the ENVR's energy-cum-air quality enhancement methodology; and second, the Project needs to be completed within a certain timeline, and it still has to be explored with LINK as to whether the Project's timeline fit their retrofit cycle. Hence, engaging with more property owners would provide alternative opportunities should LINK's retrofit cycle not match the Project's timeline. The Task Team used its existing connections to reach out to Sino Group (SINO) and Sun Hung Kai Properties (SHK) to explore the possibilities of using their buildings.

14. The Library is in the center of the HKUST campus, with 15,000 square meters of floor space over five levels. To enable the Library to be used for experimentation, the Provost Office, Campus Management Office and Sustainability and Net Zero Office had to be engaged.

- (ii) The finance team needs to estimate the potentials for applying energy saving methods to the commercial building stock in Hong Kong to propose policy and financing options for energy saving retrofits that could be applied at scale to help meet the carbon and electricity usage targets noted above. The challenge here is the lack of fulsome relevant open-source data in Hong Kong to enable estimations to be done.

The aim of the SET is twofold:

- (a) To work with the Task 3 Team to help them engage with External Stakeholders so that they could obtain the data and information needed, and
- (b) To build trust with the External Stakeholders so that they would provide the data to Task 3 and take an interest in the progress of the research.

### Building Stock and Energy Usage Data

Hong Kong does not have conveniently available data on its building stock (number, age and type of buildings), and the energy consumed in buildings. It appears that there has yet to be systemic collection and compilation of such data for policymaking even though the HKSAR Government has targeted energy saving in buildings as an important area.<sup>15</sup> Hence, considerable effort would be needed to find sufficient data to make projections and estimates of the energy saving potentials in Hong Kong through retrofitting commercial and institutional buildings using the methodology in Task 3 and then translating that into financing terms and financing options.

From the SET's preliminary research on possible sources of relevant data, the following have been shared with the Task 3 Team:

The SET has found the following information to be useful for Task 3 and have shared this with the research teams.

- EMSD's Electricity Utilization Index (EUI) Benchmarking Tool could be useful.<sup>16</sup> The power companies have provided EMSD with the energy consumption data for about 100 commercial buildings in Hong Kong. The data is indicative of energy usage in commercial buildings. EMSD could be asked to provide this database. It is understood that the data has been anonymised (the energy usage of specific buildings are not identified but data for the overall consumption of types of building are available).
- The Building Energy Efficiency Ordinance passed in 2010 and implemented since 2012 requires commercial building owners to carry out energy audits of their buildings once every 10 years. By end-2022, most commercial buildings in Hong Kong would likely have completed their energy audits. The law requires the information to be published by the owners.<sup>17</sup> There does not appear to be a centralized database with the information. EMSD could be asked if they have kept any of the information.
- EEB has been supporting energy-cum-carbon audits of government buildings for some years and EMSD and Environmental Protection Department (EPD) are the implementation agency. About 150 government buildings have already done carbon audits since 2017-18,<sup>18</sup> and another 250 buildings are expected to complete their energy-cum-carbon audits by 2022-23.<sup>19</sup> Some of these buildings are government offices that function like commercial office buildings. The database held by EMSD should provide useful information.
- The government has funded many private buildings to conduct audits to stimulate the market for retrofit. However, it is unclear what kind of databases may be available.<sup>20</sup>

15. Business Environment Council (2020). *Improving Data Transparency in Buildings Energy Performance*. [https://www.bec.org.hk/sites/default/files/publications/Improving\\_Data\\_Transparency\\_in\\_Buildings\\_Energy\\_Performance.pdf](https://www.bec.org.hk/sites/default/files/publications/Improving_Data_Transparency_in_Buildings_Energy_Performance.pdf).

16. Electrical and Mechanical Services Department. (2022). *Online Building Based Electricity Utilization Index Benchmarking Tool*. <https://eui.emsd.gov.hk/en/Overview.html> and [https://eui.emsd.gov.hk/en/EUI\\_Introduction.html](https://eui.emsd.gov.hk/en/EUI_Introduction.html).

17. Electrical and Mechanical Services Department. (2022). *Buildings Energy Efficiency Ordinance (Cap.610)*. [https://www.emsd.gov.hk/beeo/en/mibec\\_beeo.html](https://www.emsd.gov.hk/beeo/en/mibec_beeo.html) and [https://www.emsd.gov.hk/beeo/tc/pee/Pamphlet\\_Energy%20Audit.pdf](https://www.emsd.gov.hk/beeo/tc/pee/Pamphlet_Energy%20Audit.pdf).

18. See paper from Legislative Council in 2022 <https://www.legco.gov.hk/yr2022/english/panels/ea/papers/ea20220210cb1-34-1-e.pdf>.

19. See paper from Legislative Council in 2020, <https://www.legco.gov.hk/yr19-20/english/panels/ea/papers/ea20200122cb1-336-2-e.pdf>.

20. See <https://www.ecf.gov.hk/en/approved/eca.html>.

- There are information sources arising from previous research that may be helpful. For example, the energy data of 30 commercial buildings in Hong Kong is available.<sup>21</sup>
- There are two other public sector data sources that should be explored: Buildings Department (BD) is the authority for buildings in Hong Kong,<sup>22</sup> and it has the layout plans for all buildings in Hong Kong.<sup>23</sup> Home Affairs Department (HAD) has a private building database.<sup>24</sup>

The SET coordinated a meeting between ENVR-SBM on 10 October 2022 to shape the research. It was agreed that:

- ENVR and SBM would identify to hire a researcher and that the researcher would be co-supervised by scholars from both schools to hunt down the databases and make sense of them.
- The SET would connect with EEB to seek its help to outreach to EMSD and BD for access to the databases. An initial approach was made to the Secretary for the Environment and Ecology on October 12, 2022.

Furthermore, to improve the engineering research capacity of Task 3, it was agreed between ENVR-SBM that Prof. Jack Cheng from the Department of Civil and Environmental Engineering would also be invited to join the Project as Co-PI.

#### IV. TASK 4: Enabling Technologies of Green Finance

Task 4 has two Sub-Tasks, the purpose of which is to develop two enabling technologies ("Do") in tracking carbon emissions and climate risks. Sub-Task 4.1 aims to create a prototype blockchain-based carbon tracking system for the major building materials used by the construction industry. Sub-Task 4.2 aims to identify complex non-linear climate risks to assess their impacts on Hong Kong and the Mainland.

