HONG KONG MONETARY AUTHORITY
香港金融管理局

Prototype of Hong Kong Taxonomy for Sustainable Finance (Phase 2B)

September 2026

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Chapter I:

Introduction

Background

The Hong Kong Monetary Authority (HKMA) developed the Hong Kong Taxonomy for Sustainable Finance (thereafter referred to as the "Hong Kong Taxonomy" or "the Taxonomy") to provide a framework for defining and classifying environmentally sustainable economic activities. Its primary goal is to scale up green and sustainable finance flows, thereby addressing the growing need for targeted financial support both within the region and globally to drive the transition to a low-carbon economy.

The HKMA develops the Taxonomy following a phased approach, allowing the Taxonomy to evolve and expand over time to incorporate a broader range of sectors, activities, structural elements, and environmental objectives, with a view to supporting a more holistic and comprehensive sustainability agenda.

Hong Kong's Commitment to Carbon Neutrality

Asia, responsible for over half of global emissions, is both a critical battleground in the fight against climate change and one of the regions most vulnerable to its impacts. It is estimated that Asia will require US$66 trillion of climate investment during 2020-2050.[1] China alone is projected to need US$22 trillion for the period spanning 2020 to 2060.[2]

In Hong Kong, the Government has taken decisive actions against climate change. The Climate Action Plan 2050 published in 2021 sets out the target to achieve carbon neutrality before 2050. It outlines four key decarbonisation strategies, namely:

1. **Net-zero electricity generation**
2. **Energy saving and green buildings**
3. **Green transport**
4. **Waste reduction**

To support these initiatives, the Climate Action Plan 2050, published in 2021, stated that about HK$240 billion would be allocated in the following 15 to 20 years to take forward the measures on climate change mitigation and adaptation, covering renewable energy, energy saving and green buildings, green transport, waste management, etc. In alignment with the Paris Agreement, the Government has also pledged to review the Climate Action Plan every five years to ensure it remains relevant and effective in addressing evolving needs and challenges.[3]

1 https://www.hkma.gov.hk/media/eng/publication-and-research/research/research-memorandums/2025/RM01-2025.pdf

2 https://www3.weforum.org/docs/WEF_Finance_the_Transition_NewZero_Future_China_2022.pdf

3 https://www.info.gov.hk/gia/general/202110/08/P2021100800588.htm

The Role of Finance in Driving Climate Action

The financial sector plays a pivotal role in advancing global climate objectives and facilitating the transition to a low-carbon economy. A robust taxonomy, or classification framework, is essential for this effort. It provides clear guidelines for identifying green and sustainable activities, enabling the scaling up of capital flows towards credible and environmentally responsible projects.

As a leading international financial centre and premier green hub, Hong Kong is uniquely positioned to channel and scale up the flow of capital towards green and sustainable assets and investments. To this end, the HKMA is advancing the development of the Hong Kong Taxonomy. This home-grown classification system is a cornerstone of Hong Kong's efforts to establish itself as a global leader in green and sustainable finance.

About the Hong Kong Taxonomy

The development of the Hong Kong Taxonomy commenced in 2022. Its purpose is to provide a common standard and to accelerate the allocation of capital towards activities that enable the transition to a low-carbon economy. By aligning with international frameworks and catering for local contexts, the Taxonomy is designed to facilitate green and sustainable finance flows not only in Hong Kong, but also in the Chinese Mainland, the wider Asia region, and beyond. Furthermore, its scope extends beyond Hong Kong-specific activities, enabling an inclusive and impactful approach to driving sustainable finance on a local, regional, and global level.

In practice, the Taxonomy seeks to:

- offer guidance for market participants to make more informed investment decisions regarding green and sustainable finance products;
- scale up the flow of capital towards robust green and sustainable assets, projects, and investments;
- provide market participants with greater confidence in sustainability claims, addressing greenwashing concerns; and
- enhance comparability across portfolios and investments.

Publication of Phase 1 Taxonomy

In May 2024, Phase 1 of the Hong Kong Taxonomy was published, marking a significant milestone in integrating sustainability into Hong Kong's financial ecosystem. Phase 1 of the Taxonomy focused on identifying and defining 12 green economic activities across four key sectors:

Energy	Transportation	Waste	Construction

These sectors were strategically prioritised having regard to their substantial contributions to Hong Kong's carbon emissions and their pivotal roles in advancing the city's decarbonisation goals, as outlined in the Government's Climate Action Plan 2050.

Phase 1 operationalised the Common Ground Taxonomy (CGT) developed by the International Platform for Sustainable Finance (IPSF), ensuring compatibility with the taxonomies of the Chinese Mainland and the European Union (EU). This interoperability strengthens Hong Kong's position as a bridge between global and regional sustainable finance markets.

The Hong Kong Taxonomy has emerged as a valuable market-enabling tool since its launch. Banks, corporates, and the public sector have utilised it to support product development, inform investment decisions, and align their sustainable finance frameworks with Taxonomy criteria. This underscores the critical role the Taxonomy plays in guiding investments, fostering transparency, and accelerating the transition to a low-carbon economy.

Phase 2 Taxonomy Development

Building on the foundation of Phase 1, Phase 2 of the Taxonomy has expanded in scope. With a view to driving the transition in Hong Kong, the Chinese Mainland, Asia and beyond, Phase 2 not only introduces new green activities, but also incorporates transition elements, including new categories for transition activities and transition measures. To ensure alignment with evolving market needs, policy priorities and technological advancements, Phase 2 is being rolled out in stages. This began with the publication of Phase 2A, and has now advanced to Phase 2B, which is currently undergoing public consultation.

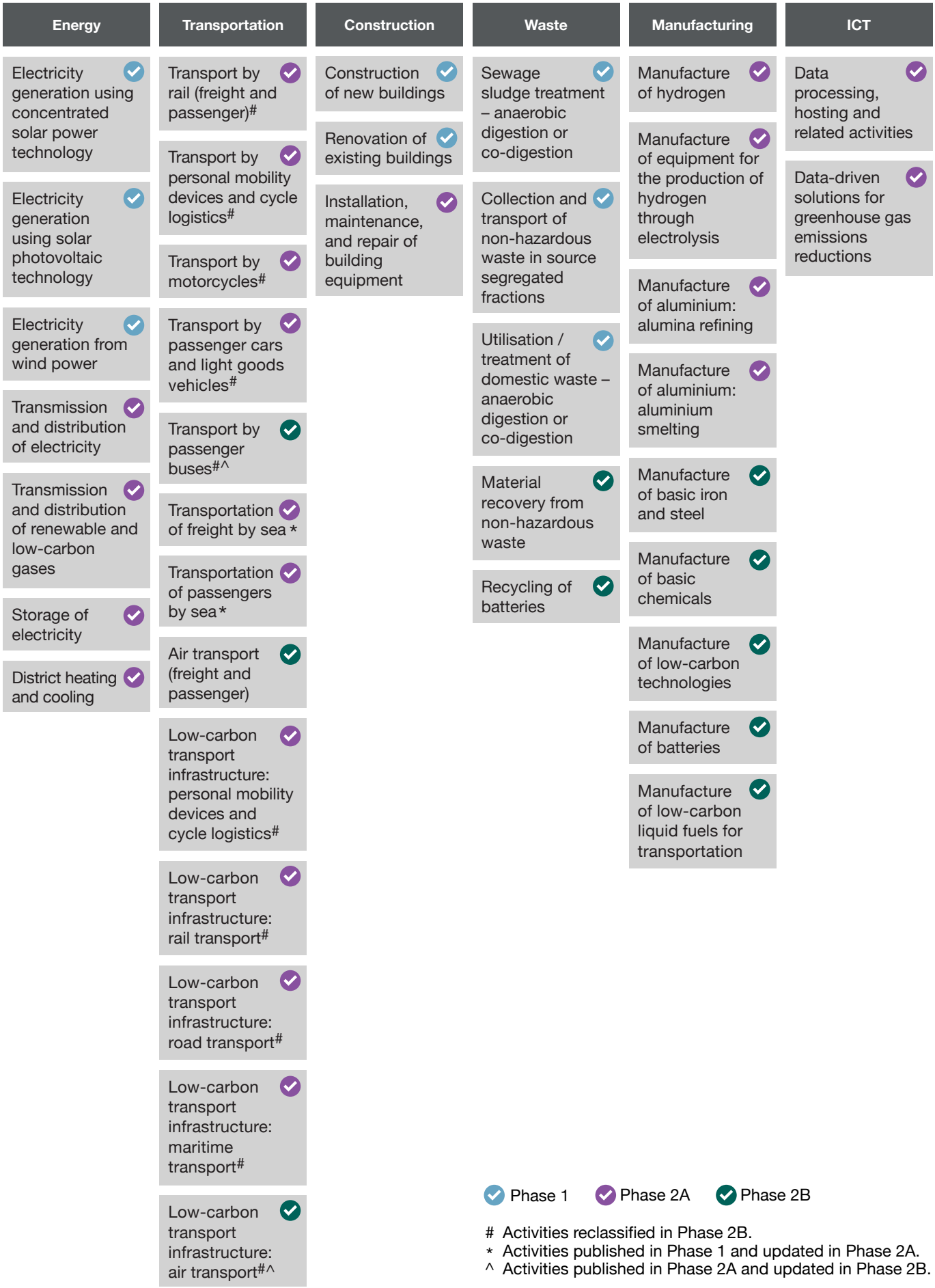
Phase 2A

In January 2025, Phase 2A of the Hong Kong Taxonomy was published, introducing two new sectors, namely Manufacturing and Information and Communications Technology (ICT). As both are carbon-intensive sectors, their development and transition pathways will greatly impact the decarbonisation of the economy. Additionally, Phase 2A broadened the scope of the Energy and Transportation sectors by incorporating new green and transition activities, as well as defining transition criteria for green activities identified under Phase 1. The Taxonomy also introduced climate change adaptation as an environmental objective for the first time.

Phase 2B

Building on Phase 2A, Phase 2B introduces additional green and transition activities that contribute to climate change mitigation across the Transportation, Manufacturing, and Waste sectors. These additions recognise the important role that circular economy, industrial decarbonisation, clean transportation and low-carbon technologies play in supporting the low-carbon transition. For climate change adaptation, Phase 2B further expands on adaptation-related measures and introduces a process-based approach to address the location- and context-specific nature of adaptation.

Figure 1: Expansion and updates in taxonomy scope across Phase 1, Phase 2A, and Phase 2B



The prioritisation of sectors and activities in Phase 2B is the result of a rigorous stakeholder consultation process involving financial institutions, corporates, investors, government agencies, and other stakeholders. With the support from Climate Bonds Initiative (Climate Bonds), this process carefully considered a basket of factors, including scientific pathways, sectoral emissions profiles, contributions to local and regional decarbonisation goals, technology advancements, and corresponding financing needs. Phase 2B maintains a level of comparability with international standards while incorporating transition elements and locally tailored criteria that reflect Hong Kong's unique economic structure and sustainability priorities.

The scope of the Taxonomy will continue to evolve and expand, ensuring it remains responsive to market dynamics, technological advancements, policy priorities and evolving green and sustainable practices and expectations.

Environmental Objectives

Phase 2A of the Hong Kong Taxonomy prioritised the environmental objectives of climate change mitigation and climate change adaptation. Having considered alignment with international sustainable finance frameworks, global climate and environmental commitments, and environmental challenges material to Hong Kong and the broader region, Phase 2B Taxonomy defines four new environmental objectives (i.e. 3 to 6 below), establishing the full scope of six environmental objectives:

(1) Climate change mitigation.
(2) Climate change adaptation.
(3) Biodiversity, nature and ecosystem protection. NEW
(4) Sustainable use and conservation of water resources. NEW
(5) Pollution prevention and control. NEW
(6) Resource efficiency and circular economy. NEW

Defining these objectives enhances transparency regarding the potential scope of the Taxonomy in the future and provides the backbone of the Do No Significant Harm (DNSH) assessment, which evaluates whether an activity that substantially contributes to one objective avoids causing significant harm to the others. A description of each objective is provided in Table 1 below.

Table 1. The six environmental objectives

 **Climate change mitigation**	Supports the achievement of net-zero greenhouse gas (GHG) emissions by 2050, consistent with the Paris Agreement goal of limiting global warming to 1.5°C above pre-industrial levels. It covers activities that drive rapid and sustained GHG emissions reduction informed by credible, science-based transition pathways and the best available science and technologies.
 **Climate change adaptation**	Supports adaptation to the current and projected impacts of climate change on infrastructure, businesses, ecosystems, and communities. It covers activities and measures that proactively reduce vulnerability and exposure to climate hazards, and strengthen the resilience of physical and social systems to absorb and recover from climate-related events.
 **Biodiversity, nature and ecosystem protection**	Promotes the conservation and restoration of biodiversity and natural ecosystems. It covers activities that safeguard ecological integrity, halt and reverse biodiversity loss, and maintain the continued flow of ecosystem services provided to society and the economy within the limits of planetary boundaries. There is also a strong nexus between nature and climate change.
 **Sustainable use and conservation of water resources**	Focuses on the conservation and sustainable management of freshwater, groundwater, and marine and coastal ecosystems. It covers activities that protect aquatic ecosystems from degradation, prevent excessive water withdrawals, improve water use efficiency, and maintain the continued flow of aquatic ecosystem services.
 **Pollution prevention and control**	Aims to prevent, reduce, and control pollution by minimising harmful emissions and discharges to air, water, and land, thereby minimising adverse impacts on human health and the environment. It covers the identification of pollution sources and pathways, and the implementation of risk-based measures to prevent, minimise, and safely remediate contamination.
 **Resource efficiency and circular economy**	Promotes the transition to a circular economy by improving resource productivity, reducing waste, and keeping materials in productive use through efficient design, durability, reuse, repair and recycling. It covers activities that lead to a reduction in primary resources inputs and an increase in material recovery and recirculation.

The Hong Kong Taxonomy follows a phased approach for development, balancing usability with rigour as data, market practices, and technologies evolve. While Phase 2B continues to focus on climate change mitigation and adaptation, future phases will progressively address the remaining objectives, guided by market trends, policies, industry priorities, and technological advancements.

Principles Underpinning Taxonomy Development

The development of the Hong Kong Taxonomy is anchored in four core principles to ensure its practicality, credibility, and alignment with global best practices:

A. Science-Based

The Taxonomy is grounded in the latest science and technology. It provides clear, robust, and evidence-based guidance for identifying economic activities that align with or make substantial contributions towards the climate goals outlined in the Paris Agreement.

B. Scale Up Sustainable Capital Flows

The Taxonomy enables more informed decision making on green and sustainable finance to scale up relevant capital flows, strengthening Hong Kong's position as an international financial centre and premier green hub.

C. Fit for Context

The Taxonomy caters for Hong Kong's local context, while ensuring compatibility and comparability with global standards and mainstream taxonomies. The dual focus serves local and international stakeholders, fostering broader adoption and usability.

D. Impact-driven

The Taxonomy goes beyond current regulatory requirements and encourages actions above and beyond "business-as-usual" practices. It prioritises activities that support Hong Kong's and the region's transition to a low-carbon economy.

Taxonomy in the Policy Context

The Hong Kong Taxonomy is currently designed for voluntary adoption by market participants. By providing clear and actionable guidance aligned with objectives that support the transition to a low-carbon economy, the Taxonomy aims to build market confidence among key stakeholders, including financial institutions, investors, and corporates. It also serves as an important tool for addressing greenwashing concerns, fostering greater transparency, and enhancing accountability across the market.

At this stage, the primary objective is to support market capacity building and promote a broad understanding and application of the Taxonomy framework. In the long run, the incorporation of the Taxonomy into banking supervisory policies will be explored to further strengthen its role in advancing green and sustainable finance.

Looking Forward

The Hong Kong Taxonomy is an evolving framework, designed to remain responsive to market developments, technological innovation, and the transition needs of Hong Kong and the wider region. Looking ahead, future enhancements may consider additional sectors and activities, including but not limited to, electricity generation from natural gas, hydrogen and nuclear energy, reflecting their potential roles in supporting an orderly transition in line with Hong Kong's decarbonisation pathway. The Taxonomy may also incorporate an activity on carbon capture, utilisation and storage (CCUS), recognising its enabling role in reducing emissions from hard-to-abate sectors, as well as cement manufacturing, activities related to the water sector, and potential updates to the existing criteria for the Construction sector.

The framework may also further develop climate change adaptation by identifying measures that can strengthen the resilience of infrastructure, businesses and communities to the physical impacts of climate change, with a focus on Hong Kong and its surrounding regions. It may also be expanded to address a broader range of environmental objectives, supporting greater clarity, consistency and credibility in the identification of green- and transition-finance opportunities across Hong Kong and the wider region.

Open for Feedback

Ongoing stakeholder engagement is central to the development of the Hong Kong Taxonomy. Feedback collected during the public consultation process will inform the finalisation of Phase 2B Taxonomy and guide the direction of subsequent phases. This iterative approach enables the Taxonomy to adapt effectively to the evolving landscape of green and sustainable finance, as well as advances in technologies, emerging industries, shifting policy priorities, and stakeholder feedback, with the aim of addressing emerging challenges and opportunities.

Please submit your comments to hongkong.consultations@climatebonds.net by **7 October 2026**. Persons submitting comments on behalf of an organisation should provide details of the organisation whose views they represent. The consultation questions can be found in the Appendix: Consultation Questions.

Chapter II:

Climate Change Mitigation

Background

Building on the foundational framework established in Phase 1 of the Hong Kong Taxonomy, which focused exclusively on defining criteria for green activities under the climate change mitigation environmental objective, Phase 2 introduces a transition category.

The inclusion of transition elements in the Taxonomy is critical for driving the decarbonisation of the real economy. It enables the mobilisation and scaling up of transition finance to high-emitting sectors, such as energy and manufacturing, to shift systematically towards more sustainable practices. By defining credible pathways for these sectors to align with net zero goals, the Taxonomy strives to minimise economic disruption in carbon-intensive industries and promote an orderly transition, with a view to balancing environmental imperatives with economic growth.

Classification Framework

For activities focused on climate change mitigation, the Taxonomy adopts a classification framework that categorises activities as **Green**, **Transition**, or **Exclusion**, based on their level of alignment with the globally recognised Paris Agreement 1.5°C climate goals.

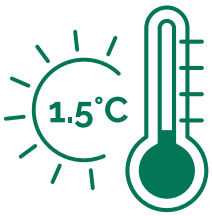
This approach aims to uphold the highest climate standards and maintain the credibility and robustness of the Taxonomy, while also promoting usability and inclusion of activities that are in the process of transitioning to Green, as well as those that enable substantial reductions of greenhouse gas emissions in the short term. It also enables the Hong Kong Taxonomy to compare with other mainstream taxonomies that employ a similar approach to classifying activities that contribute differently towards transitioning to a low-carbon economy.

Green Category

Activities classified as Green are those that contribute substantially to climate change mitigation. These activities fall into one of two categories:

(A)

They operate at near zero emissions.



(B)

They are aligned with a 1.5°C pathway, despite not yet at near zero emissions.

In general, new activities (e.g. construction of a new building) should meet the Green criteria at the onset. The Transition category is ineligible for new activities so as to avoid carbon lock-in from high-emitting assets or infrastructure with long lifespans. This is possible given that 1.5°C trajectories do not necessarily require near zero emissions immediately but allow for steady decarbonisation towards net zero by 2050.

Transition Category

Transition, by definition, refers to the process of moving from one state or condition to another. In the context of the Taxonomy, the Transition category covers carbon-intensive activities that are on a time-bound decarbonisation journey to align their operations with a 1.5°C trajectory, ultimately reaching net zero in 2050. The Transition category also covers activities or measures that enable substantial reductions in greenhouse gas emissions in the short term, even if these activities or measures ultimately may or may not align with Green criteria.

To maintain robustness and safeguard credibility, the criteria and thresholds for the Transition category are designed to be ambitious enough to facilitate decarbonisation towards net zero, while also promoting inclusivity and allowing flexibility for laggards to achieve interim goals.

Accordingly, there are two types of classifications under the Transition category, namely **Transition Activity** and **Transition Measure**. A comparison is set out at Table 1.

Table 1. Classifications under Transition category

	Transition Activity	Transition Measure
Definition	A **standalone activity** in itself. Typically, there is a corresponding Transition Activity under the Green category.	A **component of an activity** that is designed to reduce emissions.
Scope	Refers to an activity that is currently not aligned with a 1.5°C pathway, but is either: (a) progressing towards alignment within a specified timeframe; or (b) facilitating significant short-term emissions reductions within a specified timeframe. For example, the operation of a cargo ship with decreasing carbon emissions following a defined pathway.	Refers to cases where parts of an activity can be partially or fully substituted to materially reduce Scope 1 and 2 emissions. Includes granular technologies, processes, practices, materials, or services that are designed to reduce emissions. For example, the installation of a dual-fuel engine on a ship.
Time-bound	Time-bound, with eligibility limited to a prescribed sunset date. Beyond the sunset date, both Transition Activity and Transition Measure should cease to exist. Sunset dates for different sectors/ activities are established with a view of net zero by 2050, along with a basket of factors, including technological readiness, environmental impact, regulatory policies, alignment with global frameworks, and stakeholder feedback, etc. For instance, the Maritime Transport sector has a sunset date of 2030 for transition activities and measures in order to align with international shipping standards. On the other hand, the Energy sector has a sunset date of 2035 to allow a longer lead time for the development of emission-reducing technologies and allowing energy utilities to build capacity and adapt to evolving sustainability requirements.	
Reporting for alignment	Revenue, capital expenditures (CapEx), and operational expenses (OpEx) can be reported as taxonomy-aligned.	CapEx and OpEx can be reported as taxonomy-aligned, while revenue cannot.

Table 2. Eligibility of taxonomy alignment for Green and Transition categories

	Percentage taxonomy-aligned		
	CapEx	**OpEx**	**Revenue**
Green Activity	✓	✓	✓
Transition Activity	✓	✓	✓
Transition Measure	✓	✓	✗

Exclusion Category

These activities are currently not eligible under the Taxonomy, for reasons including:

Non-compliance with Green or Transition criteria

These activities are not compatible with, or are not progressing rapidly enough towards, a 1.5°C decarbonisation pathway. Significant emissions reductions are required for these activities to align with such a pathway.

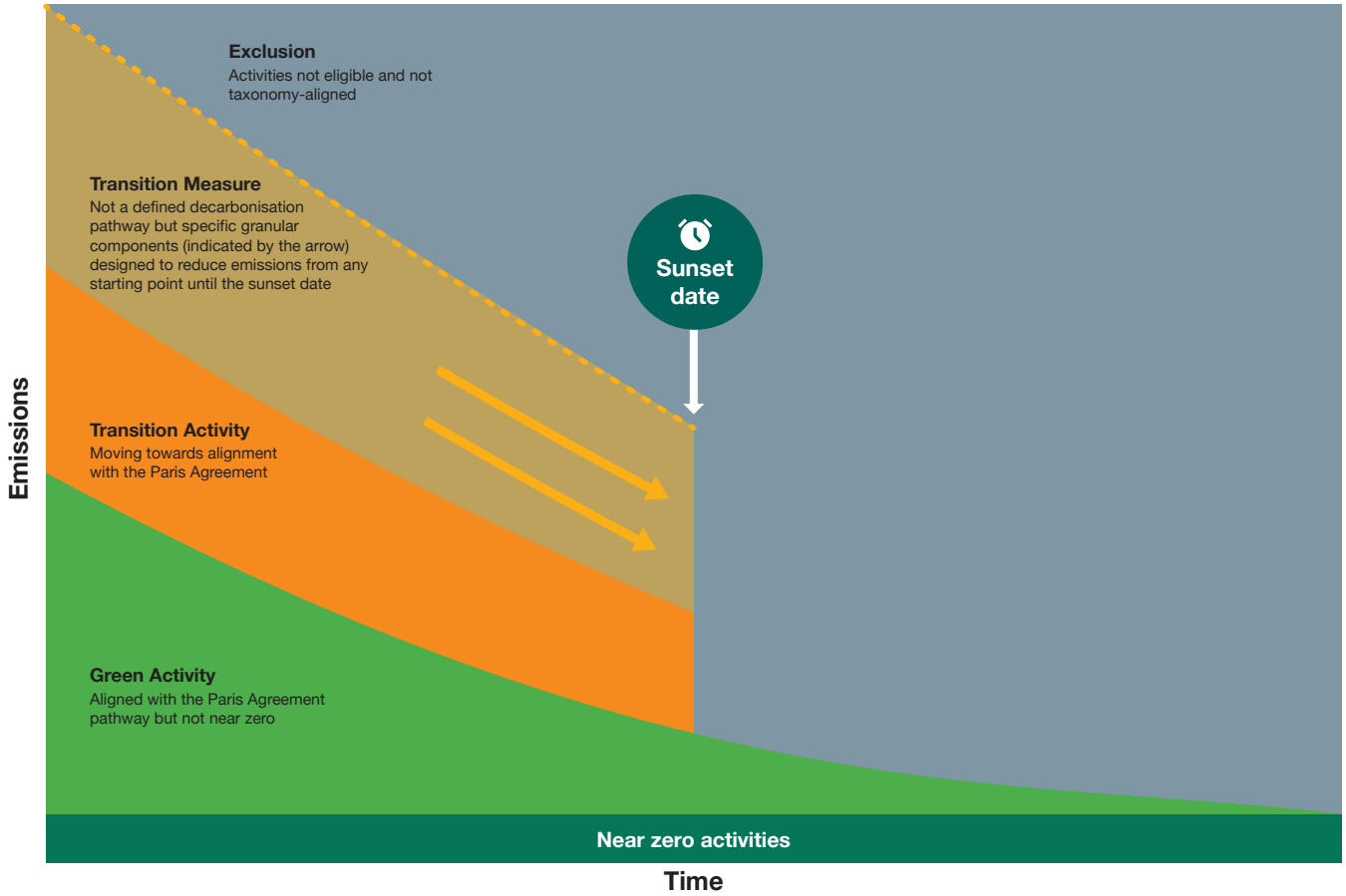
Directly unsustainable

These activities are fundamentally incompatible with a 1.5°C future and will need to be phased out if emissions cannot be sufficiently reduced (e.g. fossil fuels).