##### Sub-Task 4.1: Blockchain Carbon Tracking System

Gammon Construction Limited (Gammon), a major construction company, is the Project Partner for Sub-Task 4.1. Gammon and HKUST would sign an agreement to collaborate and keep confidential Gammon's proprietary information. Since then, the Sub-Task 4.1 Team and Gammon have been working closely together on collecting data related to building materials (cement) and carbon emissions along the supply chain to create the blockchain carbon footprint tracking system.

To develop a credible and user-friendly blockchain system, Sub-Task 4.1 would need to engage External Stakeholders in property development, contracting, material supplies, carbon auditing, blockchain certification and relevant government bodies to gauge their views on the blockchain design. MTR and HKUST signed an agreement to collaborate on developing the blockchain. The possibility of creating a questionnaire is being explored as an engagement tool.

##### Sub-Task 4.2 Understand Tertiary Climate Risks

Climate risks can be classified as primary, secondary, and tertiary with tertiary risks being the most complex because they involve nonlinear interactions through multiple systems and are challenging to identify and therefore mitigate. Examples include unexpected worsening of potholes, and extreme heat waves or freezing spells. The injuries, deaths and economic losses in such cases could be ameliorated through early warnings.

Task 4.2 uses Big Data and Artificial Intelligence to scrape data from around the world on tertiary climate risks to better understand them and assess their likelihood of affecting Hong Kong and the Mainland. The research team was gathering data in 2022 and there has not been a need for Stakeholder Engagement at this stage. However, once the data has been gathered and compiled, and tertiary

21. See <https://www.sciencedirect.com/science/article/abs/pii/S0378778817301123>.

22. Buildings Department (2022). *Roles of Buildings Department*. <https://www.bd.gov.hk/en/building-works/new-building-works/index.html>.

23. Building Department (2022). BRAVO-online building records. <https://www.bd.gov.hk/en/resources/online-tools/BRAVO-online-building-records/index.html>.

24. Home Affairs Department (2022). *Database of Private Buildings in Hong Kong*. [https://bmis2.buildingmgt.gov.hk/bd\\_hadbix/home.jsf](https://bmis2.buildingmgt.gov.hk/bd_hadbix/home.jsf).

risks identified, there would be a need to share them with appropriate parties in the public and private sectors including the insurance and reinsurance sector, where it would be likely for public events to be held, which may be towards the second half of 2023 and 2024.

Moreover, as per the proposal to RGC, HKUST's Environment and Sustainability Division (ENVR) plans to establishing the Center for Climate Adaptation and REsilience (CARE) when Task 4.2 has been completed. However, in light of the fact that the research has already begun and that there is growing interest in climate adaptation and resilience, the work of Task 4.2 will be included in HKUST's Climate Change Adaptation and Resilience Conference 2022 (CARE2022) conference on 10-12 December 2022, which the SET is helping to organize.

#### **V. TASK 5:**

##### **Green Finance Manpower Study**

Task 5 aims to understand the talent needs and talent mobility of sustainable and green finance in Hong Kong, so that Hong Kong could remain a leading GIFC in the Asia-Pacific region and beyond. Task 5 requires the conduct of surveys and interviews with many External Stakeholders for gauging industry insights and views, as well as propose policies to strengthen and increase the talent pool in Hong Kong.

As the Task 5 Team had been previously involved in conducting similar research on Fintech, it has a solid base to start the manpower research in 2022. The team conducted semi-structured stakeholder interviews between May-August 2022, with representatives from BNP Paribas, CLP, Fung Academy, PwC, EY, Friends of the Earth, and others. The exercise gathered information regarding the skills and competencies needed across different industries, as well as identified gaps within Hong Kong's green finance talent market from the corporate and financial services sectors.

Task 5 developed an online Green Finance Talent Survey and distributed it to financial services members of the Hong Kong Green Finance Association (HKGFA) and other channels within HKUST's network. From the responses, the research team wanted more feedback from fund

managers, as well as family offices, and asked the SET to assist with stakeholder outreach for more surveys to be done and for interviews to be conducted. The SET identified six individuals representing family offices and fund managers to assist Task 5, all of whom were successfully engaged and provided useful information.

#### **VI. TASK 6:**

##### **Policy Design to Support Hong Kong as a Green Finance Hub**

Task 6's focus is on Hong Kong's role in green finance. The Task 6 Team has been doing research on this topic for some time with a research grant from Policy Innovation and Co-ordination Office (PICO). As part of the PICO project, the Task 6 Team has already collected and analyzed the available data and information. The Team has also conducted closed-door roundtable discussions with industry leaders and experts. The conclusion of the PICO project is that both first-hand and secondary data showed that Hong Kong has an unprecedented opportunity to develop itself into an GIFC (and the moment must not be lost) but there were legacy issues holding Hong Kong back that needed to be corrected, such as unclear goals and uncoordinated policies.

Using the PICO research as the foundation, Task 6 will deepen its understanding on the barriers holding Hong Kong back and propose policies and actions Hong Kong would need to become a strong GIFC through combining "Thinking" and "Doing". The Task 6 Team and the SET are working closely together to design a specific SEP for Task 6. As the Task 6 Team is mostly at HKUST's Guangzhou's campus, COVID-19 continues to present a major inconvenience to in-person gatherings. Task 6 has also had problems hiring a suitable researcher for the Project.

The initial SEP in 2022 for Task 6 included the following:

- Writing Op-Eds to catch current topics of green finance so as to inform readers about on-going research under Task 6 (First Op-Ed has been published on China Daily in early November 2022);
- Featuring Task 6 research at CARE2022 conference on 12 December 2022; and
- Getting Task 6 Team members to speak at webinars to generate interest in their research.