Low climate materiality

Activities have minimal relevance to climate objectives and are therefore not considered for taxonomy development (e.g. administrative services).

Figure 2. Graphic representation of activity classification



Key Principles for Transition

To ensure that the criteria and thresholds for the Transition category are robust, credible and align with international standards, the following principles serve as overarching safeguards.

1. Transition applies only to activities with limited or no low-carbon alternatives to decarbonise.

Transition should guide the decarbonisation of activities that may currently be highly-emitting, but are still necessary in the long-term. This includes hard-to-abate steel and cement manufacturing activities. In other cases, where low-carbon alternatives are available, such alternatives should be prioritised instead. For example, fossil-based land transport vehicles are not eligible under the Taxonomy, as low-carbon alternatives such as electric vehicles are available.

2. Transition requires demonstrable progress.

Transition is fundamentally a process of change over time. Therefore, a suitable level of reduction in emissions intensity and/or an increase in energy efficiency to show steady improvement and growing alignment with Green criteria must be demonstrated. Where feasible, forward-looking thresholds, based on currently available technologies, should be established for different time periods, reflecting anticipated improvements. These thresholds are subject to review in future iterations of the Taxonomy and may potentially be revised as new technologies and methodologies emerge.

3. Transition is time-bound.

Transition is not a permanent state. A defined endpoint, referred to as the sunset date, must be set. By this date, all activities must either fully meet Green criteria or be deemed non-aligned with the Taxonomy.

Sunset dates are determined based on a range of factors and therefore vary across sectors/activities. For instance, the Maritime Transport sector has a sunset date of 2030, while the Energy sector has a longer lead time till 2035.

4. Transition focuses on existing infrastructure.

Transition should primarily apply to existing infrastructure and activities, rather than new developments. This approach prevents carbon lock-in and ensures that the development and deployment of low-carbon alternatives are not hindered.

It is worth noting that not all activities have a transition category. Some activities are inherently Green, and they already meet net zero objectives without the need for further decarbonisation. Solar and wind power are such examples. Additionally, some technologies are deemed advanced enough in reducing emissions to be directly categorised as Green, with widespread adoption eliminating the need for a transitional phase. An example is electric vehicles, which not only align with net zero objectives but are also technologically mature and widely utilised.

Developing Transition Thresholds

The following methods are employed to establish criteria and thresholds for the Transition category, ensuring alignment with global climate goals. Local circumstances are also considered where appropriate to enhance practicality and relevance, e.g. when considering suitable transition measures.

1 Decarbonisation pathway

Leverage credible decarbonisation pathways to define clear and achievable thresholds aligned with global climate goals. For example, the Transition Pathway Initiative (TPI) provides sector-specific guidance for aligning with a Below 2°C target.

2 Percentage improvement

Apply consistent improvement parameters in cases where there is heterogeneity in the starting emission levels among sectoral activities. For example, the International Maritime Organisation's target of a 40% reduction in greenhouse gas emissions by 2030 serves as a benchmark for maritime activities.

3 Benchmarking against high-performers approach

Establish thresholds by benchmarking against best-in-class and high performers in the industry when specific decarbonisation pathways are unavailable. For example, top-performing buildings of a national or regional building stock can serve as a reference point for setting standards.

A. Energy

Overview

The energy sector in Hong Kong is the largest contributor to the city's carbon emissions, accounting for approximately 61.5% of total emissions in 2024.[4] The sector has been undergoing a significant transition towards cleaner energy sources, with a key focus on reducing reliance on coal. Since 2015, the city has made significant progress, cutting the share of coal in the electricity generation fuel mix from about half to about one-fifth in 2024.[5] Building on this momentum, Hong Kong has committed to completely phasing out coal for daily electricity generation by 2035.

At the same time, the share of zero-carbon energy (including nuclear energy and renewable energy) in the total fuel mix is expected to increase significantly to about 60% to 70% before 2035 through regional cooperation. Complementing this shift, the Government aims to boost the mix of renewable energy to between 7.5% and 10% by 2035, and further increase it to 15% subsequently. To support this evolving energy landscape, significant investments are being made to enhance transmission and distribution infrastructure. This strategy is designed to enable Hong Kong to achieve net-zero electricity generation before 2050.

4 https://cnsd.gov.hk/wp-content/uploads/2026/01/Data-Tables_2024_AR5_Sector-r4.pdf

5 https://cnsd.gov.hk/wp-content/uploads/2025/06/CAP2050-progress-pamphlet_EN_website.pdf

Table 2. Energy Sector – Activity Classification

Activity		Green Activity	Transition Activity	Transition Measure
A-001	Electricity generation using concentrated solar power technology	✓		
A-002	Electricity generation using solar photovoltaic technology	✓		
A-003	Electricity generation from wind power	✓		
A-004	Transmission and distribution of electricity	✓	✓	
A-005	Transmission and distribution of renewable and low-carbon gases	✓	✓	
A-006	Storage of electricity	✓		
A-007	District heating and cooling	✓	✓	

Criteria and Thresholds

The primary metric used to measure the emissions intensity of electricity generation is grams of carbon dioxide equivalent per kilowatt-hour (gCO_2e/kWh). This metric standardises all greenhouse gases, such as carbon dioxide and methane, into a common unit relative to the electricity produced, enabling clear comparisons across energy sources and aligning with international standards.

Table 3 presents the emissions intensity thresholds for activities within the Energy sector, measured in gCO_2e/kWh.

- The **Green Activity thresholds**, derived from **lifecycle emissions**[6] and referencing the EU Taxonomy, are set at below 100 gCO_2e/kWh from 2025 to 2035. Starting in 2036, the threshold tightens to below 50 gCO_2e/kWh to account for residual emissions, reflecting the current average emissions associated with renewable energy. These thresholds are designed to align with a 1.5°C pathway and maintain consistency with other credible global taxonomies at each interval year. Conducting a lifecycle assessment of GHG emissions is important in assessing the level of GHG emissions across the entire energy production supply chain and not solely during combustion.

  Renewable energy technologies, including concentrated solar power, solar photovoltaic, and wind power technologies are automatically eligible because it is well recognised that their emissions intensities fall below the Green Activity thresholds. This approach simplifies the Taxonomy's implementation by allowing these technologies to qualify as Green without requiring further documentation.

- The **Transition Activity thresholds** are based on **direct emissions** to provide energy utilities time to build up their understanding of lifecycle assessment methodologies and data collection in the short-term. They are set at below 255 gCO_2e/kWh until 2030, and are expected to decline to below 145 gCO_2e/kWh by 2035 to significantly lower the average grid emissions. The thresholds directly reference the Transition Pathway Initiative's (TPI) Below 2 Degrees scenario.[7] This scenario is chosen as it reflects the robust and science-based methodology by TPI which encourages a significant short-term decarbonisation of the average grid emissions before transitioning to Green.

6 Lifecycle assessments of GHG emissions should be calculated based on project-specific data where available, using ISO 14067:2018, ISO 14064-1:2018, or the European Commission Recommendation 2013/179/EU, and verified by an independent third party.

7 https://www.transitionpathwayinitiative.org/sectors/electricity-utilities

Importantly, the Transition Activity thresholds do not apply to new activities, which must meet the Green Activity criteria from the outset to prevent carbon lock-in. The Transition Activity category will be phased out in 2035 – the sunset date – to promote advancements towards greener practices, after which activities under the Transition Activity category will no longer be taxonomy-aligned.

The thresholds described above apply solely to baseload energy and do not extend to energy peaking or backup power situations. In all cases, solid fossil fuels are excluded from the Taxonomy.

Table 3. Emissions intensity thresholds (gCO_2e/kWh) for the Energy sector

	2025-2030	2031-2035	2036-2040	2041-2045	2046-2050
Green Activity Thresholds (lifecycle emissions)	≤100	≤100	≤50	≤50	≤50
Transition Activity Thresholds (direct emissions)	≤255	≤145	N/A	N/A	N/A
Exclusion	All solid fossil fuels				

In the future, as more granular details on Hong Kong's decarbonisation plan for the energy sector becomes available, a localised decarbonisation pathway tailored specifically for Hong Kong may be considered for incorporation in the Taxonomy. This pathway will reflect Hong Kong's unique energy landscape and local context and align with the Government's latest policy objectives and climate commitments, while maintaining consistency with global best practices.

Activity cards

A-001 Electricity generation using concentrated solar power technology

Sector	Energy
Activity Category	Electric power generation
Activity Description	Construction or operation of facilities using solar thermal power to generate electricity.
Associated ISIC Code(s)	3510
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity is automatically eligible if it complies with the activity description.
Transition Activity	N/A.
Transition Measure	N/A.
Exclusion	N/A.

A-002 Electricity generation using solar photovoltaic technology

Sector	Energy
Activity Category	Electric power generation
Activity Description	Construction or operation of electricity generation facilities that produce electricity using solar photovoltaic technology.
Associated ISIC Code(s)	3510
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity is automatically eligible if it complies with the activity description.
Transition Activity	N/A.
Transition Measure	N/A.
Exclusion	N/A.

A-003 Electricity generation from wind power

Sector	Energy
Activity Category	Electric power generation
Activity Description	Construction or operation of electricity generation facilities that produce electricity from wind power, including offshore wind power.
Associated ISIC Code(s)	3510
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity is automatically eligible if it complies with the activity description.
Transition Activity	N/A.
Transition Measure	N/A.
Exclusion	N/A.

A-004 Transmission and distribution of electricity

Sector	Energy
Activity Category	Transmission and distribution
Activity Description	Construction, retrofitting, or operation of transmission and distribution networks for electricity.
Associated ISIC Code(s)	3510
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity complies with one of the following criteria: (1) Transmission and distribution infrastructure dedicated to providing a direct connection or expanding an existing connection to power plants that meet the Green Activity thresholds in Table 3. Connections to power plants providing solar, wind, or nuclear power, or a combination of these sources, automatically qualify. (2) Transmission and distribution infrastructure dedicated to providing intercountry or regional grid connection to access power plants that meet the Green Activity thresholds in Table 3. (3) Transmission and distribution infrastructure on a decarbonisation trajectory where at least 67% of the newly connected generation capacity meet the Green thresholds in Table 3 over a five-year period. (4) Average system grid emissions factor meets the Green Activity thresholds in Table 3 over a five-year period. (5) Enabling ICT systems and smart management systems that support the compliance of any one of the above Green criteria.
Transition Activity	The activity complies with one of the following criteria: (1) Transmission and distribution infrastructure dedicated to providing a direct connection or expanding an existing connection to power plants that meet the Transition Activity thresholds in Table 3. (2) Transmission and distribution infrastructure dedicated to providing intercountry or regional grid connection to access power plants that meet the Transition Activity thresholds in Table 3. (3) Transmission and distribution infrastructure on a decarbonisation trajectory where at least 50% of the newly connected generation capacity meet the Green Activity thresholds in Table 3 over a five-year period. (4) Average system grid emissions factor meets the Transition Activity thresholds in Table 3 over a five-year period. (5) Enabling ICT systems and smart management systems that support the compliance of any one of the above Transition criteria. The Transition Activity will sunset in 2035.
Transition Measure	N/A.
Exclusion	N/A.

A-005 Transmission and distribution of renewable and low-carbon gases

Sector	Energy
Activity Category	Transmission and distribution
Activity Description	Construction, retrofitting, or operation of transmission and distribution networks for renewable and low-carbon gases. Renewable and low-carbon gases refer to non-fossil gases, including biogas, biomethane, and hydrogen and its derivatives.
Associated ISIC Code(s)	3520, 4930
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity complies with criteria (1) or (2), and meets (3). (1) Transmission and distribution networks that transport 100% renewable and low-carbon gases. (2) Retrofit of fossil gaseous fuels distribution lines to transport 100% renewable and low-carbon gases. (3) Renewable and low-carbon gases must meet the respective manufacturing criteria: (a) Hydrogen and ammonia comply with the criteria for manufacturing of the respective gases specified in this Taxonomy (refer to E-001, E-006). (b) Biogas and biomethane must have a lifecycle emission of ≤16.0 gCO_2e/MJ.[8] Their raw materials are from existing supply chains without using dedicated arable land. Only waste and residues are eligible. In cases where there may be methane leakage, leak detection and repair of existing gas pipelines and other network components should be implemented.
Transition Activity	The activity complies with all of the following: (1) Retrofit of existing transmission and distribution networks to transport ≥50vol% renewable and low-carbon gases. (2) Renewable and low-carbon gases must meet the respective manufacturing criteria as indicated in Green Activity criteria (3). The Transition Activity will sunset in 2035.
Transition Measure	N/A.
Exclusion	N/A.

8 The threshold for biogas is derived by taking an 80% emissions reduction from a fossil gas comparator of 80gCO_2e/MJ, in line with the EU RED II.

A-006 Storage of electricity

Sector	Energy
Activity Category	Electric power storage
Activity Description	Construction or operation of facilities that store electricity and return it at a later time in the form of electricity.
Associated ISIC Code(s)	N/A.
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity involves one of the following: (1) Mechanical energy storage systems, including flywheels and compressed air. (2) Thermal energy storage systems, including pumped heat electrical storage and liquid air energy storage. (3) Pumped hydropower storage. (4) Chemical energy storage systems, including: (a) Electrochemical storage systems, including batteries and capacitors. (b) Fuels, including hydrogen or ammonia, which comply with the criteria for manufacturing of the respective chemicals specified in this Taxonomy (refer to E-001, E-006).
Transition Activity	N/A.
Transition Measure	N/A.
Exclusion	N/A.

A-007 District heating and cooling

Sector	Energy
Activity Category	District heating and cooling
Activity Description	Construction, retrofitting, or operation of infrastructure related to district heating and cooling.
Associated ISIC Code(s)	3530
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity complies with one of the following: (1) Construction of district heating and cooling systems. (2) Operation of district heating and cooling systems that use at least one of the following: (a) 50% renewable energy. (b) 50% low-carbon energy (including nuclear power). (c) 50% waste heat. (d) 75% cogenerated heat. (e) 50% of a combination of renewable energy, low-carbon energy, waste heat, or cogenerated heat.
Transition Activity	The activity complies with the following: (1) Operation of district heating and cooling systems that use at least one of the following: (a) 30% renewable energy. (b) 30% low-carbon energy (including nuclear power). (c) 30% waste heat. (d) 30% cogenerated heat. (e) 30% of a combination of renewable energy, low-carbon energy, waste heat, or cogenerated heat. The Transition Activity will sunset in 2035.
Transition Measure	N/A.
Exclusion	Waste heat and cogenerated heat derived from fossil fuel-based operations are excluded.

B. Transportation

Overview

The transport sector in Hong Kong is the second largest contributor to carbon emissions, accounting for approximately 18% of total emissions in 2024,[9] highlighting the urgent need for effective measures to mitigate its environmental impact. In 2024, 11.7 million passenger journeys were made daily on a diverse and efficient multi-modal public transport system, including railways, trams, buses, minibuses, taxis, and ferries.[10] Meanwhile, the total registration of electric private cars rose from 27,358 in 2021 to 144,655 as of June 2026.[11]

The above figures underscore the importance of enhancing the sustainability of the transport sector and rapidly decarbonising. The Hong Kong Government has committed to achieving zero carbon emissions from vehicles and the transport sector by 2050,[12] setting a clear target to transition towards a more sustainable and environmentally friendly transportation system.

9 https://cnsd.gov.hk/wp-content/uploads/2026/01/Data-Tables_2024_AR5_Sector-r4.pdf

10 https://www.gov.hk/en/about/abouthk/factsheets/docs/transport.pdf

11 Vehicle registration and licensing transport figures in Hong Kong, as reported by the Transport Department, are current as of June 2026. https://www.td.gov.hk/en/transport_in_hong_kong/transport_figures/vehicle_registration_and_licensing/index.html

12 Hong Kong Climate Action Plan 2050 (2021, page 35)

Key Updates to the Taxonomy

To support the transition of the Transportation sector, the Taxonomy expanded in scope and reclassified some activities, thereby increasing the total number of activities from six to 13. Specifically, the land transport activities have been reclassified, the low-carbon transport infrastructure has been split by transport mode, and a new activity on air transport has been introduced. This clearer and more targeted approach is intended to improve market understanding and support greater green and sustainable capital flows into the Transportation sector. Details on the changes are set out below:

Land Transport

The land transport activities have been reclassified to improve clarity and structure, while the technical screening criteria remain unchanged. The revised classification covers five main types of land transport, namely (1) rail; (2) personal mobility devices; (3) motorcycles; (4) passenger cars and light goods vehicles; and (5) buses. This amendment does not affect existing taxonomy alignments.

Air Transport

This new activity covers aircraft for both freight and passenger transport. The activity recognises the use of sustainable aviation fuel (SAF) as a key decarbonisation lever for the aviation sector and supports its uptake by providing an interim decarbonisation pathway based on SAF use.

Low-carbon Transport Infrastructure

The low-carbon transport infrastructure activity has been broken down by transport mode, resulting in five distinct activity cards covering (1) personal mobility devices and cycle logistics; (2) rail transport; (3) road transport; (4) maritime transport; and (5) air transport.

Furthermore, to support the decarbonisation of air transport, the Taxonomy introduces new criteria for SAF blending, transfer, and storage infrastructure, while retaining the existing criteria on air transport infrastructure supporting electrification and hydrogen use.

Table 4. Transport Sector – Activity Classification

Activity		Green Activity	Transition Activity	Transition Measure
Land Transport Activities Reclassified				
B-001	Transport by rail (freight and passenger)	✓		
B-002	Transport by personal mobility devices and cycle logistics	✓		
B-003	Transport by motorcycles	✓		
B-004	Transport by passenger cars and light goods vehicles	✓		
B-005	Transport by passenger buses	✓		
Maritime Transport				
B-006	Transportation of freight by sea	✓	✓	✓
B-007	Transportation of passengers by sea	✓	✓	✓
Air Transport New				
B-008	Air transport (freight and passenger)	✓	✓	✓
Low-carbon Transport Infrastructure Activities Reclassified				
B-009	Low-carbon transport infrastructure: personal mobility devices and cycle logistics	✓		
B-010	Low-carbon transport infrastructure: rail transport	✓		
B-011	Low-carbon transport infrastructure: road transport	✓		
B-012	Low-carbon transport infrastructure: maritime transport	✓		
B-013	Low-carbon transport infrastructure: air transport *(Updated)*	✓		

Land Transport

Criteria and Thresholds

The criteria and thresholds for Green Activity remain aligned with Phase 1 and Phase 2A of the Taxonomy, which requires zero direct (tailpipe) CO_2 emissions for all land transport activities in order to align with the goal of zero vehicular emissions. Transition Activity and Transition Measure are not applicable, as technology has advanced sufficiently to allow new vehicles to meet the Green Activity criteria from the outset.

Key Updates to Land Transport

The land transport activities have been reclassified to improve clarity, strengthen the overall structure, and ensure that the activity description and scope are more precise and easier to apply. The overall coverage of activities and their respective technical criteria remain consistent and align with the objective of achieving zero vehicular emissions. The reclassifications made are:

- Public transportation system in urban and suburban areas (previously B-001 in Phase 2A) is split into *B-001 Transport by rail (freight and passenger) and B-005 Transport by passenger buses*.
- Personal mobility devices, cycle logistics (previously B-002 in Phase 2A) has been renamed *B-002 Transport by personal mobility devices and cycle logistics*.
- Transport by motorbikes, passenger cars and light commercial vehicles (previously B-003 in Phase 2A) is split into *B-003 Transport by motorcycles* and *B-004 Transport by passenger cars and light goods vehicles*.

With effect from the publication of Phase 2B, assessments of Taxonomy-alignment for all new activities must be conducted using the latest classification framework (refer to Table 4). The classification framework under Phase 2A will cease to apply to new assessments. Activities already aligned with Phase 2A remain unaffected and can retain their existing labelling.

Activity cards

B-001 Transport by rail (freight and passenger)

Sector	Transportation
Activity Category	Land transport
Activity Description	Purchase, financing, leasing, rental, operation, manufacturing, repair, maintenance, retrofitting, repurposing, and upgrading of passenger and freight rail transport. This includes heavy rail, light rail, urban rail, high-speed rail, trams, and other rail transportation facilities.
Associated ISIC Code(s)	4911, 4912, 4921
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity complies with one of the following criteria: (1) Trains, passenger coaches, and wagons have zero direct (tailpipe) CO_2 emissions. (2) Trains, passenger coaches, and wagons have zero direct (tailpipe) CO_2 emissions when operated on tracks with the necessary infrastructure. When the necessary infrastructure is not available, they can switch to a conventional engine in bimode.
Transition Activity	N/A.
Transition Measure	N/A.
Exclusion	Trains and wagons are not dedicated to the transport of fossil fuels.

B-002 Transport by personal mobility devices and cycle logistics

Sector	Transportation
Activity Category	Land transport
Activity Description	Selling, purchasing, financing, leasing, renting, operation, manufacturing, repair, maintenance, retrofitting, repurposing, and upgrading of personal mobility or transport devices for passenger or freight transport. The propulsion comes from the physical activity of the user, from a zero emissions motor, or a combination of both. This includes electric and hydrogen based zero emission motors, such as electric scooters[13] and wheelchairs.
Associated ISIC Code(s)	3092, 4649, 4763, 9529
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity complies with the following criteria: (1) Personal mobility devices are powered either by the physical activity of the user, by a zero emissions motor, or by a combination of both.[14]
Transition Activity	N/A.
Transition Measure	N/A.
Exclusion	N/A.

B-003 Transport by motorcycles

Sector	Transportation
Activity Category	Land transport
Activity Description	Purchase, financing, renting, leasing, operation, manufacturing, repair, maintenance, retrofitting, repurposing, and upgrading of motorcycles.[15] This includes electric and hydrogen motorcycles.
Associated ISIC Code(s)	2920, 3091, 4540, 7710

13 Electric scooters refer specifically to electric kick scooters, which are classified as electronic mobility devices and are distinct from motorbikes or motorcycles.

14 The operation of personal mobility devices on roads, including electric mobility devices, should comply with relevant local regulations.

15 Motorcycles refer to any motor-propelled 2- or 3-wheeled vehicles with or without a sidecar.

Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity complies with the following criteria: (1) Direct (tailpipe) CO_2 emission of the vehicle is zero.
Transition Activity	N/A.
Transition Measure	N/A.
Exclusion	N/A.

B-004 Transport by passenger cars and light goods vehicles

Sector	Transportation
Activity Category	Land transport
Activity Description	Purchase, financing, renting, leasing, operation, manufacturing, repair, maintenance, retrofitting, repurposing, and upgrading of private or public passenger cars or light goods vehicles.[16] This includes electric and hydrogen vehicles, such as taxis and vans.
Associated ISIC Code(s)	2920, 4922, 7710
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity complies with the following criteria: (1) Direct (tailpipe) CO_2 emission of the vehicle is zero.
Transition Activity	N/A.
Transition Measure	N/A.
Exclusion	Light goods vehicles are not dedicated to the transport of fossil fuels.

16 Light goods vehicles refer to vehicles with a maximum weight limit that complies with relevant local regulations. In Hong Kong, the maximum weight limit for light goods vehicles are 5.5 tonnes.

B-005 Transport by passenger buses

Sector	Transportation
Activity Category	Land transport
Activity Description	Purchase, financing, leasing, rental, operation, manufacturing, repair, maintenance, retrofitting, repurposing, and upgrading of buses that are private, public, franchised, and non-franchised for passenger transport.[17] This includes heavy and light buses, such as single-decker buses, double-decker buses, articulated buses, trolleybuses, coaches, minibuses, and school buses.
Associated ISIC Code(s)	4921, 4922
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity complies with the following criteria: (1) Road passenger buses have zero direct (tailpipe) CO_2 emissions.
Transition Activity	N/A.
Transition Measure	N/A.
Exclusion	N/A.

Maritime Transport

Criteria and Thresholds

Green Activity

The thresholds in Phase 1 of the Taxonomy were set with reference to the Climate Bonds Initiative Shipping Criteria, which were based on the IMO's Third Greenhouse Gas Study.[18] With a view to reflecting the most recent decarbonisation pathway for the shipping sector, the relevant thresholds were updated in Phase 2A to align with the latest IMO's Fourth Greenhouse Gas Study.[19] Tables 5 and 6 in the activity cards present the decreasing emissions intensity thresholds for different types and sizes of ships, outlined in 10-year intervals beginning in 2025. The emissions intensity threshold is designed to decline linearly towards zero by 2050.

To align with the Green Activity criteria, ships will need to align with either the Energy Efficiency Operation Index (EEOI) or Annual Efficiency Ratio (AER) throughout their economic lifespan.

17 Buses refer to passenger carrying vehicles that comply with applicable local regulations. In Hong Kong, light buses have a maximum passenger capacity of 19 seats, whereas, buses have a seating capacity of more than 19 seats.

18 https://www.climatebonds.net/files/documents/Shipping_Criteria_Document_September-2020_2025-03-18-170716_jgtu.pdf

19 https://www.imo.org/en/ourwork/Environment/Pages/Fourth-IMO-Greenhouse-Gas-Study-2020.aspx

Transition Activity

Transition Activity will remain eligible until the 2030 sunset date.

Three pathways are provided for ships to achieve compliance with the Green Activity criteria by the 2030 sunset date.

- Pathway 1: Ships can achieve a 40% reduction in CO_2 emissions per transport work compared to 2008 levels, in line with the objectives of the 2023 IMO Greenhouse Gas Strategy.[20]

- Pathway 2 and 3: Ships can meet the Energy Efficiency Design Index (EEDI) or Energy Efficiency Existing Ship Index (EEXI) thresholds. These thresholds require relative percentage improvements over an EEDI reference line defined by the IMO, specifically requiring a 20% improvement for EEDI and a 10% improvement for EEXI. Additionally, ships complying with the EEXI requirements must meet a yearly average GHG intensity threshold of 73.7 gCO_2e/MJ for the energy used on board, in alignment with the IMO's Net-Zero Framework.

Regardless of the selected pathway, there must be a managed reduction plan detailing how the ship will be retrofitted to achieve compliance with the Green Activity criteria, including an evaluation of the cost-effectiveness of the relevant retrofits.

Transition Measure

Transition Measure will remain eligible until the 2030 sunset date.

Transition Measure is designed in consideration of the challenges faced by the shipping sector in accessing green finance, alongside technological limitations. Examples include engines of dual-fuel vessels and those designed for future adaptation to operate entirely on renewable energy or can meet the Green Activity criteria over time.

Transition Measures are only applicable to entities that have a transition plan aligned with the 1.5°C target.

20 https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/annex/MEPC%2080/Annex%2015.pdf

Activity cards

B-006 Transportation of freight by sea

Sector	Transportation
Activity Category	Maritime transport
Activity Description	Purchase, financing, leasing, chartering (with or without crew), and operation of ships designed and equipped for transport of freight by sea.
Associated ISIC Code(s)	5012
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity complies with the following criteria: Ships must comply with emissions intensity thresholds, measured in Energy Efficiency Operational Indicator (EEOI) or Annual Efficiency Ratio (AER), throughout their economic lifespan, as outlined in Table 5. These thresholds are determined based on the ship's fleet type and size category. The denominator is expressed in tonne-nautical miles (t-nm) for EEOI and deadweight tonnage-nautical miles (dwt-nm) for AER.

Table 5. Emissions Intensity Thresholds (Freight Ships)

Type	Size	2025		2030		2040		2050
		EEOI	AER	EEOI	AER	EEOI	AER	EEOI/ AER
Bulk carrier	0-9999 (DWT)	28.6	17.3	22.9	13.9	11.4	6.9	0
	10000-34999 (DWT)	9.5	5.2	7.6	4.6	3.8	2.3	0
	35000-59999 (DWT)	7.0	3.9	5.6	3.4	2.8	1.7	0
	60000-99999 (DWT)	5.9	2.9	4.7	2.6	2.3	1.3	0
	100000-199999 (DWT)	4.1	1.9	3.3	1.7	1.7	0.8	0
	200000+ (DWT)	3.7	1.7	2.9	1.4	1.5	0.7	0
Chemical tanker	0-4999 (DWT)	43	30.7	34.4	26.7	17.2	13.3	0
	5000-9999 (DWT)	29.5	20	23.6	17.4	11.8	8.7	0
	10000-19999 (DWT)	19.5	12.2	15.6	10.6	7.8	5.3	0
	20000-39999 (DWT)	12.3	7.8	9.9	6.8	4.9	3.4	0
	40000+ (DWT)	9.5	5.4	7.6	4.7	3.8	2.3	0

Green Activity

Type	Size	2025		2030		2040		2050
		EEOI	AER	EEOI	AER	EEOI	AER	EEOI/ AER
Container	0-999 (TEU)	27.3	16.6	21.9	14.4	10.9	7.2	0
	1000-1999 (TEU)	20.9	12.2	16.8	10.6	8.4	5.3	0
	2000-2999 (TEU)	15.2	8.3	12.1	7.2	6.1	3.6	0
	3000-4999 (TEU)	13.2	7.4	10.6	6.4	5.3	3.2	0
	5000-7999 (TEU)	12.7	7.2	10.1	6.3	5.1	3.1	0
	8000-11999 (TEU)	10.5	6.0	8.4	5.2	4.2	2.6	0
	12000-14500 (TEU)	8.2	4.9	6.6	4.3	3.3	2.1	0
	14500-19999 (TEU)	6.5	4.0	5.2	3.4	2.6	1.7	0
	20000+ (TEU)	6.2	3.7	4.9	3.2	2.5	1.6	0
General cargo	0-4999 (DWT)	27	16.4	21.6	14.3	10.8	7.1	0
	5000-9999 (DWT)	23.8	13.5	19.0	11.8	9.5	5.9	0
	10000-19999 (DWT)	20.9	11.7	16.7	10.2	8.3	5.1	0
	20000+ (DWT)	10.7	6.0	8.6	5.2	4.3	2.6	0
Other liquid tanker	0-999 (DWT)	1198.8	999.5	959.0	869.1	479.5	434.6	0
	1000+ (DWT)	18.3	12.7	14.6	11.1	7.3	5.5	0
Refrig-erated bulk	0-1999 (DWT)	158.3	116.3	126.6	101.1	63.3	50.6	0
	2000-5999 (DWT)	84	51.1	67.2	44.4	33.6	22.2	0
	6000-9999 (DWT)	64.2	34.3	51.4	29.8	25.7	14.9	0
	10000+ (DWT)	49.1	26.2	39.3	22.8	19.7	11.4	0
Ro-Ro	0-4999 (DWT)	173	117.9	138.4	102.5	69.2	51.3	0
	5000-9999 (DWT)	49.6	31.8	39.7	27.6	19.8	13.8	0
	10000-14999 (DWT)	41.7	28.5	33.4	24.8	16.7	12.4	0
	15000+ (DWT)	21.2	12.8	16.9	11.1	8.5	5.6	0
Vehicle	0-29999 (GT)	112.2	35.4	89.8	30.8	44.9	15.4	0
	30000-49999 (GT)	55	15.6	44.0	13.6	22.0	6.8	0
	50000+ (GT)	44.8	11.9	35.8	10.3	17.9	5.2	0

Note:
DWT: Deadweight tonnage
TEU: Twenty-foot equivalent unit
GT: Gross tonnage

Transition Activity	The activity complies with (1) or (2) or (3), and meets (4): (1) 40% reduction in CO_2 emissions per transport work[21] by 2030, compared to 2008.[22] (2) Attained an Energy Efficiency Design Index (EEDI) value equivalent to reducing the EEDI reference line by at least 20% below the EEDI requirements applicable on 1 April 2022; and meets all of the following: (a) Able to run on zero direct (tailpipe) CO_2 emission fuels or fuels from renewable sources. (b) Able to plug-in at berth. (c) For gas-fuelled ships, demonstrate the use of state-of-the-art measures and technologies to mitigate methane slippage emissions. (3) Attained an Energy Efficiency Existing Ship Index (EEXI) equivalent to reducing the EEDI reference line by at least 10% below the EEXI requirements applicable on 1 January 2023; and meets a 73.7gCO_2e/MJ yearly average GHG intensity threshold for energy used on-board.[23] (4) A managed reduction plan outlining the retrofit technologies or fuel switch options that the ship will be able to implement to comply with the trajectory in Table 6. Explanations are required to demonstrate that the plan is cost-effective. At minimum, the plan must include: (a) Use of alternative fuels: Indicate the time period (e.g. range of years) when a significant fuel switch is anticipated to be necessary. (b) Modifications to fuel storage: Specify any required changes to onboard fuel storage systems, including additional space needed and how these changes may impact cargo carrying capacity. (c) Modifications to fuel handling: Outline any necessary adjustments to fuel handling systems, including bunkering systems. (d) Modifications to machinery: Detail any required updates or changes to the ship's machinery. (e) Cost estimates: Provide an estimate of the total additional costs, covering both operating expenses and capital expenditures. **Note:** To align with the sunset date of 2030, the use of EEDI and EEXI criteria needs to transition to operational metrics, i.e. EEOI or AER, by 2030. Zero direct (tailpipe) CO_2 emission fuels include hydrogen and ammonia that are in line with their respective Taxonomy criteria (Green Activity) under the Manufacturing sector (refer to E-001, E-007).
Transition Measure	The measure complies with (1) or (2), and meets (3). The measure must be implemented before the sunset date of 2030. (1) Installation, upgrade, and operation of dual fuel vessel engines that are able to run on zero direct (tailpipe) CO_2 emissions fuels and derive at least 25% of their energy from zero direct (tailpipe) CO_2 emission fuels or plug-in power for their normal operation at sea and in ports. (2) Installation, upgrade, and operation of vessel engines designed at the outset to allow for modernisation or adaptation to use 100% renewable energy or meet the Green Activity criteria by 2030. (3) The entity has a transition plan aligned with 1.5°C pathway. **Note:** Zero direct (tailpipe) CO_2 emission fuels include hydrogen and ammonia that are in line with their respective Taxonomy criteria (Green Activity) under the Manufacturing sector (refer to E-001, E-007).

21 Per transport work is determined as a factor of distance travelled by the ship multiplied by its capacity of cargo carried (or the ship's capacity in the absence of actual data). https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/Circ-684.pdf; https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/Air%20pollution/MEPC.336(76).pdf

22 In the Initial IMO Strategy on Reduction of GHG Emissions from Ships (2018), the year 2008 was taken as the baseline year for calculating carbon intensity of international shipping. The baseline values for 2008 are reflected under the Second IMO GHG Study, Table 9.1, last column on 'Total efficiency'. https://www.mardep.gov.hk/filemanager/en/share/msnote/pdf/msin2302anx13.pdf

23 This is aligned with the IMO Net-Zero Framework – direct compliance target for 2030.

Exclusion	The following ships that are designed and dedicated for the transportation of fossil fuels are excluded: (1) Crude oil tankers and liquefied gas tankers. (2) Dry Bulk Carriers where more than 25% of tonnage transported annually is coal or other fossil fuels, based on the bills of lading. This threshold declines geometrically at 5.3% from the year 2020 onwards, as consistent with the IEA SDS.[24] (3) Assets used for the exploration or production of fossil fuels (including floating production, supply and offloading (FPSO) ships; subsea, umbilicals, risers, flowlines (SURF) ships; drilling units; platform supply ships; and well intervention ships).

B-007 Transportation of passengers by sea

Sector	Transportation
Activity Category	Maritime transport
Activity Description	Purchase, financing, leasing, chartering (with or without crew), and operation of ships designed and equipped for transport of passengers by sea.
Associated ISIC Code(s)	5011
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity complies with the following criteria: Ships must comply with emissions intensity thresholds, measured in Energy Efficiency Operational Indicator (EEOI) or Annual Efficiency Ratio (AER), throughout their economic lifespan, as outlined in Table 6. These thresholds are determined based on the ship's fleet type and size category. The denominator is expressed in tonne-nautical miles (t-nm) for EEOI and deadweight tonnage-nautical miles (dwt-nm) for AER.

Table 6. Emissions Intensity Thresholds (Passenger Ships)

Type	Size	2025		2030		2040		2050
		EEOI	AER	EEOI	AER	EEOI	AER	EEOI/ AER
Ferry – Pax only	0-299 (GT)	852	722	681.6	627.8	340.8	313.9	0
	300-999 (GT)	1125	803.7	900.4	698.9	450.2	349.4	0
	1000-1999 (GT)	223.5	192.9	178.8	167.8	89.4	83.9	0
	2000+ (GT)	227.2	165	181.8	143.5	90.9	71.8	0

24 https://iea.blob.core.windows.net/assets/a72d8abf-de08-4385-8711-b8a062d6124a/WEO2020.pdf

Green Activity

Type	Size	2025		2030		2040		2050
		EEOI	AER	EEOI	AER	EEOI	AER	EEOI/ AER
Cruise	0-1999 (GT)	557	408.7	445.6	355.4	222.8	177.7	0
	2000-9999 (GT)	257.2	140.2	205.8	121.9	102.9	61	0
	10000-59999 (GT)	119.1	93.2	95.3	81.1	47.6	40.5	0
	60000-99999 (GT)	131.2	106.2	104.9	92.3	52.5	46.2	0
	100000-149999 (GT)	114.5	92.7	91.6	80.6	45.8	40.3	0
	150000+ (GT)	95.2	74.5	76.1	64.8	38.1	32.4	0
Ferry - RoPax	0-1999 (GT)	570.5	338	456.4	293.9	228.2	146.9	0
	2000-4999 (GT)	275.2	185.4	220.1	161.2	110.1	80.6	0
	5000-9999 (GT)	205.4	136.6	164.3	118.8	82.2	59.4	0
	10000-19999 (GT)	148.6	83.5	118.9	72.6	59.4	36.3	0
	20000+ (GT)	116.4	81.7	93.1	71	46.6	35.5	0

Note:
GT: Gross tonnage

Transition Activity

The activity complies with (1) or (2) or (3), and meets (4):

(1) 40% reduction in CO_2 emissions per transport work[25] by 2030, compared to 2008.[26]

(2) Attained an Energy Efficiency Design Index (EEDI) value equivalent to reducing the EEDI reference line by at least 20% below the EEDI requirements applicable on 1 April 2022; and meets all of the following:

  (a) Able to run on zero direct (tailpipe) CO_2 emission fuels or fuels from renewable sources.

  (b) Able to plug-in at berth.

  (c) For gas-fuelled ships, demonstrate the use of state-of-the-art measures and technologies to mitigate methane slippage emissions.

(3) Attained an Energy Efficiency Existing Ship Index (EEXI) equivalent to reducing the EEDI reference line by at least 10% below the EEXI requirements applicable on 1 January 2023; and meets a 73.7gCO_2e/MJ yearly average GHG intensity threshold for energy used on-board.[27]

25 Per transport work is determined as a factor of distance travelled by the ship multiplied by its capacity of cargo carried (or the ship's capacity in the absence of actual data). https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/Circ-684.pdf; https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/Air%20pollution/MEPC.336(76).pdf

26 In the Initial IMO Strategy on Reduction of GHG Emissions from Ships (2018), the year 2008 was taken as the baseline year for calculating carbon intensity of international shipping. The baseline values for 2008 are reflected under the Second IMO GHG Study, Table 9.1, last column on 'Total efficiency'. https://www.mardep.gov.hk/filemanager/en/share/msnote/pdf/msin2302anx13.pdf

27 This is aligned with the IMO Net-Zero Framework – direct compliance target for 2030.

Transition Activity	(4) A managed reduction plan outlining the retrofit technologies or fuel switch options that the ship will implement to comply with the trajectory in Table 6. Explanations are required to demonstrate that the plan is cost-effective. At minimum, the plan must include: (a) Use of alternative fuels: Indicate the time period (e.g. range of years) when a significant fuel switch is anticipated to be necessary. (b) Modifications to fuel storage: Specify any required changes to onboard fuel storage systems, including additional space needed and how these changes may impact cargo carrying capacity. (c) Modifications to fuel handling: Outline any necessary adjustments to fuel handling systems, including bunkering systems. (d) Modifications to machinery: Detail any required updates or changes to the ship's machinery. (e) Cost estimates: Provide an estimate of the total additional costs, covering both operating expenses and capital expenditures. **Note:** To align with the sunset date of 2030, the use of EEDI and EEXI criteria needs to transition to operational metrics, i.e. EEOI or AER, by 2030. Zero direct (tailpipe) CO_2 emission fuels include hydrogen and ammonia that are in line with their respective Taxonomy criteria (Green Activity) under the Manufacturing sector (refer to E-001, E-007).
Transition Measure	The measure complies with (1) or (2), and meets (3). The measure must be implemented before the sunset date of 2030. (1) Installation, upgrade, and operation of dual fuel vessel engines that are able to run on zero direct (tailpipe) CO_2 emissions fuels and derive at least 25% of their energy from zero direct (tailpipe) CO_2 emission fuels or plug-in power for their normal operation at sea and in ports. (2) Installation, upgrade, and operation of vessel engines designed at the outset to allow for modernisation or adaptation to use 100% renewable energy or meet the Green Activity criteria by 2030. (3) The entity has a transition plan aligned with 1.5°C pathway. **Note:** Zero direct (tailpipe) CO_2 emission fuels include hydrogen and ammonia that are in line with their respective Taxonomy criteria (Green Activity) under the Manufacturing sector (refer to E-001, E-007).
Exclusion	Ships built or operated for the sole purpose of transporting passengers to-and-from assets or infrastructure that are dedicated to the production or transport of fossil fuels.

Air Transport

Criteria and Thresholds

Green Activity

Zero exhaust CO_2 emissions aircraft meets the Taxonomy Green Activity criteria for Air Transport. Examples include fully electric aircraft and hydrogen fuel cell aircraft.

There is currently no credible, science-based, and 1.5°C-aligned pathway available for the aviation sector. Once such a pathway is developed by relevant international aviation organisation(s), the pathway and relevant decarbonisation levers will be reviewed for inclusion in the Taxonomy.

The Transition Activity evaluates two parameters, namely (a) aircraft performance margins and (b) sustainable aviation fuel (SAF) use.

(a) Aircraft performance margins

For aircraft performance margins, the performance baselines are established using the CO_2 metric values from the International Civil Aviation Organisation (ICAO)'s Aeroplane CO_2 Standard (2017).[28] These values are calculated with the aircraft's maximum take-off mass as a correlating parameter. In addition, to avoid carbon lock-in of less efficient aircraft, the Taxonomy builds in incremental percentage improvement requirements adapted from the EU Taxonomy.

(b) Sustainable aviation fuel requirements

The ICAO has identified SAF as having the greatest potential to significantly reduce carbon emissions in the aviation sector.[29] The International Air Transport Association (IATA) also estimates that SAF could lower emissions by up to 65% by 2050, making it a vital tool for decarbonising air transport.[30] The Hong Kong Taxonomy recognises SAF as a practical and scalable lever to reduce emissions in the air transport sector.

Global SAF demand is projected to reach 17 million tonnes per annum (Mt/a) by 2030 – equivalent to 4–5% of total jet fuel consumption – yet infrastructure development remains lagging. Closing the gap requires bridging a production capacity deficit of approximately 5.8 million tonnes per annum.[31] At the regional level, while SAF production capacity and supply chain are gradually expanding, a dedicated regional pathway has yet to be established.

SAF use is one of the two parameters assessed under the Transition Activity, alongside aircraft performance margins. Having considered that SAF percentage blend requirements vary globally and supply chain maturity differs across jurisdictions, the HKMA is publishing this prototype without specified SAF percentage blend thresholds. Such thresholds will be further finalised post-consultation and regularly reviewed, taking into account advances in SAF production and technology, supply chain build-out, international standards,[32] and relevant government policies.

Calculation of SAF use

The Taxonomy proposes that SAF use be assessed on a fleet basis, rather than on an individual aircraft basis. This is to reflect prevailing airport refuelling practices, under which SAF is blended through centralised fuel systems and distributed among refuelling aircraft, such that airlines generally cannot determine which specific aircraft physically uplifts SAF at a given airport.

In practice, this means that an airline may define a specific group of aircraft(s), i.e. the **assessment fleet**, to which its SAF consumption is attributed. Only aircraft(s) included in the assessment fleet, and to which the required SAF volume has been attributed, may be considered Taxonomy-aligned, subject to meeting the other Transition Activity requirements.

28 International Civil Aviation Organisation (ICAO), Climate Change Technology Standards, https://www.icao.int/environmental-protection/climate-change-technology-standards

29 International Civil Aviation Organisation (ICAO), Sustainable Aviation Fuels (SAF).

30 International Air Transport Association (IATA) (2022), SAF Deployment.

31 World Economic Forum (2025), Financing Sustainable Aviation Fuels: Case Studies and Implications for Investment.

32 For example, the EU's mandatory SAF targets per ReFuelEU aviation refer to a 2% SAF percentage blend in 2026 and 6% blend in 2030. This increases more substantially to a 20% blend beyond 2035, scaling up to an eventual 70% blend in 2050.

To demonstrate compliance with the Taxonomy's prescribed SAF percentage blend thresholds, airlines must:

(a) Define the assessment fleet, including the specific aircraft(s) for which Taxonomy alignment is being assessed and to which SAF use will be attributed.

(b) Quantify the total aviation fuel consumed by the assessment fleet.

(c) Procure a volume of neat SAF[33] (expressed in tonnes) based on the Taxonomy SAF percentage blend threshold to be determined (i.e. the volume at (b) multiplied by the required Taxonomy SAF percentage blend thresholds) to be attributed to the assessment fleet.

For example, assume the SAF percentage blend thresholds for a given year is y%. An airline defines 10 aircraft as its assessment fleet for Taxonomy alignment. 1,000,000 tonnes of aviation fuel is estimated to be consumed by the assessment fleet. The airline must procure at least 1,000,000 tonnes * y% of SAF for the assessment fleet to be deemed Taxonomy-aligned in the given year.

While SAF has shown potential for lowering carbon emissions compared to conventional fuel, it is still insufficiently scaled. Ongoing research and innovation are needed to improve production efficiency, enhance supply chain reliability, and reduce costs for competitiveness.

In view of this, Transition Measures are introduced in the Taxonomy to catalyse rapid SAF deployment and incentivise the build-out of robust, scalable supply chains. As production capacity expands and innovation advances, the aviation sector is expected to be better-positioned to transition towards alignment with the Green Activity criteria. The Transition Measures include –

- **SAF sourcing or purchase to replace conventional aircraft fuel (CAF)** – SAF that meets the Green Activity criteria for the manufacturing of low-carbon liquid fuels for transportation (see E-007), without needing to meet the SAF percentage blend thresholds (to be determined) under the Transition Activity. This enables early adoption of SAF while supporting gradual scale-up.

- **Aircraft acquisition or retrofit** – the acquisition or retrofitting of aircraft engines to be technologically ready to take up to 100% SAF. This can help prepare for and accelerate the decarbonisation of the aviation sector.