## I: INTERNAL STAKEHOLDERS' PROFILES

Internal Stakeholder	Group	Interests
<b>Project Funder</b>	Research Grants Council (RGC), University Grants Committee	It is the funding body for the Project which has an oversight role to the Project.
<b>Project Owner</b>	School of Business and Management (SBM), HKUST	To put together an interdisciplinary research team of scholars and experts from HKUST and other universities to advance the intellectual frontier of green finance in Hong Kong, and to deliver on the Project.
<b>Project Key Participants</b>	Business - Department of Accounting (ACCT) - Department of Economics (ECON) - Department of Finance (FINA) - Department of Information Systems, Business Statistics and Operation (ISOM)	To engage in the Project and produce research that can command academic and market attention. Where policy change is needed, to be able to influence policy.
	Environment - Division of Environment and Sustainability (ENVR) - Institute for the Environment (IENV)	To engage in the Project and produce research that can command academic attention, as well as to solve specific applied problems, as well as to (a) influence policy where needed; and (b) design and operate the Stakeholder Engagement Process for the Project.
	Engineering - Department of Civil and Environmental Engineering (CIVL)	To engage in the Project and produce research that can command academic attention, as well as to solve specific applied problems.
	Public Policy - Institute for Public Policy (IPP)	To engage in the Project and produce research that can command academic and market attention. Where policy change is needed to strengthen Hong Kong's role as a GIFC, to be able to influence policy through engaging in this Project.
<b>Research Team</b>	Project Coordinator (PC)	Ensure the quality of the Project outputs and deliverables and to deliver them according to RGC's timelines. Forming and convening the Executive Committee to monitor and supervise the Project.
	Co-Principal Investigators (Co-PIs)	Responsible for the delivery of the research, and overall management of their respective areas of investigation.
	Co-Investigators (Co-Is)	Serve as senior members of the team to deliver on the research of their respective areas.
	Stakeholder Engagement Team (SET)	Responsible for the design and implementation of the Stakeholder Engagement Process for the Project, working closely with all the Task Teams as well as to maintain relationships with External Stakeholders.
	Researchers	Conduct research support, including data collection, analysis and compelling to Co-PI and Co-I.
<b>Project Head Administrator</b>	Project Manager (PM)	Provide administrative support for the Project to ensure good governance.

## II: EXTERNAL STAKEHOLDERS PROFILES (PROJECT PARTNERS AND OTHERS)

### A. Financial Institutions

<b>Stakeholder</b>	Bank of International Settlement Innovation Hub (BIS) – 01
<b>Group</b>	Financial Institutions
<b>Project relationship</b>	Project Partner
<b>Profile</b>	Moderate level of influence, moderate level of interest

#### Background

BIS fosters innovation and greater collaboration amongst the central banking community globally. It aims to enhance the understanding of financial technology, and aid development of innovative solutions to benefit and enhance the financial system. Green finance is one of the six core themes structured under BIS's work program.<sup>1</sup>

#### Interests

BIS would be interested in those aspects where there is an innovation component that relates to the financial sector, such as Sub-Task 1.2, 2.2,4.1 and 4.2.

### B. Government Bureaux and Departments

<b>Stakeholder</b>	Financial Services Development Council (FSDC) – 02
<b>Group</b>	Government Bureaux and Departments
<b>Project relationship</b>	Project Partner
<b>Profile</b>	Moderate level of influence and interest

#### Background

FSDC is established by the Hong Kong Government as a high-level and cross-sectoral advisory body to engage the industry and formulate proposals to promote the further development of Hong Kong's financial services industry and to map out the strategic direction for the development.<sup>2</sup>

#### Interests

FSDC conducts policy research and industry surveys for formulating new proposal to the Government and regulators, also supports financial industry in developing competence and knowledge of its practitioners.<sup>3</sup>

Task/Sub-Tasks that bring insights and recommendations on policy, industry feedbacks and talent development can engage FSDC for research collaboration. They could be interested in the whole project.

1. See <https://www.bis.org/about/bisih/topics.htm>

2. See <https://waifc.finance/profiles/hong-kong-financial-services-development-council-fsdc/>

3. See <https://www.legco.gov.hk/yr2022/english/panels/fa/papers/fa20220503cb1-217-4-e.pdf>

## II: EXTERNAL STAKEHOLDERS PROFILES (PROJECT PARTNERS AND OTHERS)

### B. Government Bureaux and Departments

<b>Stakeholder</b>	Buildings Department (BD) – 03
<b>Group</b>	Government Bureaux and Departments
<b>Project relationship</b>	Potential Project Partner
<b>Profile</b>	Low level of influence and interest

#### Background

BD is responsible for promoting building safety; setting and enforcing safety, health and environmental standards for private buildings; as well as improving the quality of building development.<sup>4</sup>

#### Interests

BD has all the build and design records for existing and new private buildings as it is the authority to approve the relevant plans and system designs.

These information will be useful for Tasks 3 and 4.1 to understand the design and built of various building, including construction materials, building and system components.

<b>Stakeholder</b>	Electrical and Mechanical Services Department (EMSD) – 04
<b>Group</b>	Government Bureaux and Departments
<b>Project relationship</b>	Potential Project Partner
<b>Profile</b>	Moderate level of influence and interest

#### Background

EMSD is a regulatory body and law enforcement department with regard to electricity, gas, lift, escalator and related electricity and mechanical (E&M) safety areas. It also provides E&M engineering solutions and services to government departments and public bodies.<sup>5</sup>

#### Interests

EMSD supports the government to promote energy efficiency and energy conservation, as well as improve indoor air quality in buildings. Their Energy Efficiency Office spearheads a wide range of relevant programs, including energy management through engaging with various partners.<sup>6</sup>

The buildings and energy datasets managed by EMSD will be very useful for the projection of energy saving potential of buildings. Task 3 can proactively engage EMSD and explore partnership opportunities.

4. See <https://www.bd.gov.hk/en/about-us/welcome-message/index.html>

5. See [https://www.emsd.gov.hk/en/about\\_us/general\\_faqs/](https://www.emsd.gov.hk/en/about_us/general_faqs/)

6. See [https://www.emsd.gov.hk/en/energy\\_efficiency/about\\_energy\\_efficiency\\_and\\_conservation/](https://www.emsd.gov.hk/en/energy_efficiency/about_energy_efficiency_and_conservation/)

## II: EXTERNAL STAKEHOLDERS PROFILES (PROJECT PARTNERS AND OTHERS)

### B. Government Bureaux and Departments

<b>Stakeholder</b>	Environment and Ecology Bureau (EEB) – 05
<b>Group</b>	Government Bureaux and Departments
<b>Project relationship</b>	Potential Project Partner
<b>Profile</b>	High level of influence, high level of interest

#### Background

EEB consolidates polices and work related to environmental protection, conservation of natural ecology, environmental hygiene, food safety, agriculture and fisheries and animal welfare as well as to driving climate action and promoting biodiversity in Hong Kong.<sup>7</sup>

EEB is a member of the CASG.

#### Interests

EEB announced the *Hong Kong's Climate Action Plan 2050* in October 2021 that sets out four major decarbonisation strategies in aspects of net-zero electricity generation, energy saving and green buildings, green transport, and waste reduction.

Tasks/Sub-Tasks related to environmental and climate risks analysis, green technologies that help reduce city's carbon emissions, as well as the implications on climate change policies would have EEB's interests. Relevant tasks are 3, 4.1 and 4.2.

<b>Stakeholder</b>	Financial Services and the Treasury Bureau (FSTB) – 06
<b>Group</b>	Government Bureaux and Departments
<b>Project relationship</b>	Potential Project Partner
<b>Profile</b>	High level of influence, high level of interest

#### Background

FSTB consolidates Hong Kong status as a global financial centre, an asset and wealth management centre and an offshore RMB business hub, seeking breakthroughs in green finance and financial technology development.

FSTB is a member of the Green and Sustainable Finance Cross-Agency Steering Group (CASG).

#### Interests

FSTB works closely with market regulators and industry people to facilitate matching between international capital and quality green projects as well as promote the green economy transformation.<sup>8</sup>

Tasks/Sub-Tasks related to green bond market development, enhancing talent and data resources for the financial industry, as well as market regulations including taxonomy, climate risks disclosure can actively engage FSTB. Relevant tasks are 1.2, 1.3, 1.4, 5 and 6.

7. See [https://www.eeb.gov.hk/en/message\\_index.html](https://www.eeb.gov.hk/en/message_index.html)

8. See <https://www.legco.gov.hk/yr2022/english/panels/fa/papers/fa20221003cb1-638-3-e.pdf>

## II: EXTERNAL STAKEHOLDERS PROFILES (PROJECT PARTNERS AND OTHERS)

### B. Government Bureaux and Departments

<b>Stakeholder</b>	Home Affairs Department (HAD) – 07
<b>Group</b>	Government Bureaux and Departments
<b>Project relationship</b>	Potential Project Partner
<b>Profile</b>	Low level of influence and interest

#### Background

HAD is responsible for enhancing communication between the Government and the public to facilitate the development of District Administration. The major function of HAD is also to reflect the community's views and aspirations to the Government so that timely and appropriate responses can be made.

#### Interests

HAD has a central database with publicly available information of all private buildings across all districts, such as number of units, storeys and year built, as well as information on building organizations.

This information will be useful for Task 3 to understand the history and current status of various buildings.

<b>Stakeholder</b>	Hong Kong Observatory (HKO) – 08
<b>Group</b>	Government Bureaux and Departments
<b>Project relationship</b>	Potential Project Partner
<b>Profile</b>	Moderate level of influence and interest

#### Background

HKO is responsible for monitoring and forecasting weather, as well as issuing warnings on weather-related hazards. It also monitors and assesses radiation levels, and provides meteorological and geophysical services to meet the needs of the public and the aviation, industrial, shipping and engineering sectors.<sup>9</sup>

#### Interests

HKO provides scientific input to climate change reports in Hong Kong, and facilitates stakeholders and policy-makers in planning and implementing climate policies and actions based on the latest assessment of climate trends and projections.<sup>10</sup>

Tasks/Sub-Tasks that involve climate risks modelling, climate science, prediction and projection of extreme weather events can engage for providing climatological data and relevant professional advice. Relevant tasks are 1.3, 2.1 and 4.2.

9. See [https://www.hko.gov.hk/en/about\\_hko/aboutus.htm](https://www.hko.gov.hk/en/about_hko/aboutus.htm)

10. See [https://www.hko.gov.hk/en/climate\\_change/combatting\\_climate\\_change.htm](https://www.hko.gov.hk/en/climate_change/combatting_climate_change.htm)

## II: EXTERNAL STAKEHOLDERS PROFILES (PROJECT PARTNERS AND OTHERS)

### C. Regulators

<b>Stakeholder</b>	Hong Kong Exchanges and Clearing Limited (HKEX) – 09
<b>Group</b>	Regulators
<b>Project relationship</b>	Project Partner
<b>Profile</b>	High level of influence, high level of interest

#### Background

HKEX is the operator of Hong Kong's central securities and derivatives marketplace and the front-line regulator of listed issuers. It regulates listed issuers; administers listing, trading and clearing rules; and provides services at the wholesale level to customers of the exchanges and clearing houses.<sup>11</sup>

HKEX is a member of the CASG.

#### Interests

HKEX sets the listing rule and provides guidance to listed companies on climate disclosures and ESG reporting.<sup>12</sup> With the launch of the *Sustainable and Green Exchange* (STAGE),<sup>13</sup> it also provides an online database for investor and asset managers with access and transparency on sustainable-themed products in Asia.

Tasks/Sub-Tasks related to listed firms in Hong Kong and sustainable financial products such as derivatives and bonds can consult HKEX as appropriate. The relevant tasks are 1.1, 1.2, 1.4, 2.2,5 and 6.

<b>Stakeholder</b>	Hong Kong Monetary Authority (HKMA) – 10
<b>Group</b>	Regulators
<b>Project relationship</b>	Project Partner
<b>Profile</b>	High level of influence, high level of interest

#### Background

HKMA is Hong Kong's central banking institution with four main policy objectives, including to maintain currency stability, promote the stability and integrity of financial system, help maintain Hong Kong's status as an international financial centre as well as manage the Exchange Fund.<sup>14</sup>

HKMA is the co-chair of the CASG with SFC.

#### Interests

The future work of HKMA focuses on talent development, data-related work of the Centre for Green and Sustainable Finance, taxonomies, climate-related disclosures and sustainability reporting as well as carbon market opportunities.<sup>15</sup> It also promotes green and sustainable banking to help banking sector managing and reducing climate risks.

Tasks/Sub-Tasks related to abovementioned and works with banking sectors can engage HKMA actively. Relevant tasks are 1.3, 5 and 6.

11. See [https://www.hkex.com.hk/Global/Exchange/FAQ/Getting-Started/Regulation-of-the-Hong-Kong-Market?sc\\_lang=en#collapse-1](https://www.hkex.com.hk/Global/Exchange/FAQ/Getting-Started/Regulation-of-the-Hong-Kong-Market?sc_lang=en#collapse-1)

12. See <https://sseinitiative.org/stock-exchange/hkex/>

13. See [https://www.hkex.com.hk/Join-Our-Market/Sustainable-Finance/HKEX-STAGE?sc\\_lang=en](https://www.hkex.com.hk/Join-Our-Market/Sustainable-Finance/HKEX-STAGE?sc_lang=en)

14. See <https://www.hkma.gov.hk/media/eng/doc/key-functions/banking-stability/guide-authorization/Chapter-1.pdf>

15. See <https://www.legco.gov.hk/yr2022/english/panels/fa/papers/fa20220207cb1-56-1-e.pdf>

## II: EXTERNAL STAKEHOLDERS PROFILES (PROJECT PARTNERS AND OTHERS)

### B. Regulators

<b>Stakeholder</b>	Securities and Futures Commission (SFC) – 11
<b>Group</b>	Regulators
<b>Project relationship</b>	Project Partner
<b>Profile</b>	High level of influence, high level of interest

#### Background

SFC is the principal regulator of Hong Kong's securities and futures markets, which is an independent statutory body responsible for administering the laws governing the securities and futures markets in Hong Kong and facilitating the development of these markets. Parties regulated by the SFC include HKEX and its subsidiaries.<sup>16</sup>

#### Interests

SFC develops the regulatory framework for green finance in Hong Kong with three focus areas: corporate disclosures, monitoring the implementation of and enhancing existing measures and a regulatory framework for carbon markets. It also published the *Agenda for Green and Sustainable Finance* in August 2022 that outlines its further steps to support Hong Kong's role as the Green International Finance Centre.