Transition Measures are subject to a sunset date of 2035 (by which time SAF production is expected to be sufficiently scaled) to encourage and drive timely progress. The Transition Activity, by contrast, has no sunset date proposed at this stage, providing flexibility and continued support as the sector develops. Instead, the SAF percentage blend thresholds will be subject to review taking into account the factors mentioned above.

In the Taxonomy, the production and blending of SAF is scoped under separate, standalone activities, namely (i) E-007 Manufacture of low-carbon liquid fuels for transportation and (ii) B-013 Low-carbon transport infrastructure: air transport. The former covers the production of neat SAF,[34] while the latter covers the blending of neat SAF[35] with conventional aviation fuels.

33 Neat SAF is 100% pure, unblended sustainable aviation fuel.

34 Ibid.

35 Ibid.

Activity cards

B-008 Air transport (freight and passenger)

Sector	Transportation
Activity Category	Air transport
Activity Description	Purchase, financing, operation, renting and leasing of aircraft to transport passengers and freight, aircraft parts, and equipment.
ISIC Code(s)	5110, 5120
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity complies with the following criteria: (1) Zero exhaust CO_2 emission aircraft. Once a credible, science-based, and 1.5°C-aligned pathway is developed by relevant international aviation organisation(s), the pathway and relevant decarbonisation levers will be reviewed for inclusion in the Taxonomy.
Transition Activity	The activity complies with (A) and (B): **A. Aircraft performance margins** The aircraft fulfils the relevant best-in-class performance margins: (1) Aircraft with a maximum take-off mass >5.7 and ≤60 tonnes have a certified metric value of CO_2 emissions at least 11% less than the New Type limit of the ICAO Aeroplane CO_2 Standard (2017).[36] (2) Aircraft with a maximum take-off mass >60 and ≤150 tonnes have a certified metric value of CO_2 emissions at least 2% less than the New Type limit of the ICAO Aeroplane CO_2 Standard (2017).[36] (3) Aircraft with a maximum take-off mass >150 tonnes have a certified metric value of CO_2 emissions at least 1.5% less than the New Type limit of the ICAO Aeroplane CO_2 Standard (2017).[36] **B. Sustainable aviation fuel (SAF) requirements** (1) Aircraft using SAF meets all of the following requirements: (i) The SAF percentage blend fulfils the thresholds set out in Table 7. The thresholds are to be further defined. *Table 7. Transition SAF percentage blend thresholds for aircraft* (ii) The SAF used meets the Green Activity criteria for the manufacture of low-carbon liquid fuels for transportation under the Manufacturing sector (refer to E-007). (iii) SAF percentage blend is calculated at the fleet level of an airline comprising only compliant aircraft (i.e., aircraft that fulfil all applicable Transition Activity criteria). At the fleet level, the SAF blend is calculated by dividing the total quantity of neat SAF purchased by the total aviation fuel consumed, and multiplied by one hundred. The percentage blend is then attributed to the compliant aircraft. [37]

Year	2026	2030
SAF percentage blend	[to be determined]	[to be determined]

36 ICAO, Climate Change Technology Standards, https://www.icao.int/environmental-protection/climate-change-technology-standards.

37 For example, assuming the SAF percentage blend threshold is y% in a given year, an airline with a fleet that consumes a total of 1,000,000 tonnes of aviation fuel would need to purchase at least 1,000,000 * y% tonnes of SAF to meet the SAF use requirement. All aircraft within the fleet may be considered Taxonomy-aligned, provided that they also meet the other Transition Activity requirements.

Transition Measure	The measure complies with one of the following and is implemented before the sunset date of 2035: (1) Sourcing or purchase of SAF to replace conventional aircraft fuel (CAF). SAF meets the Green Activity criteria for manufacture of low-carbon liquid fuels for transportation under the Manufacturing sector (refer to E-007).[38] (2) Acquisition or retrofitting of aircraft engines to be technologically ready to take up to 100% SAF.
Exclusion	Aircraft dedicated to the transport of fossil fuels.

Low-carbon Transport Infrastructure

Description and Scope

This activity covers the construction, modernisation, operation, maintenance, installation, repair, and retrofitting of infrastructure that enables low carbon land, maritime and air transport.

Key Updates to Low-carbon Transport Infrastructure

The activity has been reclassified by mode of transport to provide greater clarity and consistency in the application of the technical screening criteria, which remain largely unchanged. Meanwhile, the scope has been expanded to include infrastructure supporting the blending, transport and storage of sustainable aviation fuel under infrastructure for air transport.

Specifically, the activity "Low-carbon Transport Infrastructure" (previously B-006 in Phase 2A) has been reclassified into the following activities:

- B-009 Low-carbon transport infrastructure: personal mobility devices and cycle logistics
- B-010 Low-carbon transport infrastructure: rail transport
- B-011 Low-carbon transport infrastructure: road transport
- B-012 Low-carbon transport infrastructure: maritime transport
- B-013 Low-carbon transport infrastructure: air transport

38 Meeting the SAF percentage blend thresholds (to be determined) of the Transition Activity is not a requirement. For the avoidance of doubt, only the SAF portion of the blended fuel is eligible.

Criteria and Thresholds

All transport infrastructure within scope is considered under Green Activity, due to its enabling nature and wide applicability in supporting the decarbonisation of vehicles, vessels, and aircraft at scale, such as through the use of zero/low-carbon fuels and electrification. In addition, necessary exclusions and criteria safeguards have been developed to ensure that the infrastructure does not inadvertently support or prolong the operations of fossil fuel-based transportation.

Activity cards

B-009 Low-carbon transport infrastructure: personal mobility devices and cycle logistics

Sector	Transportation
Activity Category	Transport infrastructure
Activity Description	Construction, modernisation, operation, maintenance, installation, repair, and retrofitting of infrastructure that enables the decarbonisation of personal mobility devices and cycle logistics.
Associated ISIC Code(s)	4210, 4321, 7110, 7120
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	Eligible infrastructure includes: (1) Pavements, bike lanes and pedestrian zones, bicycle parking. (2) Electrical charging and hydrogen refuelling stations and systems installations.
Transition Activity	N/A.
Transition Measure	N/A.
Exclusion	N/A.

B-010 Low-carbon transport infrastructure: rail transport

Sector	Transportation
Activity Category	Transport infrastructure
Activity Description	Construction, modernisation, operation, maintenance, installation, repair, and retrofitting of infrastructure that enables the decarbonisation of rail transport, as well as other infrastructure, installations, and related facilities that support mass transport and transit.
Associated ISIC Code(s)	2599, 2790, 3020, 4210, 4321, 5221, 7110, 7120
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	Eligible infrastructure includes: (1) Trackside infrastructure and associated subsystems, including all corresponding infrastructure, installations and related facilities, energy, on-board control-command and signalling, and trackside control-command and signalling subsystems, where all trackside infrastructure and associated subsystems are automatically eligible if: (a) Electrified. (b) Not electrified, but comply with one of the following: (i) Plan is in place for electrification specifically for line tracks and sidings. (ii) Infrastructure is expected to be used by zero direct (tailpipe) CO_2 emission trains within 10 years from its commissioning.[39] (2) Infrastructure and installations that principally facilitate trans-shipment: (a) For freight transport: terminal infrastructure and superstructures for loading, unloading, and trans-shipment of goods. (b) For passenger transport: infrastructure, installations, and related facilities that principally facilitate the transfer of passengers from rail to rail or from other modes to rail. (3) Infrastructure, installations, and related facilities that principally facilitate urban and suburban public passenger transport, including associated signalling systems for metro, tram, and rail systems. **Note:** Trans-shipment refers to the transfer of freight or cargo from one mode of transport to another, as well as the transfer of freight or cargo to an intermediate location(s) before reaching a final destination.
Transition Activity	N/A.
Transition Measure	N/A.
Exclusion	Infrastructure that is dedicated to one of the following: (1) The support of fossil-powered rail vehicles, and transport or storage of fossil fuels. (2) The operation of fossil fuel-based transport (passenger and freight), including rail yards, stabling yards, depots, sidings, and fossil fuel filling stations.

39 This is to ensure that the supporting rail infrastructure supports the increased use of electrified or zero tailpipe emission trains. For avoidance of doubt, the infrastructure can still be used beyond 10 years.

B-011 Low-carbon transport infrastructure: road transport

Sector	Transportation
Activity Category	Transport infrastructure
Activity Description	Construction, modernisation, operation, maintenance, installation, repair, and retrofitting of infrastructure that enables the decarbonisation of road transport; as well as other infrastructure, installations, and related facilities that support mass transport and transit.
Associated ISIC Code(s)	4210, 7110, 7120
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	Eligible infrastructure includes: (1) Electric vehicle (EV) charging solutions including: (a) Upgrades to electricity grid connections for EV charging. (b) Solutions and charging equipment related to optimising and/or providing the necessary electrical capacity for EV charging. (2) Hydrogen refuelling stations. (3) Electric road systems. (4) Infrastructure and installations that principally facilitate trans-shipment, including terminal infrastructure and superstructures for loading, unloading, and trans-shipment of goods. **Note:** Trans-shipment refers to the transfer of freight or cargo from one mode of transport to another, as well as the transfer of freight or cargo to an intermediate location(s) before reaching a final destination.
Transition Activity	N/A.
Transition Measure	N/A.
Exclusion	Infrastructure that is dedicated to one of the following: (1) The support of internal combustion engines vehicles, transport or storage of fossil fuels. (2) The operation of fossil fuel-based transport (passenger and freight), including parking facilities and fossil fuel filling stations.

B-012 Low-carbon transport infrastructure: maritime transport

Sector	Transportation
Activity Category	Transport infrastructure
Activity Description	Construction, modernisation, operation, maintenance, installation, repair, and retrofitting of infrastructure that enables the decarbonisation of maritime transport; as well as other infrastructure, installations, and related facilities that support mass transport and transit.
Associated ISIC Code(s)	4290, 7110, 7120
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	Eligible infrastructure includes: (1) Electricity charging or hydrogen-based refuelling. (2) Infrastructure dedicated to supplying shore-side electrical power to ships at berth. (3) Infrastructure dedicated to supporting the net-zero operations of ports. (4) Infrastructure and installations that principally facilitate trans-shipment, including terminal infrastructure and superstructures for loading, unloading, and transhipment of goods. **Note:** Trans-shipment refers to the transfer of freight or cargo from one mode of transport to another, as well as the transfer of freight or cargo to an intermediate location(s) before reaching a final destination.
Transition Activity	N/A.
Transition Measure	N/A.
Exclusion	Infrastructure that is dedicated to one of the following: (1) The support of internal combustion engines vessels that rely exclusively on fossil fuels combustion, and transport or storage of fossil fuels. (2) The operation of fossil fuel-based transport (passenger and freight), including port infrastructure (including warehousing, cranes, or terminal buildings) for the direct supply of fossil fuels, and fossil fuel filling stations.

B-013 Low-carbon transport infrastructure: air transport

Sector	Transportation
Activity Category	Transport infrastructure
Activity Description	Construction, modernisation, operation, maintenance, installation, repair, and retrofitting of infrastructure that enables the decarbonisation of air transport, as well as other related infrastructure, installations, and facilities.
Associated ISIC Code(s)	4100, 4290, 5223, 5224, 5229
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	Eligible infrastructure includes: (1) Infrastructure dedicated to one of the following: (a) Fixed electrical ground power and preconditioned air to stationary aircraft. (b) Electrical charging for aircraft and ground handling vehicles and equipment at the airport. (c) Hydrogen refuelling for aircraft and ground handling vehicles and equipment at the airport. (2) Infrastructure dedicated to supporting the net-zero operations of airports, including: (a) Electric charging points. (b) Electricity grid upgrades. (c) Hydrogen refuelling stations. (d) Resource circularity. (e) Renewable energy. (3) Infrastructure that optimises energy and system efficiency to reduce emissions from airport's own operations. (4) Air traffic management infrastructure, processes, or activities dedicated to enabling zero exhaust CO_2 emissions aircraft.[40,41] (5) Infrastructure and installations that principally facilitate trans-shipment, including terminal infrastructure and superstructures for loading, unloading, and transhipment of goods. Eligible sustainable aviation fuel (SAF) infrastructures are items (6), (7), (8) and (9): (6) Infrastructure for blending neat SAF[42] with conventional aviation fuel (CAF).[43] Complies with (a) and (b): (a) Neat SAF complies with the Green Activity criteria for "Low-carbon liquid fuels for transport" (refer to E-007). (b) Blended SAF percentage aligns with SAF uptake requirements under Transition Activity for "Air transport (freight and passenger)" (refer to B-008).

40 References include, but are not limited to, the measures listed in Appendix M4 of the Operations Sub Group Report of the ICAO Report on the Feasibility of a Long-term Aspirational Goal (LTAG) for International Civil Aviation CO_2 emissions – https://www.icao.int/sites/default/files/sp-files/environmental-protection/LTAG/Documents/ICAO_LTAG_Report_AppendixM4.pdf

41 Examples of zero exhaust CO_2 emissions aircraft include fully electric aircraft and hydrogen fuel cell aircraft.

42 Neat SAF is 100% pure, unblended sustainable aviation fuel.

43 For avoidance of doubt, only blending infrastructure for neat SAF and the blended fuels is eligible. Infrastructure for the storage of neat fossil fuels is ineligible.

Green Activity	(7) Storage infrastructure that complies with either of the following: (a) Storage of neat SAF: Complies with 6(a). (b) Storage of blended fuel:[44] Complies with 6(b). (8) Transfer and connecting infrastructure that complies with either of the following: (a) Transfer of neat SAF: Complies with 6(a). (b) Transfer of blended fuel:[44] Complies with 6(b). (9) Refuelling infrastructure for aircraft and supporting ground handling vehicles and equipment at airports: (a) Refuelling of neat SAF: Complies with 6(a). (b) Refuelling of blended fuel:[44] Complies with 6(b). **Note:** Trans-shipment refers to the transfer of freight or cargo from one mode of transport to another, as well as the transfer of freight or cargo to an intermediate location(s) before reaching a final destination.
Transition Activity	N/A.
Transition Measure	N/A.
Exclusion	Infrastructure that is dedicated to one of the following: (1) The support of internal combustion engines aircraft that rely on pure fossil combustion, transport or storage of pure fossil fuels. (2) The operation of pure fossil fuel-based transport (passenger and freight), including airport aprons and pure fossil fuel filling stations.

44 Blended fuel refers to neat SAF blended with CAF.

C. Construction

Overview

Buildings account for about 90% of Hong Kong's total electricity consumption, and over 60% of carbon emissions in Hong Kong is attributed to electricity generation for buildings.[45] As part of the Climate Action Plan 2050, the Hong Kong Government has set out to reduce the overall electricity consumption of buildings through promoting green buildings, improving buildings' energy efficiency, and promoting a low-carbon lifestyle. By 2050, the Government aims to reduce electricity consumption in commercial buildings by 30% to 40% and in residential buildings by 20% to 30%, using 2015 as the baseline. Half of these targets are expected to be met by 2035.[46]

45 https://cnsd.gov.hk/wp-content/uploads/pdf/CAP2050_booklet_en.pdf

46 https://www.info.gov.hk/gia/general/202110/08/P2021100800588.htm

Table 8: Construction Sector – Activity Classification

Activity		Green Activity	Transition Activity	Transition Measure
C-001	Renovation of existing buildings	✓		
C-002	Construction of new buildings	✓		
C-003	Installation, maintenance, and repair of building equipment	✓		

Criteria and Thresholds

A central focus of the Taxonomy's criteria is the evaluation of a building's operational emissions. Ideally, data on energy consumption, such as energy intensity per square metre (covering electricity and gas), is made available for assessment. This information could be presented through metrics like Primary Energy Demand (PED) and Energy Use Intensity (EUI).

However, data availability poses challenges. In many cases, buildings with multiple tenants require owners or operators to obtain tenants' consent before sharing energy consumption data. Additionally, a centralised, open-access repository for disclosing a building's energy performance is not always available.

Against the above background, in addition to metrics on energy consumption, the Taxonomy allows for the use of building certification schemes as proxies to determine sustainability performance. Certification schemes can provide an established framework to assess whether a building meets energy performance requirements. There are a few options provided under the Taxonomy, as described below.

Eligible certification schemes

The following certification schemes for commercial and residential buildings developed by the Hong Kong Green Building Council are referenced in the Taxonomy:

(a) BEAM Plus New Building (NB) versions 1.2 and 2.0.

(b) Zero-Carbon-Ready Building Certification Scheme.

(c) Net Zero Energy Building Certification.

Aligned with the BEAM Plus framework, "commercial buildings" are defined as buildings intended for business, trade, or entertainment purposes, such as offices, clubhouses, and retail space.

While the Taxonomy incorporates Hong Kong's home-grown certification schemes to support local market needs, it also includes selected frameworks that are widely used in other markets. This aims to establish Hong Kong as a hub for cross-border green and sustainable capital flows. To this end, the Taxonomy references certification schemes recognised in the Chinese Mainland, the European Union, and other commonly used certification schemes in the global market.

We recognise that jurisdictions may vary in their methods for assessing the environmental performance of buildings. Some certification systems address broader sustainability issues that may not directly relate to operational energy efficiency or greenhouse gas emissions. To ensure focus on climate change mitigation, the Taxonomy prioritises certification schemes that evaluate operational emissions and energy efficiency.

The criteria for the building sector will continue to evolve in the future phases of the Taxonomy. For example, we are considering the development of a decarbonisation pathway tailored to Hong Kong's transition goals and local circumstances. This iterative approach ensures that the Taxonomy remains aligned with evolving sustainability standards and market demands.

Activity cards

C-001 Renovation of existing buildings

Sector	Construction
Activity Category	Construction and renovation of buildings
Activity Description	Renovation of existing buildings.
Associated ISIC Code(s)	4100, 4321, 4322, 4329, 4330, 4390
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	**A. Renovation of existing commercial buildings** The activity complies with one of the following criteria: (1) The building renovation leads to a reduction of primary energy demand, energy consumption, or operational GHG emissions of at least 30% against the building's historic average. (2) The building renovation enables the building to be at least eligible for the Extra Low in EUI or Level 2 improvement against a 2015 BEC baseline under the Zero-Carbon-Ready Building Certification. (3) The building renovation enables the building to be certified under the Net Zero Energy Building Certification. **B. Renovation of existing residential buildings** The activity complies with the following criteria: (1) The building renovation leads to a reduction of primary energy demand, energy consumption, or operational GHG emissions of at least 30% against the building's historic average. This is proven with measured and verified data.
Transition Activity	To be developed at a later phase.
Transition Measure	N/A.

Exclusion	Buildings that are dedicated to the extraction, storage, manufacturing, and transport of fossil fuels. **Note:** Buildings providing office space to fossil companies for administrative or trading activities are eligible.

C-002 Construction of new buildings

Sector	Construction
Activity Category	Construction and renovation of buildings
Activity Description	Construction of new buildings.
Associated ISIC Code(s)	4100, 4321, 4322, 4329, 4330, 4390
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The construction of new commercial and/or residential buildings must meet the criteria under one of the following certification schemes[47] (i.e. (1) to (6)) or one of the following jurisdictional requirements (i.e. (7) to (8))[48]: (1) Certified under BEAM Plus to meet all of the following criteria[49]: (a) Certified, or designed to be certified, at Gold or above. (b) Energy Use component must meet both criteria: (i) Achieved at least 10 credits under either: (a) EU2: Performance Path in BEAM Plus NB v2.0. (b) EU1: Reduction of CO_2 Emissions in BEAM Plus NB v1.2. (ii) Achieved a score of at least 70% in the Energy Use category. (c) Energy savings requirement must meet one of the following criteria: (i) For NB v1.2: At least 30% energy saving against a BEC 2018 baseline. (ii) For NB v2.0: At least 20% energy saving against a BEC 2021 baseline. (2) Certified at least Level 2 improvement against a BEC 2015 baseline in Energy Performance Certificate under the Zero-Carbon-Ready Building Certification. (3) Certified under the Net Zero Energy Building Certification. (4) Certified under Leadership in Energy and Environmental Design (LEED) v4.1 at Gold level and meets all of the following criteria: (a) Minimum score of 9 points under Energy Assessment Credits. (b) Optimise Energy Performance for 30% improvement above ASHRAE 90.1-2016 in energy performance. (5) Certified under NABERS Energy of at least five stars.[50]

47 Certification scheme (1) to (6): Projects may be certified in any jurisdiction, provided they meet the relevant Taxonomy criteria.

48 Jurisdictional requirement (7) to (8): Apply to specific jurisdictions. Taxonomy alignment is achieved provided the applicable jurisdictional requirements are met. There is no requirement to comply with any of the certification schemes in (1) to (6).

49 Recent updates to relevant standards, such as BEAM Plus New Building v2.0 (2025 edition) and BEC 2024, are under review and will be considered for inclusion in future phases of the Taxonomy.

50 To align with Australia's Commercial Building Disclosure Program, GreenPower cannot be used to meet the Taxonomy requirement on NABERS Energy.

Green Activity	(6) Certified under IFC EDGE must meet one of the following criteria: (a) Buildings in Least Developed Countries (as classified by the United Nations): any level of IFC EDGE certification. (b) Buildings in non-Least Developed Countries: IFC EDGE Advanced certification or above. (7) For projects in the Chinese Mainland: Rated under China Green Building Evaluation Label (Three Star System) at the third-level. (8) For projects in the European Union: Must meet all of the following criteria:[51] (a) Primary Energy Demand, defining the energy performance of the building resulting from the construction, is at least 10 % lower than the threshold set for the nearly-zero energy building (NZEB) requirements in national measures implementing Directive 2010/31/EU of the European Parliament and of the Council. The energy performance is certified using an as built Energy Performance Certificate. (b) For buildings larger than 5000 m^2, upon completion, the building resulting from the construction undergoes testing for air-tightness and thermal integrity, and any deviation in the levels of performance set at the design stage or defects in the building envelope are disclosed to investors and clients. As an alternative; where robust and traceable quality control processes are in place during the construction process this is acceptable as an alternative to thermal integrity testing. (i) The testing should be carried out in accordance with EN13187 (Thermal Performance of Buildings - Qualitative Detection of Thermal Irregularities in Building Envelopes - Infrared Method) and EN 13829 (Thermal performance of buildings - Determination of air permeability of buildings - Fan pressurisation method) or equivalent standards accepted by the respective building control body where the building is located. (c) For buildings larger than 5000 m^2, the life-cycle Global Warming Potential of the building resulting from the construction has been calculated for each stage in the life cycle and is disclosed to investors and clients on demand.
Transition Activity	To be developed at a later phase.
Transition Measure	N/A.
Exclusion	Buildings that are dedicated to the extraction, storage, manufacturing, and transport of fossil fuels. **Note:** Buildings providing office space to fossil companies for administrative or trading activities are eligible.

C-003 Installation, maintenance, and repair of building equipment

Sector	Construction
Activity Category	Construction and renovation of buildings
Activity Description	Installation, maintenance, upgrade, repair, and replacement of building equipment and fixtures aimed at helping the buildings achieve energy or resource savings.
Associated ISIC Code(s)	3312, 3530, 4329, 71XX*, 9522 *Includes all activities classified under the division denoted by the first two digits of the relevant ISIC code.

51 The criteria will be updated in line with future updates to the EU Taxonomy.

Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity complies with any of the following: **A. Energy efficient equipment** Eligible equipment falls within the two highest energy efficiency classes, as determined by relevant international labelling schemes or local regulations. If such schemes do not presently exist, equipment should minimally comply with minimum requirements within local building codes.[52] Eligible improvement items include: (1) Building envelope items including: (a) Thermal insulation materials, or construction materials with good insulation properties. (b) Green roofs or vertical green walls of suitable construction that helps to increase thermal insulation of building envelope. (c) Finishing materials (including paints and tiles) that resist solar heat gain and/or facilitate heat dissipation. (d) External shading devices, such as overhangs, awnings, and louvers. (e) Cavity walls, double-skin facades, or loft construction that reduce external heat gain. (f) Equipment to enhance air-tightness at entrances, such as automatic doors, revolving doors, and air curtains. (g) Energy efficient glazing, windows, and balcony doors that enhance air-tightness and reduce external heat gain. (h) Equipment to reduce the effects of thermal bridge. (2) Energy efficient lighting, such as light-emitting diode (LED). (3) Energy efficient heating, ventilation and air-conditioning (HVAC) equipment. Equipment related to district heating and cooling services are eligible. (4) Energy efficient pumping and motor equipment. (5) Energy efficient lifts and escalators. (6) Energy efficient electrical installations, such as those that reduce distribution loss, improve power quality, or power factor. (7) Energy efficient hot water equipment. (8) Other energy efficiency improvement items as certified by a qualified energy or environmental professional. **B. Renewable and low-carbon energy technologies** Eligible equipment includes: (1) Solar photovoltaic (PV) systems. (2) Solar hot water panels, including solar water heating systems with collectors. (3) Solar desiccant dehumidification. (4) Heat pumps for low-carbon heating or hot water production (refrigerant shall have a global warming potential of ≤675). (5) Ground source or water source heat pumps for heat rejection in a central air-conditioning system (refrigerant shall have a global warming potential of ≤675).