Research related to regulatory policy and new financial products should engage and seek advice from SFC. Relevant tasks are 1.3, 2.2, 5.6.

<b>Stakeholder</b>	Insurance Authority (IA) – 12
<b>Group</b>	Regulators
<b>Project relationship</b>	Potential Project Partner
<b>Profile</b>	High level of influence, moderate level of interest

#### Background

IA is an independent insurance regulator to modernize the insurance industry regulatory infrastructure to facilitate the stable development of the industry, provide better protection for policy holders, supervise insurance companies, and align with international practice that insurance regulators should be financially and operationally independent of the Government.<sup>17</sup>

IA is a member of the CASG.

#### Interests

IA drives sustainable investing by turning Hong Kong insurers green and help shape the behavior of asset owners and managers to identify, analyze and mitigate their risk exposures to climate change.

With a view that Sub-Task 2.2 will need to analyze the competitive edges of weather derivatives versus insurance products, it makes IA a good partner to be engaged for analysing the green insurance market in Hong Kong on risk management.

16. See [https://www.gov.hk/en/about/abouthk/factsheets/docs/financial\\_services.pdf](https://www.gov.hk/en/about/abouthk/factsheets/docs/financial_services.pdf)

17. See [https://www.gov.hk/en/about/abouthk/factsheets/docs/financial\\_services.pdf](https://www.gov.hk/en/about/abouthk/factsheets/docs/financial_services.pdf)

## II: EXTERNAL STAKEHOLDERS PROFILES (PROJECT PARTNERS AND OTHERS)

### D. Professional Bodies/NGOs

<b>Stakeholder</b>	Hong Kong Green Building Council (HKGBC) – 13
<b>Group</b>	Professional Bodies/NGOs
<b>Project relationship</b>	Project Partner
<b>Profile</b>	Moderate level of influence and interest

#### Background

HKGBC is a non-profit, member-led organization/public body which strives to promote the standard and development of sustainable buildings in Hong Kong, leading Hong Kong to achieve carbon neutrality by 2050 and to become a world's exemplar of green building development.

#### Interests

HKGBC offers assessments of building sustainability performance and certification service to assess sustainable building and construction materials and products. *The BEAM Plus*<sup>18</sup> and *CIC Green Product Certification*<sup>19</sup> are developed to evaluate building performance and building and construction materials/products' carbon footprint. It would be an important partner of Task 3 and Sub-Task 4.1.

<b>Stakeholder</b>	Hong Kong Green Finance Association (HKGFA) – 14
<b>Group</b>	Professional Bodies/NGOs
<b>Project relationship</b>	Project Partner
<b>Profile</b>	High level of influence, high level of interest

#### Background

HKGFA creates a platform that offers channels and opportunities to facilitate the development of green finance and sustainable investments in Hong Kong and beyond.<sup>20</sup>

#### Interests

HKGFA promotes mobilisation of both public and private sectors resources and talents, develops green finance policies in Hong Kong and promote green finance business and product innovation within financial institutions.

It is the pivotal partner of Task 5 and 6 for conducting industry surveys and proposing new policy and green infrastructure.

18. See <https://www.hkgbc.org.hk/eng/beam-plus/introduction/index.jsp>

19. See <http://cicgpc.hkgbc.org.hk/subpagex.php?serial=92>

20. See <https://www.hkgreenfinance.org/association-overview/>



## II: EXTERNAL STAKEHOLDERS PROFILES (PROJECT PARTNERS AND OTHERS)

### D. Professional Bodies/NGOs

<b>Stakeholder</b>	Hong Kong Institute of Qualified Environmental Professionals (HKIQEP) – 15
<b>Group</b>	Professional Bodies/NGOs
<b>Project relationship</b>	Project Partner
<b>Profile</b>	Low level of influence, high level of interest

#### Background

HKIQEP aims to support Hong Kong's reputation and position as an international leader in environmental management, and in ensuring the quality of work conducted across the growing environmental field in Hong Kong.<sup>21</sup>

#### Interests

As the members of HKIQEP are professionals working in the field of the environment, they will wish to know about the Project in general terms. They are a useful body for the dissemination of research arising from the Project, as well as a source of expertise to draw upon when needed.

<b>Stakeholder</b>	Hong Kong Quality Assurance Agency (HKQAA) – 16
<b>Group</b>	Professional Bodies/NGOs
<b>Project relationship</b>	Project Partner
<b>Profile</b>	Moderate level of influence, low level of interest

#### Background

HKQAA is a non-profit-distributing organization by the Hong Kong Government. It helps industry and commerce in the development of quality, environmental, safety, hygiene, social and other management systems.

#### Interests

HKQAA provides third-party conformity assessments on bonds, loans and ESG funds through its Green and Finance Certification Scheme,<sup>22</sup> to direct capital flows towards green and sustainable uses. The *HKQAA Sustainability Ratings and Research Platform* is also developed in collaboration with Hang Seng Indexes to provide listed companies and general public with sustainability rating and research content .

Sub-Task 1.2 requires to connect rating agency and Sub-Task 1.4 may involve rating systems that evaluate firms with green bond issuance may engage HKQAA for advice.

21. See <https://hkiqep.org/>

22. See [https://www.hkqaa.org/en\\_certservice.php?catid=26](https://www.hkqaa.org/en_certservice.php?catid=26)

23. See <https://srr.hkqaa.org/>

## II: EXTERNAL STAKEHOLDERS PROFILES (PROJECT PARTNERS AND OTHERS)

### D. Professional Bodies/NGOs

<b>Stakeholder</b>	Construction Industry Council (CIC) – 17
<b>Group</b>	Professional Bodies/NGOs
<b>Project relationship</b>	Potential Project Partner
<b>Profile</b>	Moderate level of influence, low level of interest

#### Background

CIC is a statutory body representing the construction industry. The main functions are to forge consensus on long-term strategic issues, convey the industry's needs and aspirations to the Government, provide professional training and registration services, and serve as a communication channel.<sup>24</sup>

#### Interests

The *CIC Carbon Assessment Tool*,<sup>25</sup> launched in 2020, acts as an online platform for construction industry to assess the embodied carbon emissions of construction materials of buildings and infrastructure. It helps evaluate and reduce carbon emissions.

Tasks/Sub-Tasks related to construction and building such as Task 3 and Sub-Task 4.1 can engage CIC to seek industry advice and as a source of data to draw upon when needed.

### E. Industry Firms

<b>Stakeholder</b>	Gammon Construction Limited (Gammon) - 18
<b>Group</b>	Industry Firms
<b>Project relationship</b>	Project Partner
<b>Profile</b>	High level of influence, high level of interest

#### Background

Gammon is a Hong Kong construction and engineering contractor with business focuses on civil, building, foundations, electrical and mechanical, facades and interiors works and design across China and Southeast Asia.

#### Interests

Gammon experiences strives reduce carbon emissions of their construction projects by reducing the amount of cement used, wise use of construction materials with lower embodied carbon as a result to reduce project's carbon footprints and costs.

Sub-Task 4.1 has secured partnership with Gammon for building the technology on tracking the carbon footprints by blockchain system. The in-depth tracking and analysis can also ensure these construction materials meet the standards.

24. See [https://www.cic.hk/files/page/10421/08\\_About\\_the\\_Council\\_E.pdf](https://www.cic.hk/files/page/10421/08_About_the_Council_E.pdf)

25. See <https://cat.cic.hk/>

## II: EXTERNAL STAKEHOLDERS PROFILES (PROJECT PARTNERS AND OTHERS)

### E. Industry Firms

<b>Stakeholder</b>	Link Real Estate Investment Trust (LINK) – 19
<b>Group</b>	Industry Firms
<b>Project relationship</b>	Project Partner
<b>Profile</b>	Moderate level of influence and interest

#### Background

LINK is the largest real estate investment trust in Asia, a real estate investor and asset manager which is listed in Hong Kong. LINK invests and manages a diversified portfolio comprising retail facilities, car parks, offices and logistics centres. A majority of its investment portfolio is in Hong Kong.

#### Interests

LINK is committed to achieving net-zero by 2035 that requires to progressively reduce and avoid carbon emissions through enhancing efficiency and investing in new technologies. They issued green bonds and adopted blockchain technology in a solar project in recent years.

Tasks/Sub-Tasks that related to listed firms, property/building owner, green bonds issuer and blockchain technologies such as 1.1, 1.2, 1.4, 3 and 4.1 can engage and consult LINK.

<b>Stakeholder</b>	Cathay Pacific Airways (CX) – 20
<b>Group</b>	Industry Firms
<b>Project relationship</b>	Potential Project Partner
<b>Profile</b>	Low level of influence and interest

#### Background

CX is the flag carrier which owns hundreds of aircraft. The Group also makes investments on catering, laundry, groundhandling and cargo terminal companies. Its corporate headquarters and cargo terminal are situated at Hong Kong International Airport. It is a HK-listed company.

#### Interests

CX recognizes climate change risk as one of the top 20 risks the Group is facing. They are exploring possible measures to manage this risk to ensure their operation continues to thrive despite the uncertain impacts of climate change on aviation industry.<sup>26</sup>

Task/Sub-Tasks related to climate risks, extreme weather event projection and products which are helpful to manage business risks can seek advice from CX, such as Sub-Task 1.1, 1.2, 2.1 and 2.2.

26. See [https://sustainability.cathaypacific.com/wp-content/uploads/2022/05/Cathay\\_Pacific\\_SDR\\_2021\\_EN\\_Final.pdf](https://sustainability.cathaypacific.com/wp-content/uploads/2022/05/Cathay_Pacific_SDR_2021_EN_Final.pdf)

## II: EXTERNAL STAKEHOLDERS PROFILES (PROJECT PARTNERS AND OTHERS)

### E. Industry Firms

<b>Stakeholder</b>	MTR Corporation Limited (MTR) – 21
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<b>Group</b>	Industry Firms
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<b>Project relationship</b>	Potential Project Partner
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<b>Profile</b>	Moderate level of influence and interest
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#### Background

MTR is a railway operator and property developer which is a Hong Kong listed company. The HKSAR Government is the majority shareholder of the Corporation.

#### Interests

MTR operates a predominantly rail based transportation system, develops and manage many residential and commercial properties in Hong Kong. MTR has already incorporated climate risks into their Enterprise Risk Management framework, issued green bonds to finance relevant project.<sup>27</sup>

MTR could be a potential important partner for Sub-Task 2.2 as they want to understand what kind of climate risks a transport operator concerns. As a listed company developer/building owner and green bonds issuer, their advice would also be helpful for Tasks/Sub-Task such as 1.1, 1.2, 1.4 and 3.

<b>Stakeholder</b>	Sino Group (SINO) – 22
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<b>Group</b>	Industry Firms
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<b>Project relationship</b>	Potential Project Partner
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<b>Profile</b>	Low level of influence, moderate level of interest
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#### Background

SINO is a property developer with core businesses in property development and investment. It comprises three listed companies in Hong Kong with business spans across China (Hong Kong and the Mainland), Singapore and Australia.

#### Interests

SINO has pledged to achieve net zero carbon emissions by 2050 and improving energy efficiency, investing in sustainable buildings and harnessing new technology.<sup>28</sup> They are interested in building retrofits to save energy and carbon.

Tasks/Sub-Tasks that related to listed firms, developer, building owner such as 1.1, 1.2, 3 can engage SINO.