52 In Hong Kong, relevant certifications include, but are not limited to, Grade 1 and Grade 2 equipment labelled under the Mandatory Energy Efficiency Labelling Scheme (MEELS) and the Voluntary Energy Efficiency Scheme (VEELS).

Green Activity	(6) Wind turbines. (7) Solar transpired collectors. (8) High efficiency micro- combined-heat-and-power (CHP) plant. (9) Energy recovery systems. (10) Thermal or electric energy storage system that helps balance energy demand, making it useful for integrating renewable energy sources or reducing a building's peak load. (11) Other renewable or low-carbon technologies as certified by a qualified energy or environmental professional. **C. Instruments and devices for measuring, regulating, and controlling building energy performance** Eligible equipment includes: (1) HVAC control equipment, such as artificial intelligence (AI) chiller plant optimisation, zoned thermostats, smart thermostats, and smart air-conditioning controllers. (2) Lighting control equipment, such as motion and daylight sensors, and daylight autonomy system for window shading device control. (3) Building automation and control systems, building management systems (BMS), energy management systems (EMS), and cloud-based building analytics systems. (4) Smart meters for gas, heat, cool, and electricity. (5) Sub-meters (other than utility company's meters) that assist energy analysis and/or separate charging of resource use by tenants. (6) Other instruments or devices for measuring, regulating, and controlling building energy performance as certified by a qualified energy or environmental professional in the building industry. **D. Other equipment and fixtures** Eligible equipment and fixtures include: (1) Equipment and tools that can achieve energy or resource savings or reduce carbon emissions on construction sites, such as solar-powered lighting, battery energy storage system, and equipment that supports electrifying the construction site. (2) Equipment and tools that can minimise waste and pollution, including air, noise, water, and light pollution on construction sites. The equipment and tools should be electrified and enable reduction in carbon emissions and/or improvements in energy efficiency. (3) Equipment and fixtures that can achieve water saving in buildings and reduce associated energy use (e.g. for water heating and pumping). (4) Equipment and fixtures that can recover waste in buildings and reduce embodied carbon emissions through material reuse/recycling. (5) Other building equipment and fixtures that can help buildings or construction sites achieve energy or resource savings, or reduce carbon emissions, as certified by a qualified energy or environmental professional in the building industry.
Transition Activity	N/A.
Transition Measure	N/A.
Exclusion	Manufacturing of building equipment dedicated to the use of fossil fuels.

D. Waste

Overview

The waste sector accounted for approximately 8% of Hong Kong's carbon emissions in 2024,[53] the majority of which arose from greenhouse gases produced by the decomposition of waste in landfills. In response, the Government introduced the Waste Blueprint for Hong Kong 2035,[54] which promotes the vision of "Waste Reduction, Resources Circulation, Zero Landfill". The Blueprint sets out targets for reducing per capita municipal solid waste disposal by 40-45% and increasing recovery rates to about 55%. The overarching goal is to significantly reduce reliance on landfills.

53 https://cnsd.gov.hk/wp-content/uploads/2026/01/Data-Tables_2024_AR5_Sector-r4.pdf

54 https://www.eeb.gov.hk/sites/default/files/pdf/waste_blueprint_2035_eng.pdf

Key Updates to the Taxonomy

To support circularity and emissions reduction, the Waste sector of the Taxonomy has been expanded to include two activities, reflecting the growing importance of waste recovery and recycling in Hong Kong's transition.

- **Material Recovery from Non-hazardous Waste:** By supporting material recovery, the activity aims to enhance resource efficiency and reduce reliance on virgin materials.
- **Recycling of Batteries:** This activity covers the recycling of end-of-life batteries, including the recovery and upcycling of materials and components for reuse in new batteries or as secondary raw materials.

Table 9. Waste Sector – Activity Classification

Activity		Green Activity	Transition Activity	Transition Measure
D-001	Sewage sludge treatment – anaerobic digestion or co-digestion	✓		
D-002	Collection and transport of non-hazardous waste in source segregated fractions	✓		
D-003	Utilisation/ treatment of domestic waste – anaerobic digestion or co-digestion	✓		
D-004	Material recovery from non-hazardous waste **New**	✓	✓	
D-005	Recycling of batteries **New**	✓		

Activity cards

D-001 Sewage sludge treatment – anaerobic digestion or co-digestion

Sector	Waste
Activity Category	Sewage sludge treatment
Activity Description	Construction and operation of facilities for the treatment of sewage sludge by anaerobic digestion or co-digestion with the resulting production and utilisation of biogas or chemicals.
Associated ISIC Code(s)	3700
Criteria and Thresholds	
Environmental Objective	Climate change mitigation

Green Activity	The activity complies with all of the following criteria: (1) A monitoring and contingency plan is in place to minimise methane leakage at the facility. (2) The majority of the produced biogas is used directly for the generation of electricity or heat, or injection into the city gas network, or used as vehicle fuel or as fuel/feedstock in city gas production. In the unlikely event of equipment breakdown, unconsumed biogas will be safely flared.
Transition Activity	To be considered at a later phase.
Transition Measure	To be considered at a later phase.
Exclusion	N/A.

D-002 Collection and transport of non-hazardous waste in source segregated fractions

Sector	Waste
Activity Category	Waste collection, treatment and recycling
Activity Description	Separate collection and transport of non-hazardous waste in single or comingled fractions aimed at preparing for reuse or recycling.
Associated ISIC Code(s)	3811
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity complies with the following criteria: (1) All separately collected and transported non-hazardous waste that is segregated at source is intended for preparation for reuse or recycling operations.
Transition Activity	To be considered at a later phase.
Transition Measure	To be considered at a later phase.
Exclusion	N/A.

D-003 Utilisation/ treatment of domestic waste – anaerobic digestion or co-digestion

Sector	Waste
Activity Category	Waste collection, treatment and recycling
Activity Description	Construction and operation of dedicated facilities for the treatment of separately collected bio-waste through anaerobic digestion or co-digestion with the resulting production and utilisation of biogas and digestate[55] and/or chemicals.
Associated ISIC Code(s)	3821
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity complies with all of the following criteria: (1) A monitoring and contingency plan is in place to minimise methane leakage at the facility. (2) The majority of the produced biogas is used directly for the generation of electricity or heat, or injection into the city gas network, or used as vehicle fuel or as fuel/ feedstock in city gas production. In the unlikely event of equipment breakdown, unconsumed biogas will be safely flared. (3) The bio-waste that is used for anaerobic digestion or co-digestion is source segregated and collected separately. (4) The produced digestate is used as fertiliser or soil improver, either directly or after composting or any other treatment. (5) In the dedicated bio-waste treatment plants, the share of food and feed crops used as input feedstock, measured in weight, as an annual average, is less than or equal to 10% of the input feedstock.[56]
Transition Activity	To be considered at a later phase.
Transition Measure	To be considered at a later phase.
Exclusion	N/A.

55 Digestate is the nutrient-rich material remaining after anaerobic digestion or co-digestion, which can be repurposed as fertiliser.

56 This threshold references the EU Taxonomy.

D-004 Material recovery from non-hazardous waste

Sector	Waste
Activity Category	Waste collection, treatment and recycling
Activity Description	Construction and operation of facilities, equipment, and infrastructure for the processing of non-hazardous waste into secondary raw materials through mechanical reprocessing[57]. This covers material recovery facilities, including their associated upstream and downstream sorting operations. Relevant infrastructure includes crushers, shredders, conveyor belts, compactors, pelletisers, air classifiers, and magnetic belts.
Associated ISIC Code(s)	3830, 4290
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	For 2026 – 2030, the activity complies with the following: (1) The material recovery facility converts at least 50%, in terms of weight, of the processed non-hazardous waste into secondary raw materials that are suitable for the substitution of virgin materials in production processes. **Note:** For the purpose of calculating the recovery percentage of 50%, any processed waste that is used for backfilling must be excluded from the calculation and must not be counted as either input or recovered output. The criteria for 2031 and onwards will be provided in future Taxonomy iterations, drawing on prevailing international best practices and suitable guidance from the Hong Kong Government.
Transition Activity	Until 2030, the activity complies with the following: (1) The material recovery facility converts at least 40%, in terms of weight, of the processed non-hazardous waste into secondary raw materials that are suitable for the substitution of virgin materials in production processes. **Note:** For the purpose of calculating the recovery percentage of 40%, any processed waste that is used for backfilling must be excluded from the calculation and must not be counted as either input or recovered output.
Transition Measure	N/A.
Exclusion	N/A.

57 If the processed waste is used for backfilling, only construction and demolition materials such as rocks, concrete, asphalt, rubble, bricks, stones, and earth recovered shall be used. In other words, other recoverable materials that can be processed into secondary raw materials, such as plastics and paper, shall not be used for backfilling.

Recycling of batteries

Criteria and Thresholds

Given its role in recovering valuable materials from used/end of life batteries and enabling their reuse in new batteries, the recycling of batteries is automatically eligible under Green Activity.

Activity card

D-005 Recycling of batteries

Sector	Waste
Activity Category	Recycling of batteries
Activity Description	Recycling of end-of-life batteries, including the processing and upcycling of materials and components in used/end-of-life batteries for reuse in new batteries. In cases where such materials and components are technically unsuitable for battery reuse, they are converted into secondary raw materials for other purposes.
Associated ISIC Code(s)	3830
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity is automatically eligible if it complies with the activity description.
Transition Activity	N/A.
Transition Measure	N/A.
Exclusion	N/A.

E. Manufacturing

Overview

The manufacturing sector is a major contributor to carbon emissions in Asia, accounting for over 22% of the region's total carbon emissions in 2023.[58] In the Chinese Mainland, the sector ranks as the second-largest source of carbon emissions, contributing over 24% of the country's total carbon emissions in the same year.[59] This is reflective of the critical role that the sector plays in the Chinese Mainland's economy. From 2010 to 2026, the Chinese Mainland held the position as the world's largest manufacturing hub.[60] According to the International Energy Agency (IEA), in 2020, besides being the largest producer of hydrogen globally,[61] the Chinese Mainland also produced nearly 60% of the world's cement and crude steel, 55-65% of primary steel and aluminium, and 30% of the primary chemicals used in plastics and fertilisers.[62]

While Hong Kong has relocated the majority of its industrial operations to the Chinese Mainland and other parts of Asia, the Hong Kong Taxonomy aims to support the transition of the manufacturing sector by directing and scaling up cross-border capital flows towards green and sustainable opportunities in the region and beyond. Indeed, the Chinese Mainland has set out ambitious plans to decarbonise its economy, specifically naming "peaking the consumption of fossil fuels" and "promoting green manufacturing" as key areas of focus in the 15th Five-Year Plan (2026–2030).[63]

58 https://www.iea.org/regions/asia-pacific/emissions
59 https://www.iea.org/countries/china/emissions
60 https://english.www.gov.cn/news/202603/13/content_WS69b36c11c6d00ca5f9a09d96.html
61 https://www.iea.org/reports/opportunities-for-hydrogen-production-with-ccus-in-china/executive-summary
62 https://iea.blob.core.windows.net/assets/bcf51d31-b7c6-4183-944f-707d05021356/AnenergysectorroadmaptocarbonneutralityinChina.pdf
63 https://research.hktdc.com/en/article/MjI3MzIwMjc1Mw

Key Updates to the Taxonomy

To support industrial decarbonisation in the region, the Manufacturing sector of the Taxonomy is updated to expand its scope from four to nine economic activities, reflecting the growing importance of low-carbon manufacturing.

- **Manufacture of Iron and Steel:** This activity covers the manufacture of iron and steel, supporting the decarbonisation of a carbon-intensive sector through lower-emission production pathways and near-zero production technologies.

- **Manufacture of Basic Chemicals:** This activity covers the manufacture of eligible organic and inorganic basic chemicals using lower-emission production processes, cleaner feedstocks, and low-carbon energy sources.

- **Manufacture of Low-carbon Liquid Fuels:** This activity covers the production of low-carbon liquid fuels for transportation, including fuels for road, maritime, and air transport.

- **Manufacture of Batteries:** This activity covers the manufacture of batteries and related components that enable substantial GHG emissions reductions in end-use applications, including electric vehicles, energy storage, grid balancing, and backup power.

- **Manufacture of Other Low-carbon Technologies:** This activity covers the manufacture of low-carbon technologies, including novel solutions, that enable lifecycle GHG emissions reductions.

General Methodological Approach

Under the Hong Kong Taxonomy, there are two classifications for manufacturing activities, namely hard-to-abate activities, and enabling activities. Specific details for individual economic activities are further elaborated in the respective sub-sections and activity cards.

Hard-to-abate/highly emitting activities

Hard-to-abate activities are those essential to the economy in the long term but pose challenges in reducing emissions due to the nature of their production processes. A gradual and progressive decarbonisation approach is required. Examples include the production of hydrogen, aluminium, cement, iron and steel, and low-carbon liquid fuels for transportation.

Activities classified as Green are those that make a substantial contribution to climate change mitigation by operating at near zero emissions or in line with a 1.5°C pathway.

In the manufacturing sector, a decarbonisation trajectory with emissions thresholds for different time intervals and ultimately reaching net zero in 2050 is developed for applicable activities. Typically, the trajectory references thresholds in global frameworks (e.g. the EU Taxonomy) as a starting point in a given base year. Then, to determine emissions thresholds at different time intervals leading up to 2050, 1.5°C-aligned decarbonisation pathways or frameworks developed by industry experts or academia are used as references for projection. The pathways or frameworks referenced are credible, science-based, and have undergone rigorous development processes.

This forward-looking approach is intended to provide clear thresholds, offering users greater certainty about the level of decarbonisation required over time to achieve net zero.

Activities classified as Transition are on a time-bound decarbonisation journey to align their operations with a 1.5°C trajectory, ultimately reaching net zero in 2050.

In the manufacturing sector, the transition of hard-to-abate activities is often hindered by the absence of technologically and economically viable low-carbon alternatives. Moreover, emission levels for a given activity can vary widely between facilities due to wide-ranging factors such as the types of production technology adopted, types of fuel and feedstock used, as well as the ownership structure and level of vertical integration of individual processes. This variability makes it challenging to gather standardised and reliable data for credibly defining the lower emissions boundary for the transition category.

The Hong Kong Taxonomy, with a focus on supporting the transition of industries in the Chinese Mainland and the region, has taken steps to develop transition thresholds that are robust while compatible with local circumstances. This is done by referencing relevant local standards, while benchmarking against global frameworks to ensure alignment and credibility. This dual approach aims to balance regional relevance with international best practices.

In future phases, as technologies mature and new innovations emerge, the transition pathways and thresholds outlined in the current Taxonomy may be revisited to reflect the latest advancements in technology and shifts in market dynamics.

Specific measures (e.g. technologies, processes, materials) that can significantly reduce the emission intensity of manufacturing processes and are widely applicable across different manufacturing facilities with different starting emissions levels are identified. These measures are not intended to be one-off initiatives but should be strategically implemented to facilitate the long-term transition of manufacturing activities towards greener and more sustainable practices. Examples include adopting energy-efficient technologies, integrating renewable energy sources, and optimising resource utilisation.

Enabling activities

These activities are dedicated to the manufacture of net zero aligned products and technologies essential for a low-carbon future. As these activities involve the production of new assets with long lifespans, only Green Activity, which is 1.5°C- aligned, is included to prevent carbon lock-in from inefficient and highly emissive assets. An example is the manufacture of equipment for the production of hydrogen through electrolysis, the manufacture of batteries, and the manufacture of other low-carbon technologies.

Table 10. Manufacturing Sector – Activity Classification

Activity		Green Activity	Transition Activity	Transition Measure
E-001	Manufacture of hydrogen	✓	✓	✓
E-002	Manufacture of equipment for the production of hydrogen through electrolysis	✓		
E-003	Manufacture of aluminium: alumina refining	✓		✓
E-004	Manufacture of aluminium: aluminium smelting	✓	✓	✓
E-005	Manufacture of iron and steel	✓	✓	✓
E-006	Manufacture of basic chemicals	✓		✓
E-007	Manufacture of low-carbon liquid fuels for transportation	✓		✓
E-008	Manufacture of batteries	✓		
E-009	Manufacture of other low-carbon technologies	✓		

Future iterations of the Taxonomy will consider expanding the scope to cover economic activities that play a crucial role in the manufacturing sector of the Chinese Mainland and the region and are vital for the decarbonisation of the economy. This includes industries such as the production of cement.

Manufacture of Hydrogen

Description and Scope

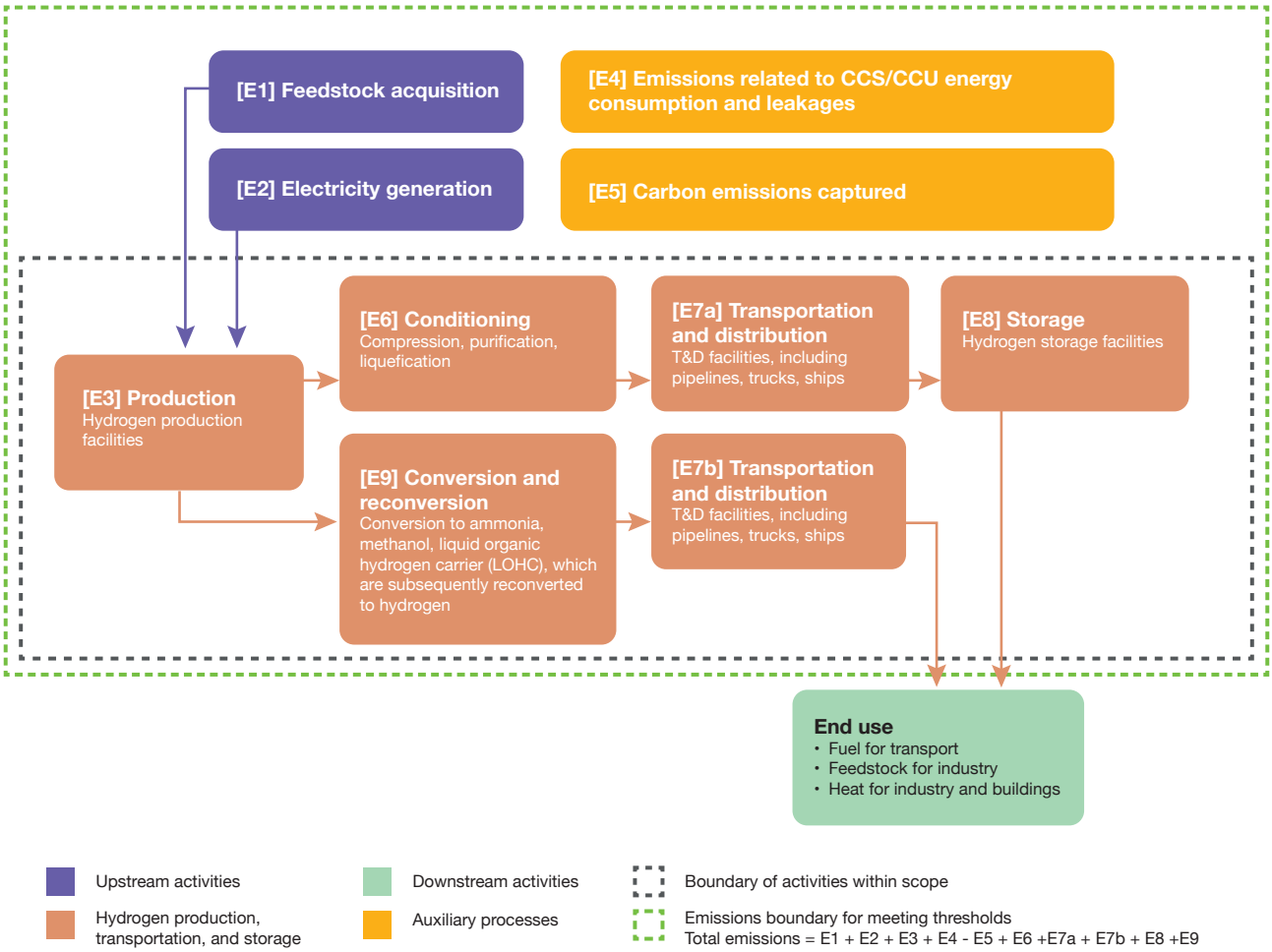
Activity boundary

The activity focuses on hydrogen as the product in scope. It covers hydrogen production, conditioning, conversion, reconversion, transportation, distribution, and storage, as depicted in Figure 2.

Emissions boundary

The emissions boundary follows a "cradle-to-site" lifecycle methodology, as depicted in Figure 2. The emissions boundary references mainstream taxonomies, relevant international and national standards, as well as the Hong Kong Government's upcoming hydrogen standard certification,[64] all of which inform the development of criteria and thresholds for this activity. Detailed guidance for conducting lifecycle emissions assessment can be found at Annex I.

Figure 2. Activity boundary and emissions boundary for hydrogen production



64 Exact certification name will be announced by the Hong Kong Government in due course.

Criteria and Thresholds

The criteria and thresholds for Green and Transition Activity focus on carbon emissions intensity rather than traditional colour-based classifications of hydrogen (for example, green, blue, grey, yellow, or pink hydrogen).[65] This is due to the general lack of consensus and scientifically verifiable distinctions for colour-based classifications.

The carbon emission thresholds are aligned with a 1.5°C decarbonisation pathway.

To reflect the development of the hydrogen production sector in Hong Kong, the Chinese Mainland and the surrounding region, the 2025 emissions threshold aligns with the Hong Kong Government's upcoming hydrogen standard certification for "green hydrogen".[66]

As for the thresholds in the years after 2025 leading up to 2050, the benchmarks from the Hydrogen Council report[67] are first referenced, which were further validated using the Massachusetts Institute of Technology (MIT) Energy Initiative's SESAME platform. While there are various hydrogen production pathways available based on energy sources, conversion technologies and transportation methods, the above methodology provides pathway-agnostic benchmarks for calculating carbon emissions intensity across years.

A single threshold, valid until the 2035 sunset date, is developed. With a view to supporting the industry's transition while considering the circumstances of Hong Kong, the Chinese Mainland and the surrounding region, this threshold is aligned with the Hong Kong Government's upcoming hydrogen standard certification for "low-carbon hydrogen".

To enable a transition towards green solutions, only electrolysis technologies, which offer the highest decarbonisation potential is eligible. However, the use of renewable energy for electrolysis is not mandatory – in other words, electricity can be sourced from the grid as long as the criteria are met.

Looking ahead, the relevant criteria under Green and Transition Activity may be reviewed and updated to cater for evolving industry circumstances and to align with any updates to the standards and thresholds under the Hong Kong Government's hydrogen standard certification.

Transition Measures focus on three categories: (1) Feedstock substitution; (2) Electrification and use of renewable and low-carbon energy; and (3) CCS/CCU deployment. Examples include using biogas or landfill gas for reforming, using renewable energy for electrolytic production, and installing carbon capture infrastructure.

Transition Measures will remain eligible until the 2035 sunset date.

65 Hydrogen is classified by colours to indicate its production method and associated carbon intensity, although there are no globally agreed thresholds for each hydrogen colour. For example, grey hydrogen is produced from fossil fuels without carbon capture.

66 The Hong Kong Government's upcoming hydrogen standard certification is being developed by the Electrical and Mechanical Services Department (EMSD) based on the alignment with the local hydrogen market conditions, referencing EU Renewable Energy Directive III ("RED III") requirements and standards of the Chinese Mainland to strive for EU's and Greater Bay Area's recognition and alignment with Hong Kong's long-term carbon reduction goals.