27. See [https://www.mtr.com.hk/sustainability/2021/en/pdf/MTR\\_CDP\\_Response\\_2021.pdf](https://www.mtr.com.hk/sustainability/2021/en/pdf/MTR_CDP_Response_2021.pdf)

28. See [https://www.sino.com/assets/20a53f0a-15c8-0029-b8df-e495023b403f/3d7e3c51-1bd7-481c-b716-b7e94d2c2bb3/Sino%20Land%20Company%20Limited%20Sustainability%20Report%202021%20\(English\).pdf](https://www.sino.com/assets/20a53f0a-15c8-0029-b8df-e495023b403f/3d7e3c51-1bd7-481c-b716-b7e94d2c2bb3/Sino%20Land%20Company%20Limited%20Sustainability%20Report%202021%20(English).pdf)

## II: EXTERNAL STAKEHOLDERS PROFILES (PROJECT PARTNERS AND OTHERS)

### E. Industry Firms

<b>Stakeholder</b>	Sun Hung Kai Properties (SHK) – 23
<b>Group</b>	Industry Firms
<b>Project relationship</b>	Potential Project Partner
<b>Profile</b>	Low level of influence, moderate level of interest

#### Background

SHK is one of the largest property developers in Hong Kong. It develops residential projects and owns an extensive network of shopping malls, offices, hotel and sizeable land bank. It is a HK-listed company.

#### Interests

SHK aims for sustainable development in planning, design, materials sourcing and landscaping to save energy, reduce waste and create a better environment.<sup>29</sup> They are interested in building retrofits to save energy and carbon.

Tasks/Sub-Tasks that related to listed firms, developer, building owner such as 1.1, 1.2, 3 can engage SHK.

<b>Stakeholder</b>	Swire Properties Limited (SPL) – 24
<b>Group</b>	Industry Firms
<b>Project relationship</b>	Potential Project Partner
<b>Profile</b>	Low level of influence and interest

#### Background

SPL is a property developer that develops and manages commercial, retail, hotels and residential properties with investments in Hong Kong, the Mainland, Singapore and the US. It is a HK-listed company.

#### Interests

SPL completed a comprehensive climate risk assessment in 2020 to identify the key risks posed by climate change to their business operations as well as business opportunities that may arise from new climatic conditions.

Sub-Tasks related to how to diverse climate risks to their business and reduce costs to manage these risks can seek advice from SPL, for example Sub-Task 1.2, 2.1 and 2.2.

29. See <https://www1.hkexnews.hk/listedco/listconews/sehk/2021/1130/2021113000479.pdf>

### III: RECORD OF INTERNAL STAKEHOLDER COMMUNICATION

Task/ Subtask	Meetings	Group	Stakeholders
All	9 November 2021	All	Prof. Chu Zhang (PC), Prof. Zhanhui Chen (Co-PI), Prof. Darwin Choi (Co-PI), Prof. Jimmy Fung (Co-PI), Prof. Guojun He (Co-PI), Prof. Allen Huang (Co-PI), Prof. Kai-Lung Hui (Co-PI), Prof. Eun-Soon Im (Co-PI), Prof. Alexis Lau (Co-PI), Prof. Yingying Li (Co-PI), Prof. Christine Loh (Co-PI), Prof. Abhiroop Mukherjee (Co-PI), Prof. Yoshio Nozawa (Co-PI), Prof. Kar Yan Tam (Co-PI), Prof. Ye Qi (Co-PI), Ms. Coco Du (Co-I), Prof. Alminas Zaldokas (Co-PI), Prof. Lawrence Delina (Co-I), Prof. Veronique Lafon-Vinais (Co-I), Prof. Shun Cheng Lee (Co-I), Prof. Xiaoming Shi (Co-I), Prof. Benjamin Steuer (Co-I) Others: Prof. Keith Chan, Ms. Helen Chen, Ms. Olivia To, Prof. Eyub Yegen, Ms. Christy Yeung
1.1	31 August 2022	SBM, CUHK	Prof. Christine Loh (SET), Ms. Olivia To (SET), Prof. Abhiroop Mukherjee (Co-PI), Prof. Darwin Choi (Co-PI)
1.2	8 August 2022	HKU	Prof. Christine Loh (SET), Ms. Olivia To (SET), Prof. Guojun He (Co-PI)
1.3	17 August 2022	SBM	Prof. Christine Loh (SET), Ms. Olivia To (SET), Prof. Allen Huang (Co-PI) Researcher - Ms. Juanting Wang, Mr. Srijith Kannan
2.1	15 August 2022	ENVR	Prof. Christine Loh (SET), Ms. Olivia To (SET), Prof. Jimmy Fung (Co-PI), Eun Soon Im (Co-PI), Xiaoming Shi (Co-I)
2.2 & 2.1	24 August 2022	SBM, ENVR	Prof. Christine Loh (SET), Ms. Olivia To (SET), Prof. George Panayotov (Co-PI), Zhanhui Chen (Co-PI), Jimmy Fung (Co-PI), Xiaoming Shi (Co-I)
3	1 June 2022	ENVR, LIB, CMO	Prof. Alexis Lau (Co-PI), Prof. Jimmy Fung (Co-PI), Ms. Olivia To (SET) and Mr. Tony Chung (Researcher) Others - Prof. Jimmy Chan, Prof. Davis Bookhart, Mr. Edward Spodick, Mr. Tom Chan
	22 August 2022	SBM	Prof. Christine Loh (SET), Prof. Chu Zhang (PC/Co-PI), Prof. Alminas Zaldokas (Co-PI)
	2 September 2022	ENVR	Prof. Christine Loh (SET), Ms. Olivia To (SET), Prof. Alexis Lau (Co-PI)
3 & 4.1	5 October 2022	ENVR, CIVL	Prof. Alexis Lau (Co-PI), Prof. Jack Cheng, Ms. Olivia To (SET) Researcher - Mr. Tony Chung, Ms. Karina Kuan, Ms. Helen Kwok, Ms. Yuxuan Zhang
	10 October 2022	ENVR, SBM	Prof. Christine Loh (SET), Ms. Olivia To (SET), Prof. Alexis Lau (Co-PI), Prof. Jimmy Fung (Co-PI), Prof. Chu Zhang (PC/Co-PI)
	24 October 2022	ENVR	Prof. Christine Loh (SET), Ms. Olivia To (SET), Prof. Alexis Lau (Co-PI)
4.1	2 September 2022	ENVR	Prof. Christine Loh (SET), Ms. Olivia To (SET), Prof. Alexis Lau (Co-PI)
4.1 & 4.2	22 August 2022	SBM, ENVR	Prof. Christine Loh (SET), Ms. Olivia To (SET), Prof. Kai-Lung Hui (Co-PI), Prof. Jimmy Fung (Co-PI)
4.1 & 3	13 September 2022	ENVR, CIVL	Prof. Alexis Lau (Co-PI), Prof. Jack Cheng, Olivia To (SET) Research Team - Ms. Rannie Xu, Ms. Karina Kuan, Ms. Helen Kwok, Ms. Tony Chung
5	30 March 2022	SBM	Prof. Kar Yan Tam (Co-PI), Ms. Olivia To (SET)
	8 August 2022	SBM	Prof. Kar Yan Tam (Co-PI), Prof. Christine Loh (SET)
	22 August 2022	SBM	Prof. Christine Loh (SET), Mr. Lionel Mok (Researcher), Ms. Christy Yeung (PM)
6	27 January 2022	IPP	Ms. Olivia To (SET), Dr. Coco Du (Co-I), Ms. Sherry Li (Researcher)
	15 March 2022	IPP, ENVR	Prof. Ye Qi (Co-PI), Dr. Coco Du (Co-I), Prof. Jimmy Fung (Co-PI), Ms. Olivia To (SET)
	1 August 2022	IPP	Dr. Coco Du (Co-I), Ms. Olivia To (SET)
PM	22 August 2022	SBM, IENV	Prof. Christine Loh (SET), Ms. Olivia To (SET), Ms. Michelle Wong and Ms. Christy Yeung (PM)