67 https://hydrogencouncil.com/wp-content/uploads/2021/01/Hydrogen-Council-Report_Decarbonization-Pathways_Part-1-Lifecycle-Assessment.pdf

Activity card

E-001 Manufacture of hydrogen

Sector	Manufacturing
Activity Category	Hydrogen production
Activity Description	Manufacture of hydrogen
Associated ISIC Code(s)	2011
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity complies with all of the following: **A. Emissions intensity** (1) Emissions intensity does not exceed the thresholds in Table 11, based on a lifecycle assessment (methodological notes detailed at Annex I). *Table 11. Green emissions thresholds for hydrogen production ($kgCO_2e/kg\ H_2$)*

Year	2025	2030	2040	2050
Threshold	3.384	1.5	0.6	0

B. Feedstock

If the specific feedstock is used, the relevant criteria apply:

(1) **Fossil gas**[68]**:** Monitoring, Reporting and Verification (MRV) and mitigation measures are undertaken for methane leaks on site and upstream.

(2) **Biogas**:

(a) Biomass is derived from existing supply chains and does not require dedicated production out of arable land.

(b) Only waste and residues are eligible. Wood and other dedicated crops are not eligible.

(c) MRV and mitigation measures are undertaken for methane leakages on site and upstream.

(3) **Landfill gas:**

(a) Landfill cell where gas is captured is permanently closed and will not receive waste.

(b) MRV and mitigation measures are undertaken for methane leakages on site and upstream.

C. Electricity source

If the specific electricity source is used, the relevant criteria apply:

(1) **Renewable electricity:** The use of only additional renewable electricity is demonstrated[69] – i.e. the renewable electricity used must come from new and additional sources and should not be diverted from existing uses.

68 Note: As a best practice, the use of fossil gas as a feedstock by facilities following 2030 is not recommended. It is not a criterion for the current Taxonomy, but may be further re-evaluated in future iterations.

69 Additional renewable electricity can be demonstrated through the following options: (i) renewable-based captive power generation, (ii) a power purchase agreement demonstrating a commercial link of the electrolyser with new renewable power capacity, or (iii) excess of renewable-based electricity that would have been otherwise curtailed.

Green Activity	**D. CCS/CCU deployment** (1) If CCS/CCU equipment is used on site, the captured CO_2 is suitably transported, stored, and/or utilised in line with their respective activity criteria (to be developed at a later phase). When the upcoming Hong Kong hydrogen standard certification is made publicly available, the "taxonomy aligned" label under the certification (which is based on Taxonomy requirements) will be further assessed as a suitable proxy for Taxonomy-alignment.
Transition Activity	The activity uses electrolysis technologies and complies with all of the following: **A. Emissions intensity** (1) Emissions intensity is not more than 4.86 $kgCO_2e/kg\ H_2$, based on a lifecycle assessment (methodological notes at Annex I). **B. Electricity source** (1) If renewable energy is used, complies with criteria (C) on Electricity source under Green Activity.[70] **C. CCS/CCU deployment** (1) If CCS/CCU equipment is used on site, the captured CO_2 is suitably transported, stored, and/or utilised in line with their respective activity criteria (to be developed at a later phase). The Transition Activity will sunset in 2035.
Transition Measure	The measure complies with one of the following and is implemented before the sunset date of 2035: **A. Feedstock substitution** (1) Refurbishment and retrofitting of facilities to use biogas or landfill gas. (2) Acquisition of equipment to produce hydrogen from biogas or landfill gas. Measures A(1) and A(2) must comply with criteria B(2) of Feedstock – Biogas or B(3) of Feedstock – Landfill gas under Green Activity. **B. Electrification and use of renewable and low-carbon energy** (1) Revamps, modifications, and acquisition of equipment and other infrastructure necessary for electrification. (2) Refurbishment and retrofitting of facilities to use renewable and low-carbon energy that meets the Green Activity criteria under the Energy sector (refer to Section A). (3) Acquisition of equipment to produce electrolytic hydrogen using renewable and low-carbon energy that meets the Green Activity criteria under the Energy sector (refer to Section A). **C. CCS/CCU deployment** (1) Installation, upgrade, and operation of CCS/CCU infrastructure that meet their respective activity criteria (to be developed at a later phase).
Exclusion	Facilities or measures supporting facilities which: • The dedicated energy sources are oil, coal or coal derivatives, and biomass from primary sources.[71] • The feedstock is coal or coal derivatives.

70 The use of renewable energy for electrolysis is not mandatory – in other words, electricity can be sourced from the grid as long as the criteria are met.

71 Only waste biomass sources are considered eligible.

Manufacture of equipment for the production of hydrogen through electrolysis

Criteria and Thresholds

Given its role in promoting low-carbon hydrogen, the manufacture of equipment for hydrogen production through electrolysis is automatically eligible under Green Activity.

Activity card

E-002 Manufacture of equipment for the production of hydrogen through electrolysis

Sector	Manufacturing
Activity Category	Manufacture of special-purpose machinery
Activity Description	Manufacture of equipment for the production of hydrogen
Associated ISIC Code(s)	2511, 2599, 2790, 2829
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity is automatically eligible if it complies with activity description.
Transition Activity	N/A.
Transition Measure	N/A.
Exclusion	N/A.

Annex I. Methodological notes for conducting lifecycle emissions assessments of hydrogen production

1. The life cycle assessment should follow the latest version of ISO standards[72] (ISO 14040, ISO 14044 for life-cycle assessment, ISO 14067 for product carbon footprint, or ISO 19870 for emissions by hydrogen technologies). Results should be verified by an independent third party.

2. GHG emissions must be estimated for a hydrogen purity of 99.9% vol, and a gauge pressure of at least 3 MPa.

3. The methodology factor in a Global Warming Potential for a period of 100 years (GWP_{100}) for methane should be 30.[73]

4. GHG emissions accounting:

$$\textbf{E total} = E1 + E2 + E3 + E4 - E5 + E6 + E7 + E8 + E9$$

E total: Total emissions

E1: Upstream feedstock-related emissions (This includes sourcing,[74] processing, transport, and storage. Methane leakages must be included through MRV measurements[75] where possible, or with estimations for new projects).

E2: Upstream energy-related emissions (including sourcing, processing, transport, and storage).

E3: Process direct emissions.

E4: Emissions related to CCS energy consumption and leakages.

E5: Carbon emissions captured.

E6: Conditioning emissions (energy required to compress and purify hydrogen).

E7[76]: Transportation emissions to the site where hydrogen will be used or stored (energy and electricity-related emissions and fugitive emissions during transportation).[77] If the producer is responsible for transportation, it must use primary data. If transportation is done by another party, it can use secondary data from the transporter or use estimations.

E8: Storage of hydrogen.

E9: Conversion and reconversion of hydrogen.

72 ISO 14040:2006 Environmental Management — Life Cycle Assessment — Principles and Framework: https://www.iso.org/standard/37456.html;
ISO 14044:2006 Environmental Management — Life Cycle Assessment — Requirements and Guidelines: https://www.iso.org/standard/38498.html;
ISO14067:2018 Greenhouse Gases — Carbon Footprint of Products — Requirements and Guidelines for Quantification: https://www.iso.org/standard/71206.html
ISO/TS19870:2023 Hydrogen technologies — Methodology for determining the greenhouse gas emissions associated with the production, conditioning and transport of hydrogen to consumption gate

73 Sixth Assessment Report – IPCC.

74 Depending on the feedstock, it can be extraction, cultivation, or collection.

75 Guidance for MRV is provided by the United Nations Economic Commission for Europe in its report on Best Practice Guidance for Effective Management in the Oil and Gas Sector. https://unece.org/fileadmin/DAM/energy/images/CMM/CMM_CE/Best_Practice_Guidance_for_Effective_Methane_Management_in_the_Oil_and_Gas_Sector__Monitoring__Reporting_and_Verification__MRV__and_Mitigation-_FINAL__with_covers_.pdf.

76 E7 covers E7a and E7b.

77 Transportation infrastructure emissions, such as the construction of pipelines or ships are not included.

Manufacture of Aluminium

Description and Scope

This activity covers the manufacture of **primary aluminium**, which encompasses two main processes, namely alumina refining and aluminium smelting. Each process is defined by its respective activity boundary and emissions boundary, as detailed below and illustrated in Figure 3:

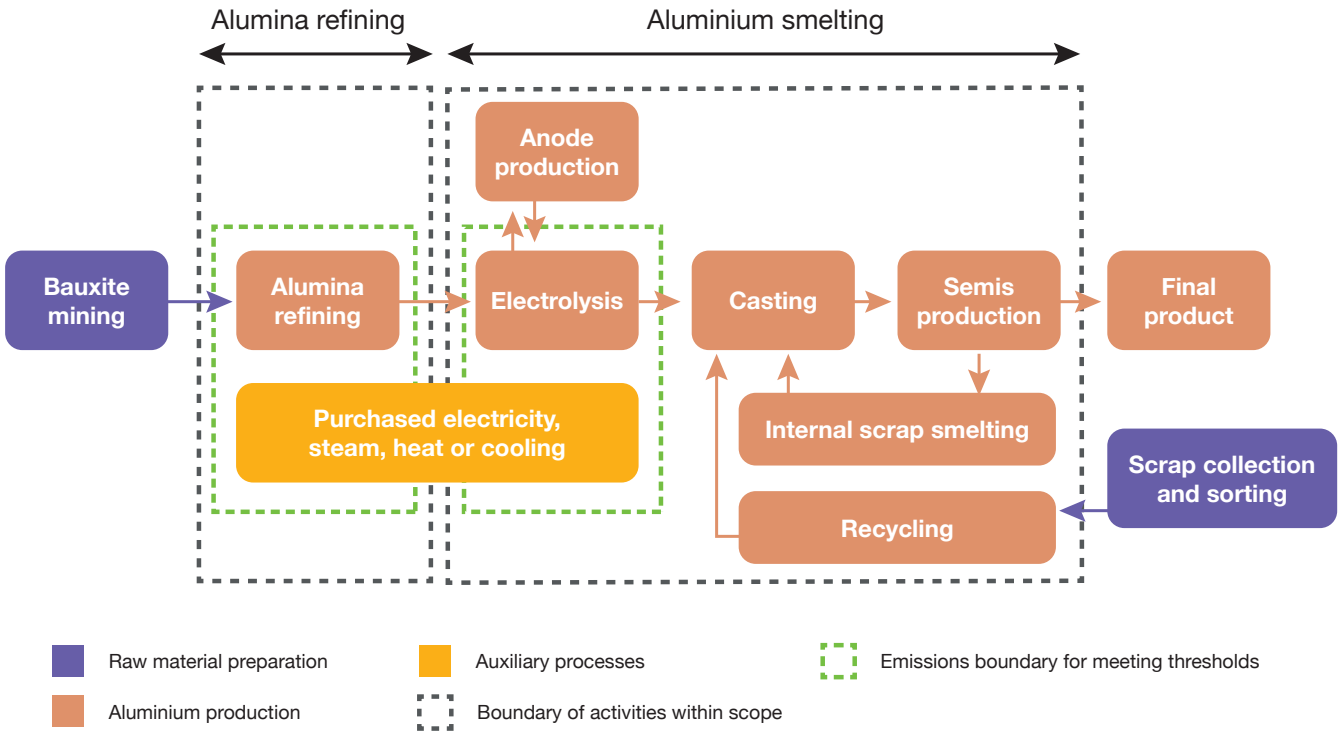
Alumina refining

- Activity boundary: The refining of raw bauxite into alumina.
- Emission boundary: All direct and indirect emissions relating to alumina refining.

Aluminium smelting

- Activity boundary: The process of extracting aluminium from alumina through electrolysis and subsequent processes to produce aluminium.
- Emission boundary: All direct and indirect emissions relating to electrolysis.

Figure 3. Activity boundary and emissions boundary for alumina refining and aluminium smelting



The production of **secondary aluminium**, which involves the recycling of aluminium scrap, is also within the activity scope.

Criteria and Thresholds

This section focuses on detailed criteria developed for the manufacture of primary aluminium, which makes up the majority of the sectoral emissions. On the other hand, secondary aluminium production does not include the same emission intensive processes and can be considered automatically eligible under Green Activity.

The thresholds for emissions are developed with reference to a 1.5°C-aligned decarbonisation pathway for manufacture of primary aluminium, as outlined by the International Aluminium Institute (IAI).[78] The decarbonisation pathway is based on an overall emissions budget, which are further allocated to the individual processes of alumina refining and electrolysis (for production of primary aluminium).

- **Alumina refining:** Emissions intensity thresholds are derived directly based on the IAI's emissions budgeting for the refining process and projections for primary aluminium demand.

- **Aluminium smelting (through electrolysis):** The EU Taxonomy threshold of 1.484 tCO_2e per tonne of aluminium (tCO_2e/t Al)[79] serves as the baseline. Percentage reductions are applied for various time periods, guided by the reduction targets specified in the IAI decarbonisation pathway.

- **Alumina refining:** There is no Transition Activity for alumina refining, in view that relevant technologies are deemed advanced enough to align with Green Activity.

- **Aluminium smelting (through electrolysis):** Within the electrolysis process, electricity consumption is the primary source of emissions, contributing over 76% of total emissions by electrolysis on a global level in 2023.[80] In light of this, the emissions thresholds under Transition Activity are designed to consider two factors: (1) electricity consumption and (2) the carbon intensity of the electricity used.

In view that the Chinese Mainland is the largest producer of aluminium globally (over 58% of the world's output in 2022),[81] its transition is a key consideration in developing transition thresholds and reference has been made to relevant electricity efficiency benchmarks related to aluminium electrolysis technologies. As regards the carbon intensity of electricity used, thresholds draw reference from the transition category of the Energy sector in the Hong Kong Taxonomy (see Section A).

Transition Activity for aluminium smelting will remain eligible until the 2035 sunset date, in line with the Energy sector.

78 https://international-aluminium.org/resources/aluminium-sector-greenhouse-gas-pathways-to-2050-2021/

79 This reflects the average value of the 10% most efficient installations in 2016 and 2017, as set out in the Annex to the Implementing Regulation (EU) 2021/447.

80 https://international-aluminium.org/statistics/greenhouse-gas-emissions-aluminium-sector/

81 https://international-aluminium.org/resources/development-of-the-aluminum-industry-and-technology-in-china/

Transition Measure

Transition Measures are specifically designed to support the decarbonisation of individual processes across the entire aluminium production chain (i.e. alumina refining and aluminium smelting). In view that electricity generation accounts for the majority of emissions across the production chain (over 58%), decarbonised power generation provides the most significant opportunity for reducing emissions.

In drawing up the Transition Measures, the industry practices in the Chinese Mainland and the region have been considered.

Transition Measures will remain eligible until the 2040 sunset date. This extended sunset date takes into account the need for abatement technologies to develop and mature, as well as the longer lead time required for industries in the Chinese Mainland and the broader region to transition effectively.

Activity cards

E-003 Manufacture of Aluminium: Alumina refining

Sector	Manufacturing
Activity Category	Alumina production
Activity Description	Refining of bauxite to produce alumina.
Associated ISIC Code(s)	2420
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity complies with the following criteria: (1) Emissions intensity does not exceed the thresholds in Table 12. *Table 12. Green emissions thresholds for alumina production (in tCO_2e/t Al)*
Transition Activity	N/A.
Transition Measure	The measure complies with one of the following and is implemented before the sunset date of 2040: (1) Fuel switching from fossil to non-fossil alternatives that meet the Green Activity criteria under the Energy sector (refer to Section A). (2) Sourcing or purchasing of renewable and low-carbon energy that meet the Green Activity criteria under the Energy sector (refer to Section A). (3) Non-grid connection to renewable and low-carbon energy that meet the Green Activity criteria under the Energy sector (refer to Section A). (4) Construction or installation of renewable and low-carbon energy captive plants that meet the Green Activity criteria under the Energy sector (refer to Section A).

2025	2030	2040	2050
2.31	2.07	0.89	0.19

Transition Measure	(5) Process upgrades to reduce emissions by >15%, compared to the facility's baseline status before the implementation of upgrades. (6) Electric digestion for alumina refining, such as electric boilers or mechanical vapour recompression. (7) Electric or hydrogen calcination. (a) If hydrogen is used, it meets the Green Activity criteria for hydrogen production under the Manufacturing sector (refer to E-001) (8) Boiler conversion for hydrogen or biomass substitution. (a) If hydrogen is used, it meets the Green Activity criteria for hydrogen production under the Manufacturing sector (refer to E-001) (b) If biomass is used, the raw material is derived from existing supply chains and does not require dedicated production on arable land. Only waste and residues are eligible, while wood and other dedicated crops are not eligible. (9) Heat recovery systems. (10) Research and development dedicated to the substantial reduction, avoidance, or removal of greenhouse gas emissions from alumina production. (11) Research and development related to capturing carbon from alumina refining steam generation or calcination processes.
Exclusion	N/A.

E-004 Manufacture of aluminium: Aluminium smelting

Sector	Manufacturing
Activity Category	Aluminium smelting
Activity Description	Smelting of alumina to produce primary aluminium, and production of secondary aluminium from scrap.
Associated ISIC Code(s)	2420, 2432
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	**Primary aluminium** The activity complies with criteria (1) and (2), or (1) and (3): (1) Emissions intensity does not exceed the thresholds in Table 13. (2) The average carbon intensity for indirect Scope 2 emissions does not exceed 100g CO_2e/kWh. (3) The electricity consumption for the manufacturing process does not exceed 15.5 MWh/t Al. Table 13. Green emissions thresholds for aluminium smelting through electrolysis (in tCO_2e/t Al)

2025	2030	2040	2050
1.484	1.185	0.520	0.311

<table>
<tr><td>Green Activity</td><td>Secondary aluminium
The activity is automatically eligible if it complies with activity description.</td></tr>
<tr><td>Transition Activity</td><td>The activity complies with the following criteria:
(1) Emissions intensity does not exceed the thresholds in Table 14.
Table 14. Transition emissions thresholds for aluminium smelting through electrolysis (in tCO_2e/t Al)
<table>
<tr><th>2030</th><th>2035</th></tr>
<tr><td>3.392</td><td>1.929</td></tr>
</table>
The Transition Activity will sunset in 2035.</td></tr>
<tr><td>Transition Measure</td><td>The measure complies with one of the following and is implemented before the sunset date of 2040:
(1) Fuel switching from fossil to non-fossil alternatives that meet the Green Activity criteria under the Energy sector (refer to Section A).
(2) Increase share of renewable and low-carbon energy and electricity that meet the Green Activity criteria under the Energy sector (refer to Section A).
(3) Non-grid connection to renewable and low-carbon energy that meet the Green Activity criteria under the Energy sector (refer to Section A).
(4) Projects to reduce perfluorocarbon (PFC) emissions.
(5) Use of inert anodes in the smelting process.
(6) New electrolytic cell design or retrofits to electrolytic cells that optimise energy efficiency, including:
(a) Adoption of stable-flow and heat-insulated electrolytic cells.
(b) Scaling up of electrolytic cells.
(c) Intelligent and digital control.
(d) Energy flow optimisation.
(e) Waste heat recovery.
(7) Research and development dedicated to the reduction, avoidance, or removal of greenhouse gas emissions from aluminium production.
(8) Research and development related to capturing carbon from aluminium smelter flue gas.</td></tr>
<tr><td>Exclusion</td><td>N/A.</td></tr>
</table>

Manufacture of basic iron and steel

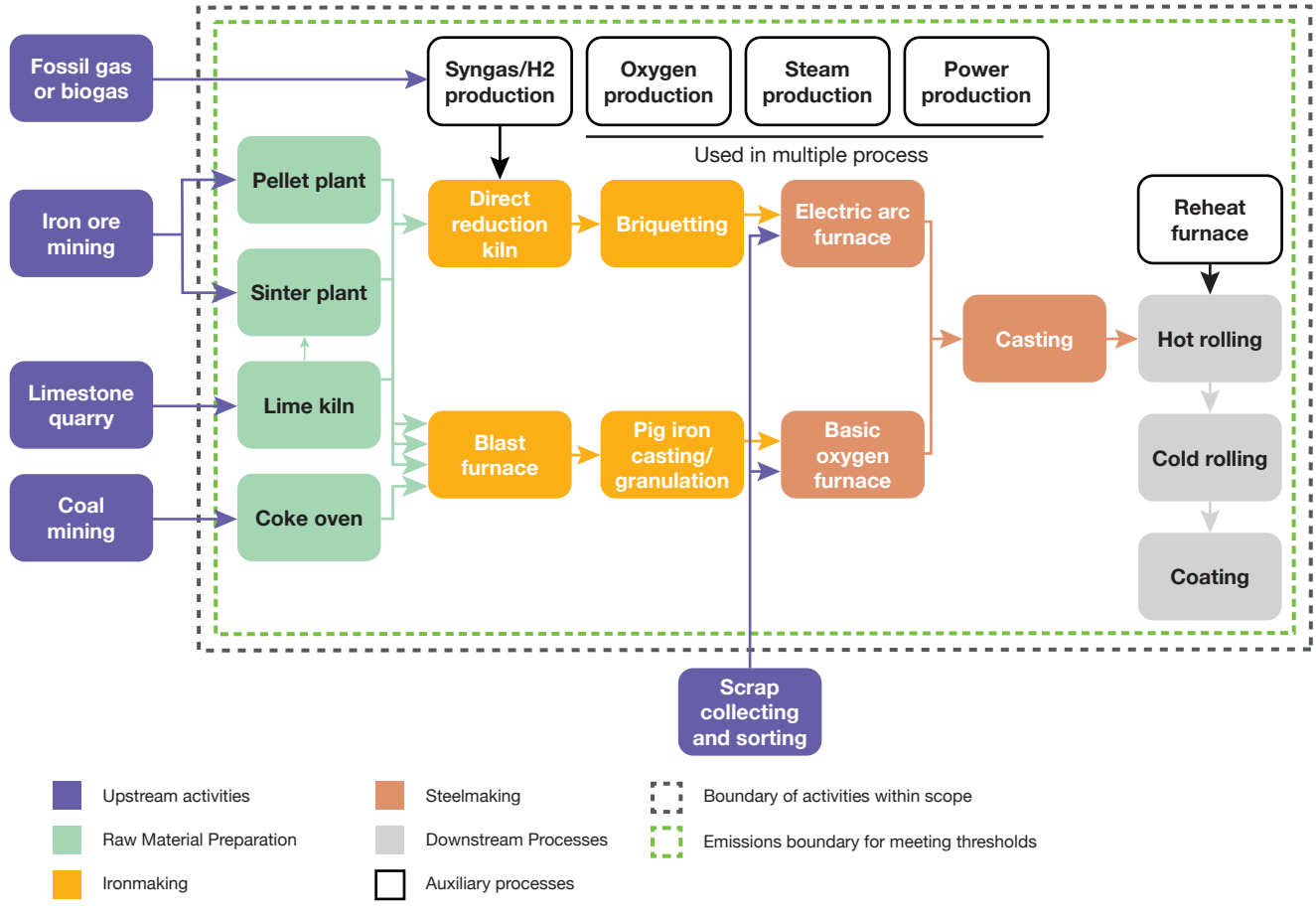
Description and Scope

The activity focuses on iron and steel as the product in scope. It covers all stages of its production, as depicted in Figure 4.

Raw material preparation (green boxes) and downstream processes (grey boxes) are scoped in only if they are carried out as part of an integrated ironmaking or steelmaking plant. Standalone raw material preparation and downstream processes activities are out of scope, as they could generate products which are unrelated to steelmaking or ironmaking.

Stainless and high alloy steels production are also out of scope, given that they have different material mixes, production routes, and emissions profiles.

Figure 4. Activity boundary and emissions boundary for iron and steel



Criteria and Thresholds

To address varying levels of data availability within the sector, two assessment pathways are provided, as set out below:

Pathway A – Emissions intensity thresholds

The thresholds reference the Sustainable Steel Principles,[82] which adapts the IEA Net Zero Emissions direct emissions pathway for the steel sector with further adjustments to include indirect emissions from electricity consumption.

In line with the Sustainable Steel Principles, a fixed boundary approach is used for emissions scoping. This approach includes emissions from a defined set of processes related to iron and steel manufacturing, regardless of whether they fall under a company's Scope 1, 2, or 3 emissions. This approach is adopted to account for the varying levels of vertical integration among iron and steel manufacturers, with operations encompassing different sets of processes. Detailed calculation methodologies are provided in Annex II.

Separate thresholds are set for primary and secondary steel.[83] This distinction aims to encourage the decarbonisation of primary steel production through clean end-state technologies, rather than relying solely on scrap utilisation, given the finite global availability of scrap.