#### IV: RECORD OF EXTERNAL STAKEHOLDER COMMUNICATION ORGANIZED BY SET

Task/ Subtask	Meetings	Organizations	Stakeholders
2.1, 2.2	23 September 2022	Swire Properties Limited (SPL)	Ms. Elizabeth Kok (SPL), Ms. Fanny Lung (SPL), Mr. Patrick Ho (SPL), Ms. Olivia To (SET), Prof. Zhanhui Chen (Co-PI), Prof. George Panayotov (Co-PI), Prof. Xiaoming Shi (Co-I)
	7 October 2022	Cathay Pacific Airways (CX)	Ms. Della Ng (CX), Ms. Grace Cheung (CX) Prof. Christine Loh (SET), Ms. Olivia To (SET), Prof. Zhanhui Chen (Co-PI), Prof. George Panayotov (Co-PI), Prof. Xiaoming Shi
4.1	29 November 2021	Gammon Construction Limited (Gammon)	Prof. Alexis Lau (Co-PI), Prof. Kai Lung Hui (Co-PI), Prof. Christine Loh (SET), Ms. Olivia To (SET)
	8 December 2021	Gammon Construction Limited (Gammon)	Mr. Eddie Tse (Gammon), Prof. Alexis Lau (Co-PI), Prof. Jimmy Fung (Co-PI), Prof. Kai-Lung Hui (Co-PI), Prof. Chu Zhang (Co-PI/PC), Prof. Christine Loh (SET), Ms. Olivia To (SET)
	7 April 2022	Gammon Construction Limited (Gammon)	Mr. Eddie Tse (Gammon), Prof. Alexis Lau (Co-PI), Prof. Jimmy Fung (Co-PI), Prof. Chu Zhang (Co-PI), Prof. Kar Yan Tam (Co-PI), Prof. Kai Lung Hui (Co-PI), Ms. Olivia To (SET), Ms. Christy Yeung (PM), Prof. Veronique Lafon-Vinai
5	In August 2022, the SET successfully introduced the task team to various parties for consultation	BlueOnion (BO)	Ms. Elsa Pau (BO)
		ADM Capital Foundation (ADM)	Ms. Lisa Genasci (ADM)
		RS Group (RS)	Ms. Katy Yung (RS)
		WYNG Foundation (WYNG)	Ms. Karen Chan (WYNG)
		The Kadoorie Charitable Foundation (Kadoorie)	Mr. Peter Paul de Groote (Kadoorie)
6	18 August 2022	KHI Holdings Ltd (KHI)	Mr. Nicholas Fu (KHI)
		Hong Kong Monetary Authority (HKMA)	Mr. Kenneth Hui (HKMA), Ms. Grace Wong (HKMA), Ms. Ting Wang (HKMA), Prof. Christine Loh (SET), Ms. Olivia To (SET)
		Securities and Futures Commission (SFC)	Ms. Christine Kung (SFC), Ms. Elaine Ng (SFC), Ms. Grace Wong (SFC), Prof. Christine Loh (SET), Ms. Olivia To (SET)
	11 October 2022	Hong Kong Exchanges and Clearing Limited (HKEX)	Ms. Queenie Tsao (HKEX), Mr. Andy Lau (HKEX), Ms. Connie Lam (HKEX), Ms. Olivia To (SET)

**V: RECORD OF RELEVANT EVENTS**

Date	Event	Format
26.02.2022	Sustainable and Green Finance Webinar by HKEJ and EDB	Webinar
16.03.2022	HEC-HKUST Sustainable Finance Seminar: [Seminar 1] Equilibrium Emission Caps and Investment in Green Technologies	Webinar
17.03.2022	QFIN and SGFN Speaker Series 2021-2022: Promoting Sustainable Finance – Sharing by a Global Leading Green Bank	Webinar
29.03.2022	EVMT + SGFN Green Finance Speaker Series 2021-22: Asia's race to net-zero: 12.4 trillion dollars and counting	Webinar
13.04.2022	HEC-HKUST Sustainable Finance Seminar: [Seminar 2] The Pollution Premium	Webinar
19.04.2022	EVMT + SGFN Green Finance Speaker Series 2021-22 - Green monetary policies and Green financial policies	Webinar
08.05.2022	EVMT + SGFN Green Finance Speaker Series 2021-22 - Scaling Up Sustainable Investment through Blockchain-Based Project Bonds	Webinar
10.05.2022	TCFD based reporting of capacity to transition to net-zero carbon emissions	Webinar
11.05.2022	HEC-HKUST Sustainable Finance Seminar: [Seminar 3] Socially Responsible Finance: How to Maximize Impact?	Webinar
18.05.2022	HKUST and Pictet Asset Management Survey on ESG Investing	Press Conference
15.06.2022	HEC-HKUST Sustainable Finance Seminar: [Seminar 4] Smokestacks and the Swamp	Webinar
03.10.2022	QFIN x SGFN Speaker Series 2022-23: [3rd Session] Active Ownership: Dialogue Between Investors and Companies	Webinar
19.10.2022	HKUST Green Finance in Practice Seminar Series: A Deep Dive: Morningstar & Sustainalytics' ESG Risk Rating	Webinar
26.10.2022	HEC-HKUST Sustainable Finance Seminar: [Seminar 5] Climate Laws and Cross-Border Mergers and Acquisitions	Webinar

## Reference:

- <https://www.envr.ust.hk/events-and-media/events-and-seminars.html>
- <https://ienv.hkust.edu.hk/events>
- <https://bm.hkust.edu.hk/zh-cn/the-school/introduction/green-finance-research-project/latest-updates>