Pathway B - Near zero production technologies

This approach focuses on the adoption of eligible low-emissions iron and steel production technologies, as listed in Table 16. The technologies, currently in development and piloting phases, are critical for enabling the steel industry to achieve near-zero emissions by 2050.

Additional requirements are specified, where appropriate, to address the challenges associated with each technology. For example, high carbon capture rates are required to meaningfully decarbonise most ironmaking and steelmaking facilities, while low-carbon hydrogen is necessary for direct reduced iron (DRI) paired with electric arc furnaces (EAF).

Additional criteria apply where specific reducing agents or fuel sources are used. For example, fossil gas can be used by existing facilities until 2035. After 2035, fossil gas is only eligible if used in combination with CCS/CCU that captures at least 70% of all emissions.

82 https://steelprinciples.org/wp-content/uploads/2025/02/alignment_zone_briefing_2025.pdf

83 Primary steel is produced from virgin raw materials, such as iron ore, whereas secondary steel is produced mainly from recycled steel scrap.

Transition Activity

The criteria accommodate existing facilities that do not yet meet the Green Activity criteria but are implementing interim decarbonisation solutions. Over time, these facilities should align with the emissions intensity thresholds under Green Activity Pathway A, or adopt near-zero production technologies under Green Activity Pathway B as they mature and become more widely available.

For Transition Activity Pathway A, the thresholds are based on the Mission Possible Partnership's Technology Moratorium scenario as set out in Sustainable Steel Principles.[84]

Transition Measure

Transition measures include both technology-specific and general measures. Examples of technology-specific measures include the optimisation of electric arc furnaces and blast furnaces, as well as a switch from blast furnaces to direct reduced iron production. General measures include heat recovery systems, fuel and feedstock switching, and CCS/CCU deployment, which are technology agnostic.

Activity card

E-005 Manufacture of basic iron and steel

Sector	Manufacturing
Activity Category	Manufacture of basic metals, casting of metals
Activity Description	Manufacture of basic iron and steel
Associated ISIC Code(s)	2410, 2431
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity complies with Pathway A or Pathway B (i.e. meeting either one of the pathways is sufficient). Additionally, it meets all the relevant criteria on reducing agent and fuel source. **Pathway A: Emissions intensity thresholds** (1) The emissions thresholds for primary and secondary steel are set out in Table 15. If a mix of primary and secondary steel is used, the emissions intensity is calculated using a weighted average approach. Guidance on calculation can be found at Annex II.

Table 15. Emissions thresholds for primary and secondary steel (tCO_2e/ t steel)

Year	2026	2030	2040	2050
Primary steel	2.09	1.81	0.90	0.12
Secondary steel	0.54	0.32	0.12	0.12

84 https://steelprinciples.org/wp-content/uploads/2025/02/alignment_zone_briefing_2025.pdf

Green Activity

Note:
If CCS/CCU equipment is used on site, the captured CO_2 is suitably transported, stored, and/or utilised in line with the Taxonomy criteria for CCS/CCU (to be developed at a later phase).

Pathway B: Near-zero production technologies

(1) If the specific technology is used, the relevant criteria apply:

Table 16. Eligible technologies and associated criteria

Technology	Criteria
Blast Furnace – Basic Oxygen Furnace (BF-BOF)	• CCS/CCU capture at least 70% of all emissions. • Captured CO_2 is suitably transported, stored, and/or utilised in line with the Taxonomy criteria for CCS/CCU (to be developed at a later phase).
Direct Reduced Iron (DRI)	If fossil gas-based: • CCS/CCU capture at least 70% of all emissions. • Captured CO_2 is suitably transported, stored, and/or utilised in line with the Taxonomy criteria for CCS/CCU (to be developed at a later phase). If 100% hydrogen-based: • The hydrogen used meets the Green Activity criteria for hydrogen production (refer to E-001).
Direct Reduced Iron - Electric Arc Furnace (DRI – EAF)	
Scrap-based Electric Arc Furnace (EAF)	• Use 70%[85] scrap as total annual metallic inputs. OR • The combined input of scrap and 100% hydrogen-based DRI (hydrogen used meets the Green Activity criteria for hydrogen production (refer to E-001) account for at least 70% of the EAF's total annual metallic inputs.
Smelting reduction	• CCS/CCU capture at least 70% of all emissions. • Captured CO_2 is suitably transported, stored, and/or utilised in line with the activity criteria for CCS/CCU (to be developed at a later phase).

Reducing agent and/or fuel source

If the specific reducing agent and/or fuel source is used, all the relevant criteria apply:

(1) **Fossil gas** or **coal**:

(a) Only eligible for existing facilities until 2035. After 2035, the use of fossil gas must be combined with CCS/CCU that capture at least 70% of all emissions. Additionally, captured CO_2 is suitably transported, stored and/or utilised in line with the Taxonomy criteria (to be developed at a later phase).

(b) MRV (Monitoring, Reporting and Verification) and mitigation measures are undertaken for methane leaks on site and upstream.[86] Venting or burning within the steel plant should be avoided, except in emergency situations, in such case it shall be reported and accounted for in the GHG assessment.

(2) **Hydrogen:** Meets the Green Activity criteria for hydrogen production (refer to E-001)

85 Close to the global average use of scrap within EAF plants, https://www.sciencedirect.com/topics/engineering/electric-arc-furnace#:~:text=1.2%20Role%20of%20Recycling%20and,in%20EAFs%20in%20some%20countries.

86 Guidance for MRV is provided by the United Nations Economic Commission for Europe in its report on Best Practice Guidance for Effective Management in the Oil and Gas Sector

Green Activity

(3) **Biomass**:

(a) Derived from existing supply chains and does not require dedicated production out of arable land.

(b) Falls under (i) or (ii) for reducing agents, and falls strictly under (i) for fuel sources:

(i) Agricultural residues: only waste and residues are eligible, while wood and other dedicated crops are not eligible.

(ii) Plantation wood: International Sustainability and Carbon Certification (ISCC), Forest Stewardship Council (FSC), Sustainable Biomass Programme (SBP), or Green Gold Label (GGL) is obtained, along with a confirmation that no peatlands have been converted since 2010. Alternatively, a "Certified Steel" label from ResponsibleSteel[87] is obtained.

Transition Activity

The activity complies with Pathway A or Pathway B (i.e. meeting either one of the pathways is sufficient).

Pathway A: Emissions intensity thresholds

(1) The emissions thresholds for primary and secondary steel are set out in Table 17. If a mix of primary and secondary steel is used, the emissions intensity is calculated using a weighted average approach. Guidance on calculation can be found at Annex II.

Table 17. Emissions thresholds for primary and secondary steel (tCO_2e/ t steel)

Year	2025	2030
Primary steel	2.22	2.04
Secondary steel	0.62	0.42

Note:
If CCS/CCU equipment is used on site, the captured CO_2 is suitably transported, stored, and/or utilised in line with the Taxonomy criteria for CCS/CCU (to be developed at a later phase).

Pathway B: Lower emissions production technologies

The activity complies with (1) or (2):

(1) The specific technology complies with the relevant criteria in Table 18. This can be achieved by implementing Transition Measures, additional decarbonisation technologies/processes listed in Annex III,[88] or a combination of both.

(2) The facility uses CCS/CCU, with a minimum capture rate of 20% of all emissions. Captured CO_2 is suitably transported, stored, and/or utilised in line with the Taxonomy criteria for CCS/CCU (to be developed at a later phase).

Table 18. Eligible technologies and associated criteria

Technology	Criteria
Electric Arc Furnace (EAF)	• Increase the use of renewable and low-carbon energy that meets the Green Activity criteria under the Energy sector (refer to Section A). This can be achieved through different strategies such as: (a) Increasing renewable-based and low-carbon captive power generation. (b) Increasing renewable-based and low-carbon power purchase agreements.

87 https://www.responsiblesteel.org/become-certified

88 For avoidance of doubt, the technologies/processes listed in Annex II cannot be treated as Transition Measures under the Taxonomy. They should be considered as part of an integrated strategy in meeting Transition Activity requirements at the facility level.

Transition Activity

Technology	Criteria
Blast Furnace (BF)	• Reduce the facility's emissions intensity (tCO_2/t steel) by: (a) 15% if facility is operational for 15 years or less, is not undergoing relining, and has a baseline emissions intensity < $2tCO_2e$/t steel. (b) 20% if the facility is operational for 15 years or less, is not undergoing relining, and has a baseline emissions intensity ≥ $2tCO_2e$/t steel. (c) 50% if the facility is operational for more than 15 years and/or is undergoing relining. • For (c), the taxonomy-aligned investment cannot be used for relining. • Reductions have to be achieved by 2035.
Smelting reduction	• Reduce the facility's emissions intensity (tCO_2/t steel) by: (a) 20% if fossil gas-based. (b) 40% if coal-based. • Reductions have to be achieved by 2035.
Direct Reduced Iron (DRI)	

The Transition Activity will sunset in 2035.

Transition Measure

The measure complies with one of the following and is implemented before the sunset date of 2040:

(1) Replacement of blast furnace with direct reduced iron production.

(2) Optimisation of electric arc furnace, including the installation, upgrade, and operation of:

- (a) Oxyfuel burners.
- (b) Electric arc furnace scrap preheating.
- (c) Combined heat and power from waste heat.
- (d) Short process electric furnace steelmaking.
- (e) Steam-balancing and control technology to improve innovation & application of interface energy efficiency.
- (f) Increase recycling & re-utilisation of scrap steel.

(3) Installation, upgrade, and operation of heat recovery systems.

(4) Installation, upgrade, and operation of advanced sensors and digitised control equipment and systems that enhance energy efficiency and/or reduce emissions, including:

- (a) Establishment of energy management centres, including the use of new-gen IT systems such as 5G, big data, AI, and cloud computing.
- (b) Construction of intelligent control and evaluation platform for carbon emissions throughout the process.
- (c) Advanced planning and scheduling technology.
- (d) Intelligent combustion system for hot blast stoves and heating furnaces.
- (e) Gas prediction and dispatch optimisation.
- (f) Digital twin technology for blast furnace.
- (g) Adopt multiple energy optimisation system, multi-flow coupling, and self-balancing technologies.

Transition Measure	(5) Installation, upgrade, and operation of CCS/CCU infrastructure that meet the Taxonomy criteria (to be developed at a later phase). (6) Installation, revamp, or modifications of equipment needed for the production of steel using hydrogen or biomass as reducing agent, which complies with all the relevant criteria listed in Green Activity. (7) Increase share of renewable and low-carbon energy and electricity that meet the Green Activity criteria under the Energy sector (refer to Section A) through captive power generation and/or power purchase agreements, including: (a) Distributed solar PV technology. (b) Thermal storage for peak shaving. (8) Revamps, modifications and acquisition of equipment and other infrastructure necessary for the electrification of reheating furnacing. (9) Research and development / prototype testing for low carbon steel production processes including but not limited to electric smelting furnaces. (10) Research and development into processes that enable the input of hematite ores into low carbon steel production processes.
Exclusion	Facilities or measures which uses: • Coal for on-site electricity generation[89]

89 For avoidance of doubt, grid electricity is allowed.

Annex II. Methodological notes for calculating emissions intensity of iron and steel production

(a) Scope of emissions considered

The fixed boundary includes emissions from raw materials and reductants preparation, steelmaking, casting, hot rolling and auxiliary processes such as the use of process gases to produce electricity. On the other hand, processes like iron ore mining (upstream) and transport (upstream and downstream) are considered outside of the emission boundary (refer to Figure 4).

(b) Calculation of the actual emissions of iron and steel production[90]

Step	Description
1. Calculation of the overall emissions within the fixed boundary Refer to Equation 1 below	**1a.** • For each emissions source (i.e., t), emissions can be calculated by multiplying the respective emissions factors (i.e., K) with the amount of fuel or energy used (i.e., Q). • Emissions sources can be further split into direct (i.e., d), or indirect (i.e., i), depending on whether emissions occur within or beyond the plant respectively. A full list of direct and indirect emissions factor is provided in Appendix XII.1 of the Sustainable Steel Principles, 2025. o For example, direct emissions sources include coking coal, with a direct emissions factor of 3.06tCO_2/t. o Indirect emissions sources include sinters, with an indirect emissions factor of 0.262tCO_2/t.
	1b. • Separately, emissions attributed to the production from certain intermediate products (i.e., c) can be discounted from the overall emissions. Such intermediate products are not currently used but are instead exported and usable in the steel supply chain. They include pellet, sinter, lime, and coke, and a full list is provided in Appendix XII.1. of the Sustainable Steel Principles (2025). o For example, in the case where x% of the total pellet production is exported (instead of being consumed by the current plant), x% of the total emissions from pellet production can be subtracted.
2. Conversion of overall emissions into emissions intensity Refer to Equation 2 below	The calculation in Step 1 provides an overall emissions figure (i.e., E_{CO2}). This should be converted to an intensity figure (i.e., I_{CO2}) by dividing by the tonnes of steel produced (i.e., M_{total}).

90 https://steelprinciples.org/wp-content/uploads/2025/02/ssp_framework_2025.pdf

Equation 1.

$$E_{CO2} = \sum^{N}_{t=1} K_{t,d,CO2} \times Q_{t,d,CO2} + \sum^{N}_{t=1} K_{t,i,CO2} \times Q_{t,i,CO2} - \sum^{N}_{t=1} K_{t,c,CO2} \times Q_{t,c,CO2}$$

The calculation procedure is adapted from and expanded based on the ISO 14404 series, i.e., the standard used by the steel industry to calculate emissions at the plant level.

E_{CO2}: overall emissions

t (from 1 through N): refers to each fuel, energy, or other emissions sources

K: refers to emissions factors, expressed as tCO_2/unit (see Appendix XII.1 of the Sustainable Steel Principles, 2025)

Q: refers to the number of units of each fuel, energy, or other emission sources

d: direct – refers to emissions from fuel sources and electricity use occurring within a steel plant, where the emissions factor is defined based on the carbon intensity of that fuel source/electricity generation

i: indirect – refers to emissions that occur outside of a steel plant, including imported pellets and downstream processes such as rolling (note that transport emissions are not included). These emissions should be determined by the relevant producer/consumer and transferred to the steel company. Where this is not possible, average emissions factors can be used.

c: refer to credit emissions from intermediate products which are exported from a plant and usable in the steel supply chain (see Appendix XII.1 of the Sustainable Steel Principles, 2025)

Equation 2.

$$I_{CO2} = E_{CO2} / M_{total}$$

I_{CO2}: emissions intensity

E_{CO2}: overall emissions

M_{total}: tonnes of steel produced

(c) Calculation of emissions intensity using a weighted average approach

Emissions intensity thresholds for Green Activity and Transition Activity (outlined in Table 15 and Table 17 respectively) include primary steel production assuming no use of steel scrap, as well as secondary steel production assuming a complete use of steel scrap. For mixed production using both raw material and steel scrap, the relevant thresholds in Table 15 or Table 17 can be adjusted by applying a weighted average based on the percentage of steel scrap used. The emissions intensity of the activity should then be assessed against this calculated threshold.

The equation for calculating the final weighted average threshold is as follows.

$$Threshold_{final} = (Threshold_{primary} * (1 - Proportion_{steel\ scrap})) + (Threshold_{secondary} * Proportion_{steel\ scrap})$$

$Threshold_{final}$: Final weighted average threshold, based on percentage of steel scrap, to be used for assessing the emissions performance of the iron and steel production

$Threshold_{primary}$: Applicable threshold for primary steel production (refer to Table 15 or Table 17)

$Threshold_{secondary}$: Applicable threshold for secondary steel production (refer to Table 15 or Table 17)

$Proportion_{steel\ scrap}$: Percentage of steel scrap of total annual metallic input

Worked example: In 2026, an iron and steel facility uses 35% steel scrap and 65% raw iron ore as the total annual metallic inputs.

- The final weighted-average Green Activity threshold that the activity should comply with is (2.09*(1-0.35) + 0.54*0.35) = 1.5475.

Annex III. Additional decarbonisation technologies and processes

Interventions to decarbonise iron and steel manufacturing are categorised either as Transition Measures (outlined within the activity card), or as additional decarbonisation technologies and processes (outlined in this section).

- Transition Measures can be invested as standalone measures as they represent solutions that encourage a switch to more efficient types of production technologies; influence emissions reduction and energy efficiency improvements at the overall facility level; and/or can be further scaled in future for greater levels of decarbonisation.

- Additional decarbonisation technologies and processes target more granular and specific processes. They are typically bundled to achieve substantial decarbonisation and to reduce the risks of carbon lock-in through the adoption of less efficient technologies.

For the avoidance of doubt, this section includes further granular technologies and processes that cannot be considered standalone Transition Measures but can be adopted in tandem (e.g. a basket of Transition Measures and decarbonisation technologies and processes) as an integrated strategy to meet Green and Transition Activity emissions intensity or reduction requirements.

Table 19. Non-exhaustive list of specific decarbonisation technologies and processes

Category	Decarbonisation technologies and processes
Optimisation of blast furnace	• Pulverised coke injection • Enrichment of blast oxygen content • Top pressure equalising gas recovery and recycling • Pre-heating of blast furnace gas and combustion-supporting air using waste heat • Blast furnace gas recycling through co-firing • Oxygen ignition • Stove waste gas heat recovery
Optimisation of basic oxygen furnace	• Dry purification and recovery of BOF converter flue gas and sensible heat • Utilisation of CO_2 as bottom blowing gas
Optimisation of coke plant	• Coal moisture control • Coke dry quenching
Optimisation of pellet/ sinter plant	• Flux pellet manufacturing • High proportion pellet smelting • Pre-heating of sintering mixture with waste heat • Comprehensive management of sintering leakage rate • Water-sealed sintering ring cooler • Cold pressed pelletising/concentration of sinter return ore • Sintering flue gas circulation • Ultra-thick sintering feedstock layer

Category	Decarbonisation technologies and processes
Optimisation of casting	• Near net-shape casting • Thin strip casting and rolling • Hot charging/delivery of ingots • In-situ heating
Optimisation of rolling and finishing and reheat furnace	• High efficiency burner • Flue gas monitoring • Combustion optimisation • Endless rolling of hot rolled strip • In-situ heating
Others	• Energy efficient auxiliary equipment, including: o Motors o Transformers o Pumps o Fans o Permanent magnet generators, permanent magnet speed regulators

Manufacture of basic chemicals

Description and Scope

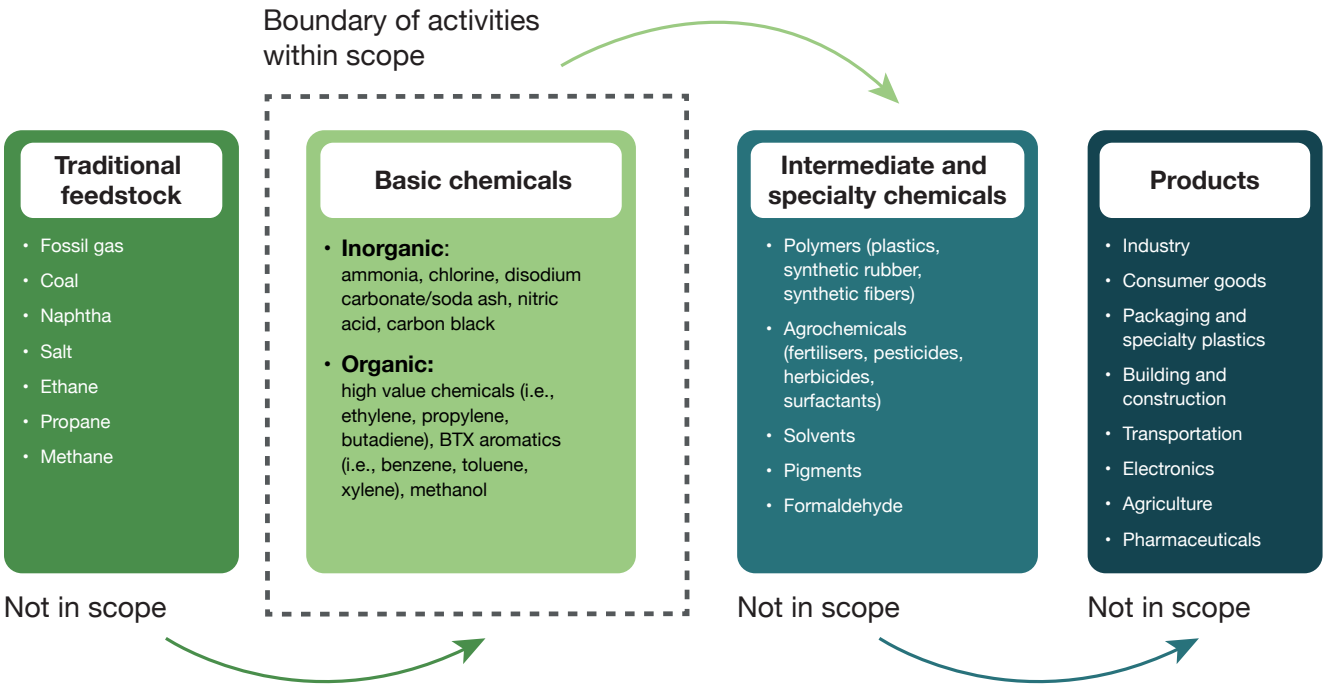
The activity focuses on basic chemicals as the product in scope. Based on a value chain categorisation (refer to Figure 5), the activity boundary is designed to accelerate the decarbonisation of the basic building blocks within the chemical sector.

Specifically, the activity covers assets and activities involved in the production of the following eligible organic and inorganic basic chemicals:

- **Inorganic basic chemicals**: ammonia, chlorine, disodium carbonate/soda ash, nitric acid, carbon black.
- **Organic basic chemicals**: high value chemicals (i.e. ethylene, propylene, butadiene), BTX aromatics (i.e. benzene, toluene, xylene), methanol.

Considering that facilities may produce multiple chemical outputs, a facility is considered in-scope only if **at least 50% of its annual production volume**[91] comprises basic chemicals within the scope of the Taxonomy. This is to safeguard against investments being channelled into facilities with significant production of out-of-scope products with high carbon intensities. Out-of-scope products should be excluded from Taxonomy assessment.

Figure 5. Activity boundary for basic chemicals



91 Where a facility produces multiple in-scope basic chemicals through shared production processes and emissions cannot be separately identified for each product, the aggregate emissions of the shared production processes may be apportioned among the basic chemical products based on their respective annual production volumes.

Criteria and Thresholds

The Green Activity evaluates three parameters, namely emissions intensity, feedstock, and fuel source.

On emissions intensity, the thresholds are established by using the EU Taxonomy as a baseline[92] and applying the 1.5°C-aligned decarbonisation pathway for the chemical sector developed by Teske et al. (2022).[93] Under this framework, all basic chemicals are projected to decarbonise at uniform rates across different time periods in percentage terms over time,[94] irrespective of their individual starting emission intensities.

To account for specific production processes and decarbonisation levers, some deviations from the above general approach are made for certain products:

- **High value chemicals (HVCs)**: The baseline starting threshold is derived from a study by the IEA, ICCA, and DECHEMA[95] rather than the EU Taxonomy as the relevant study provides a more ambitious starting point. The decarbonisation trajectory by Teske et al. is subsequently applied to this baseline to calculate the specific targets for 2030, 2040, and 2050.

- **Chlorine**: An electricity consumption intensity metric (i.e. MWh electricity/t chlorine) or electricity emissions intensity metric (i.e. gCO_2e/kWh) can be used instead of a facility emissions intensity metric (i.e., tCO_2e/t chlorine), given that electricity used for electrolysis is the main driver of CO_2 emissions. The threshold on electricity consumption intensity for 2026 is based on the EU Taxonomy, while that for 2030 is based on an updated electricity consumption value proposed in a study by the European Commission.[96] The thresholds for 2040 and 2050 are set to scale the use of renewable power.

- **Ammonia and methanol**: The criteria are related to the use of low-carbon hydrogen (refer to E-001), given that emissions mainly arise from the production of hydrogen used as a key feedstock.

As regards feedstock and fuel source, the Taxonomy provides criteria for the use of fossil gas, hydrogen, and biomass. The use of fossil gas is restricted to existing facilities and is permitted only until 2035 to support the decarbonisation of ongoing industrial operations.

92 The thresholds used in the EU Taxonomy are set to match the average GHG emissions of the top 10% most efficient installations in 2016 and 2017 within the EU for the corresponding chemical product.

93 Sven Teske et al., "1.5 °C Pathways for the Global Industry Classification (GICS) Sectors Chemicals, Aluminium, and Steel," SN Applied Sciences/SN Applied Sciences 4, no. 4 (April 1, 2022), https://doi.org/10.1007/s42452-022-05004-0.

94 Teske's pathway estimates a total reduction in carbon emission by 85% by 2050, compared to 2009 levels. This is comprised of various decarbonisation rates – the annual reduction rates up till 2030, 2040, and 2050 are 4.7%, 3.5%, and 2.7% respectively, all compared to 2009 levels.

95 DECHEMA/IEA/ICCA 2013. Technology Roadmap – Energy and GHG Reductions in the Chemical Industry via Catalytic Processes. See also Annexes. http://dechema.de/en/industrialcatalysis.html

96 Ravi Kantamaneni et al., "Support Study for the Preparation of Energy Efficiency Benchmarks in the Context of the Revised ETS State Aid Guidelines," report (European Commission, 2021), https://competition-policy.ec.europa.eu/system/files/2021-11/kd0121322enn_ETS_efficiency_benchmarks.pdf

Transition Activity is currently not developed due to a lack of robust, credible, and comparable decarbonisation trajectories. In future, as local benchmarking and pathways are made available, they can be considered for the Taxonomy.

Meanwhile, eligible Transition Measures focus on four categories: (1) use of clean feedstock, (2) use of clean electricity, (3) process improvements, and (4) CCS/CCU deployment. Examples include using eligible hydrogen, biomass, and recycled materials as feedstock; electrification and use of renewable and low-carbon energy; implementing energy efficiency measures and switching to low carbon process technologies; and installing carbon capture infrastructure.

All Transition Measures are eligible until 2040.

Activity card

E-006 Manufacture of basic chemicals

Sector	Manufacturing
Activity Category	Manufacture of basic chemicals, fertilizers and nitrogen compounds, plastics and synthetic rubber in primary forms.
Activity Description	Manufacture of the following basic chemicals: • Ammonia* • Methanol* • Nitric acid • Chlorine • Carbon black • Disodium carbonate/ soda ash • High value chemicals (i.e. ethylene, propylene, butadiene) • BTX Aromatics (i.e. benzene, toluene, xylene) * This activity excludes the manufacture of ammonia and methanol for use as a transportation fuel, which is covered under E-007.
Associated ISIC Code(s)	2011, 2012
Criteria and Thresholds	
Environmental Objective	Climate change mitigation

Green Activity

The facility has at least 50% of its annual production volume comprising eligible basic chemicals. The relevant criteria under (A) and (B) must be met.

A. Emissions intensity

(1) The facility meets the relevant thresholds set out in Table 20 based on the scope of emissions specified for each chemical (refer to Table 21).

Table 20. Green emissions and energy intensity thresholds for basic chemical production

Asset type	Criteria			
	2026	2030	2040	2050
Ammonia	Complies with (a) or (b), and (c): (a) Uses hydrogen as feedstock. The hydrogen meets the Green Activity criteria under Manufacture of hydrogen (refer to E-001). (b) Ammonia is recovered from wastewater. (c) CO_2 from ammonia production is not used for urea production.			
Methanol	Uses hydrogen as feedstock. The hydrogen meets the Green Activity criteria under Manufacture of hydrogen (refer to E-001).			
Nitric acid	0.038 t CO_2e/t nitric acid (refer to Table 21)	0.021 t CO_2e/t nitric acid (refer to Table 21)	0.011 t CO_2e/t nitric acid (refer to Table 21)	0.007 t CO_2e/t nitric acid (refer to Table 21)
Chlorine	Complies with (a) or (b): (a) 2.45 MWh electricity/t chlorine (refer to Table 21) (b) Carbon intensity of the electricity used meets the Green Activity thresholds for the Energy sector (refer to Table 3)	Complies with (a) or (b): (a) 1.85 MWh electricity/t chlorine (refer to Table 21) (b) Carbon intensity of the electricity used meets the Green Activity thresholds for the Energy sector (refer to Table 3)	Carbon intensity of the electricity used meets the Green Activity thresholds for the Energy sector (refer to Table 3)	
Carbon black	1.141 t CO_2e/t carbon black (refer to Table 21)	0.63 t CO_2e/t carbon black (refer to Table 21)	0.34 t CO_2e/t carbon black (refer to Table 21)	0.20 t CO_2e/t carbon black (refer to Table 21)
Disodium carbonate/ soda ash	Complies with (a) and (b): (a) 0.789 t CO_2e/t disodium carbonate/ soda ash (refer to Table 21)	Complies with (a) and (b): (a) 0.44 t CO_2e/t disodium carbonate/ soda ash (refer to Table 21)	Complies with (a) and (b): (a) 0.23 t CO_2e/t disodium carbonate/ soda ash (refer to Table 21)	Complies with (a) and (b): (a) 0.14 t CO_2e/t disodium carbonate/ soda ash (refer to Table 21)

Green Activity

Asset type	Criteria			
	2026	2030	2040	2050
Disodium carbonate/ soda ash	(b) Carbon intensity of the electricity used meets the Green Activity thresholds for the Energy sector (refer to Table 3)	(b) Carbon intensity of the electricity used meets the Green Activity thresholds for the Energy sector (refer to Table 3)	(b) Carbon intensity of the electricity used meets the Green Activity thresholds for the Energy sector (refer to Table 3)	(b) Carbon intensity of the electricity used meets the Green Activity thresholds for the Energy sector (refer to Table 3))
High-value chemicals (i.e. ethylene, propylene, butadiene)	0.51 t CO_2e/t high-value chemical (refer to Table 21)	0.28 t CO_2e/t high-value chemical (refer to Table 21)	0.15 t CO_2e/t high-value chemical (refer to Table 21)	0.09 t CO_2e/t high-value chemical (refer to Table 21)
Aromatics BTX (i.e. benzene, toluene, xylene)	0.0072 t CO_2e/t aromatics BTX[97] (refer to Table 21)	0.0040 t CO_2e/t aromatics BTX[97] (refer to Table 21)	0.0021 t CO_2e/t aromatics BTX[97] (refer to Table 21)	0.0012 t CO_2e/t aromatics BTX[97] (refer to Table 21)

Table 21. Scope of emissions relevant to each basic chemical

Nitric acid; Disodium carbonate/ Soda ash	**Scope 1** emissions, which include all direct emissions from the production processes, such as emissions generated during the chemical reactions and emissions from fuel combustion on-site.
Carbon black; High value chemicals; Aromatics	**Scope 1** as defined above, and **Scope 2** emissions, which include indirect emissions from the energy imported from off-site.
Methanol; Ammonia	Associated GHG emissions counted as the **life cycle emissions of hydrogen** used as feedstock.
Chlorine	Only **electricity consumption intensity** is within scope. No GHG accounting is required for chlorine.

B. Feedstock and fuel source

If the specific feedstock or fuel source is used, the relevant criteria apply:

(1) **Fossil gas**: Only eligible for existing facilities prior to 2035.

(2) **Hydrogen**: The hydrogen used meets the Green Activity criteria under Manufacture of hydrogen (refer to E-001).

(3) **Biomass**:

(a) Derived from existing supply chains and does not require dedicated production out of arable land.

(b) Only waste and residues are eligible, while wood and other dedicated crops are not eligible.

Transition Activity

N/A.

97 BTX are measured as complex weighted throughput to account for the complexity and energy intensity of individual production processes. Refer to: Concawe, "Developing a Methodology for an EU Refining Industry CO_2 Emissions Benchmark," December 21, 2022, https://www.concawe.eu/publication/report-no-912/.

Transition Measure

The measure is implemented in a facility which has at least 50% of annual production volume comprising eligible basic chemicals. Additionally, the measure complies with one of the following and is implemented before the sunset date of 2040.

A. Feedstock substitution

(1) Refurbishments, retrofitting, and acquisition of facilities or equipment to use one of the following feedstock:

(a) Hydrogen which complies with criterion B(2) of Feedstock – Hydrogen under Green Activity.

(b) Biomass which complies with criterion B(3) of Feedstock – Biomass under Green Activity.

(c) CO_2 which complies with all of the following:

(i) The source is from direct emissions from chemical production or other industrial activities.

(ii) The basic chemical is used for the production of durable products (for example, construction materials stored in buildings or recyclable products such as PET). The basic chemical cannot be used for products that release CO_2 immediately when used (for example, urea, carbonated beverages, or fuels).

(iii) CO_2 is not used for enhanced oil recovery and the production of other forms of fossil energy sources.

(iv) In cases where hydrogen is used for relevant electrochemical processes, the hydrogen must comply with the Green Activity criteria for hydrogen production under the Manufacturing sector (refer to E-001).

(d) Recycled material (e.g. chemical recycling of plastic feedstocks for high value chemicals and BTX production within scope) which complies with all of the following:

(i) Represent at least 20%[98] of the total feedstock used at the facility level.

(ii) Have lower cradle-to-gate emissions than the virgin material.

B. Electrification and use of renewable and low-carbon energy

(1) Revamps, modifications, and acquisition of equipment (including furnaces, reactors, separators) and other infrastructure necessary for electrification.

(2) Revamps, modifications, and acquisition of infrastructure or equipment (including boilers, furnaces, burners) to use renewable and low-carbon energy that meets the Green Activity criteria under the Energy sector (refer to Section A).

C. Process improvements

(1) Revamps, modifications, or acquisition of equipment that result in at least a 30%[99] improvement in energy efficiency at the individual facility level, compared with the facility's baseline prior to the implementation of measures (refer to Table 22 under Annex IV for a non-exhaustive list of process improvement solutions for reference).

(2) Revamps, modification, or acquisition of equipment and other infrastructure needed for the implementation and operation of low carbon process technologies which do not release direct process CO_2 emissions, e.g., methane pyrolysis, catalytic partial oxidation of methane to methanol.

(3) Installation, upgrade, and operation of heat recovery systems.

(4) Installation, upgrade, and operation of advanced sensors and digitised control equipment and systems that enhance energy efficiency and/or reduce emissions.

D. CCS/CCU deployment

(1) Installation, upgrade, and operation of CCS/CCU infrastructure that meet their respective activity criteria (to be developed at a later phase).

98 In regions with more stringent local recycling regulations, national/ regional recycling content thresholds should prevail.

99 As determined under the Zero-Emission Pathway for the Global Chemical and Petrochemical Sector by the International Renewable Energy Agency (IRENA), energy efficiency improvements could contribute to 33% of total sectoral emissions reductions. https://www.mdpi.com/1996-1073/14/13/3772#B36-energies-14-03772

Excluded	Facilities or measures which: • The energy sources are coal or coal derivatives, dedicated crops, primary organic streams, and wood. • The feedstock is coal or coal derivatives.

Annex IV. Supplementary list of process improvement solutions

This section provides a non-exhaustive list of granular technologies and processes that facilities can adopt as part of an integrated strategy to achieve tangible decarbonisation outcomes.

Any individual process improvement solution or basket of solutions at Table 22, along with other solutions not listed in the Taxonomy, is considered eligible and Taxonomy-aligned, provided that it achieves at least a **30% improvement in energy efficiency**[100] at the individual facility level (refer to Transition Measures, C1).

Table 22. Non-exhaustive list of process improvement solutions by type of basic chemical

Ethylene	• Forced draught burners. • Furnace tube enhanced heat transfer technology, including twisted sheet tubes. • Online decoking technologies. • High efficiency soot blowers. • High-quality heat insulation and cold retention materials, including plastic refractory materials, ceramic fiber linings, and high-temperature insulation paints. • Quenching oil tower intermediate reflux technology. • Advanced viscosity reducing tower technology. • Low-pressure water coolers between cracking gas compressors. • Cooling through low temperature ethane and propane. • High efficiency and integrated heat pumps. • Transformation/ optimisation of steam power systems, circulating water pumps, condensate recovery systems, and hydrogen compressors to mitigate excessive low-pressure steam discharge and large power consumption.
Xylene	• Integrated heavy grid “four-in-one” multi-functional systems. • High efficiency separation in distillation columns, including enlarged dividing wall tower, high-efficiency tower plates. • High efficiency adsorption, including simulated moving bed adsorption separation. • Advanced crystallisation separation technology, including two-stage reslurry crystallisation. • Extract-phase xylene isomerisation technology. • High efficiency heat exchange, including wound tube heat exchangers, high-flux tube heat exchange tubes, high-efficiency air cooling equipment. • Optimised heat integration, including pinch point technology and process flow heat combination. • High efficiency machine pumps and motors.

100 Ibid.

Methanol	• High efficiency gasifiers, syngas purifiers, synthesis reactors, distillation systems, compressors, transformers, pumps, and motors. • High efficiency, low-pressure drop heat exchangers for improved heat exchange. • Optimised heat integration, including high efficiency heat pumps, pinch point technology, process flow heat combination, and energy cascade utilisation. • Multi-source exhaust gas collection system with optimised airflow distribution and energy-efficient control.
Carbon black	• Intelligent pyrolysis of rubber waste tires. • High efficiency pumps and motors. • High efficiency, low-pressure drop heat exchangers for improved heat exchange. • Multi-source exhaust gas collection system with optimised airflow distribution and energy-efficient control.
Soda ash	• Use of flotation tail salt for further soda ash production. • Ammonium chloride dry gas circulation. • Wet decomposition process. • Efficient carbonisation towers. • Secondary separation. • Efficient filter systems, including horizontal belt filters in replacement of drum filters; centrifuge filtration; pressure filtration. • Cold salting crystallisers. • One step dense soda ash technology. • Efficient calcination furnaces. • Rotary drying furnace. • High-efficiency tail gas absorption tower. • Closed-loop underground circulation and reuse of alkaline process streams.
Ammonia	• Large-scale, high efficiency air separation technology. • Optimisation of gasifier design. • Recovery of methanol, hydrogen and other process tail gas and fuel gas. • High efficiency and energy-saving pumps and motors. • High efficiency, low pressure drop heat exchange. • Heat insulation and cold retention materials to strengthen insulation of equipment and pipelines.

Manufacture of low-carbon liquid fuels for transportation

Description and Scope

Activity boundary

The activity boundary covers the manufacturing of low-carbon liquid fuels for transportation across the well-to-tank stages of the value chain. As illustrated in Figure 6, this includes feedstock acquisition, pre-processing, conversion of feedstock into fuels, transportation, distribution, and storage.

End-use activities, including blending, and delivery of the final transport fuel to end users, fall outside this activity boundary and are addressed separately under the activity on "low-carbon transport infrastructure" under the Transportation sector (refer to B-013).

The low-carbon liquid fuels for transportation cover both biofuels and electro-fuels (e-fuels). Specific eligible fuels include:

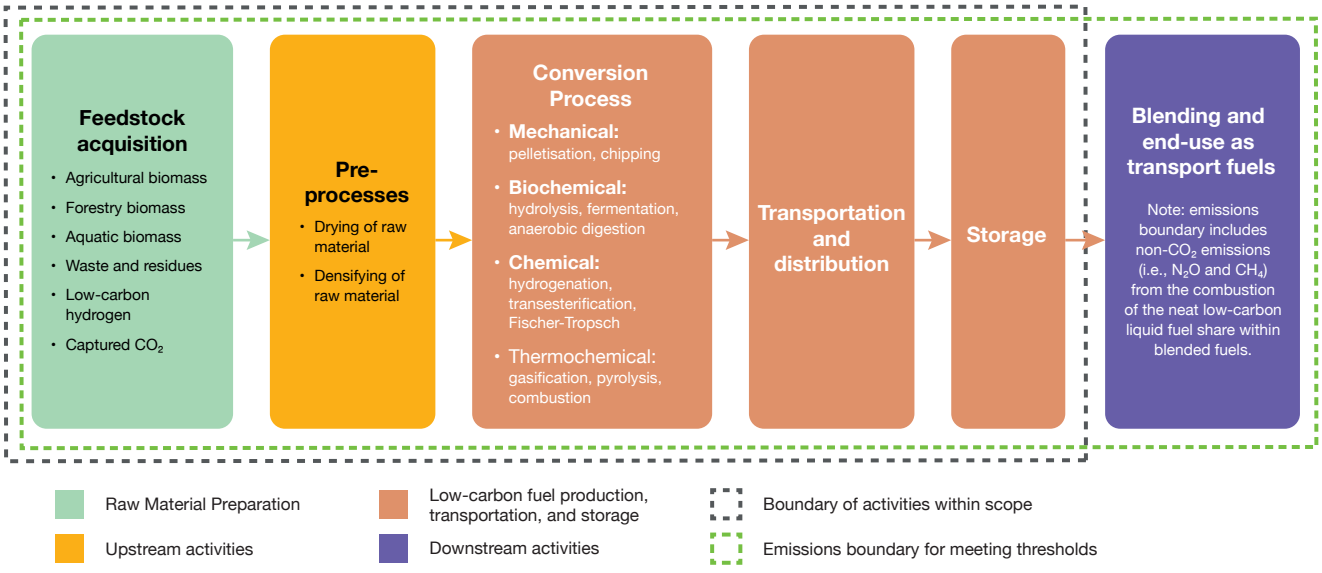
- **Biofuels**: renewable diesel, bio-diesel, bio-ethanol, bio-methanol, bio-ammonia, bio-sustainable aviation fuel (bio-SAF), and bio- liquefied natural gas (bio-LNG).
- **Electro-fuels**: electro-diesel (e-diesel), electro-ethanol (e-ethanol), electro-methanol (e-methanol), electro-ammonia (e-ammonia), electro-sustainable aviation fuels (e-SAF), and electro-liquefied natural gas (e-LNG).

The manufacture of hydrogen is excluded from this activity and is addressed separately under the activity on "manufacture of hydrogen".

Emissions boundary

The emissions boundary follows a life-cycle basis, including emissions from the cultivation and extraction of raw materials to the end-use of the transport fuel,[101] as depicted in Figure 6.

Figure 6. Activity boundary and emissions boundary for the manufacturing of low-carbon liquid fuel for transportation.



101 When accounting for end-use transport fuel emissions, only non-CO_2 emissions, namely nitrous oxide (N_2O) and methane (CH_4), are included. Carbon dioxide (CO_2) emissions are taken as zero as they originate from previously absorbed or captured carbon and therefore do not contribute to a net increase in atmospheric CO_2 concentrations.

Criteria and Thresholds

The emissions thresholds for low-carbon liquid fuels for transportation are designed to achieve a minimum percentage reduction in emissions relative to the fossil fuel baseline. The thresholds are developed to ensure that only fuels delivering meaningful life-cycle greenhouse gas reductions qualify as low-carbon alternatives.

As set out in Tables 23 and 24, the applicable fossil fuel baseline varies by mode of transport. For the initial reference year of 2025, the minimum emissions reduction requirements are aligned with relevant international benchmarks, including Climate Bonds's Bioenergy Criteria,[102] International Maritime Organisation (IMO) Interim Guidance on the Use of Biofuels under Regulations 26, 27, and 28 of MARPOL Annex VI,[103] and International Civil Aviation Organisation (ICAO) CORSIA Methodology for Calculating Actual Life Cycle Emissions Values.[104] Beyond 2025, the emissions intensity thresholds decline on a linear trajectory, aiming for near-zero emissions by 2050 to align with the ambitions of the Paris Agreement, IMO, and ICAO.

The forward-looking thresholds beyond 2025 draw reference from Climate Bonds's Bioenergy Criteria. In view of current limitations in data availability and uncertainties surrounding future technological advancements, the thresholds for 2040 and 2050 (indicated in grey) are considered indicative in this iteration of the Taxonomy and may be subject to revision in future updates.

Table 23. Emissions intensity thresholds for biofuels by transport mode

Mode of transport	Eligible fuels	Fossil fuel baseline (gCO_2e/MJ)	Year	Minimum emissions reduction (%)	Emissions threshold (gCO_2e/MJ)
Road transport	• Bio-diesel • Renewable diesel • Bio-methanol • Bio-ethanol • Bio-ammonia • Bio-LNG	94[105]	2025	50%[106]	47
			2030	60%	37.6
			2040	80%	18.8
			2050	95%	4.7
Maritime transport	• Bio-diesel • Renewable diesel • Bio-methanol • Bio-ethanol • Bio-ammonia • Bio-LNG	94[107]	2025	65%[108]	32.9
			2030	70%	28.2
			2040	80%	18.8
			2050	95%	4.7

102 Climate Bonds Initiative, Bioenergy Criteria, https://www.climatebonds.net/our-expertise/climate-bonds-standard-and-certification-scheme/sector-criteria/bioenergy

103 IMO Interim Guidance on the use of biofuels under regulations 26, 27 and 28 of Marpol Annex VI, https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/Circulars/MEPC.1-Circ.905%20-%20Interim%20Guidance%20On%20The%20Use%20Of%20Biofuels%20Under%20Regulations%2026,%2027%20And%2028%20Of%20Marpol%20Annex%20Vi.pdf

104 ICAO CORSIA Methodology for calculating actual life cycle emissions value, June 2025, https://www.icao.int/sites/default/files/environmental-protection/CORSIA/Documents/CORSIA%20Eligible%20Fuels/ICAO-document-07-Methodology-for-Actual-Life-Cycle-Emissions-November-2025.pdf

105 Directive (EU) 2018/2001 of the European Parliament and of the Council. Annex V, https://eur-lex.europa.eu/eli/dir/2018/2001/oj/eng

106 Climate Bonds Initiative, Bioenergy Criteria.

107 IMO Interim Guidance on the use of biofuels under regulations 26, 27 and 28 of MARPOL Annex VI.

108 Ibid.

Mode of transport	Eligible fuels	Fossil fuel baseline (gCO_2e/MJ)	Year	Minimum emissions reduction (%)	Emissions threshold (gCO_2e/MJ)
Air transport	• Bio-SAF	89[109]	2025	50%[110]	44.5
			2030	60%	35.6
			2040	80%	17.8
			2050	95%	4.45

Table 24. Emissions intensity thresholds for e-fuels by transport mode

Mode of transport	Eligible fuels	Fossil fuel baseline (gCO_2e/MJ)	Year	Minimum emissions reduction (%)	Emissions threshold (gCO_2e/MJ)
All transport modes (road, maritime, air)	• E-diesel • E-ethanol • E-methanol • E- ammonia • E-LNG • E-SAF	94[111]	2025	70%[112]	28.2
			2030	76%	22.6
			2040	88%	11.3
			2050	95%	4.7

Transition Activity

This activity does not have a Transition Activity, in view that such fuels are a key decarbonisation lever for the Transportation sector. It is therefore necessary that they are sufficiently low-carbon to contribute meaningfully to downstream transport activities (covered under Section B). In addition, the diversity of feedstocks and production technologies provide multiple alignment options of the current Green Activity requirements.

Transition Measure

Transition Measures focus on the two main processes that contribute most significantly to the manufacture of low-carbon liquid fuels for transportation: (i) scaling up eligible feedstock supply chains, and (ii) increasing the use of renewable and low-carbon energy in the production process of low-carbon liquid fuels.

These Transition Measures will remain eligible until the sunset date of 2035. This provides an interim period to address short-term constraints in feedstock supply while supporting the long-term decarbonisation of the overall production process. Although certain measures may still be required beyond 2035, the sunset date is intended to accelerate progress towards substantial decarbonisation at the activity level. It is envisaged that Transition Measures will be deployed at scale to enable the activity to meet its Green Activity thresholds over time.

109 ICAO CORSIA Methodology for calculating actual life cycle emissions value, June 2025.

110 Climate Bonds Initiative, Bioenergy Criteria.

111 Directive (EU) 2018/2001 of the European Parliament and of the Council. Annex V.

112 Directive (EU) 2018/2001 of the European Parliament and of the Council.

Activity card

E-007 Manufacture of low-carbon liquid fuels for transportation

Sector	Manufacturing
Activity Category	Low-carbon liquid fuels production
Activity Description	Manufacture of low-carbon liquid fuels for transportation covering both biofuels and electro-fuels, and specifically includes: • Biofuels: renewable diesel, bio-diesel, bio-ethanol, bio-methanol, bio-ammonia, bio-sustainable aviation fuel (bio-SAF), and bio-liquefied natural gas (bio-LNG). • Electro-fuels: electro-diesel (e-diesel), electro-ethanol (e-ethanol), electro-methanol (e-methanol), electro-ammonia (e-ammonia), electro-sustainable aviation fuels (e-SAF), and electro-liquefied natural gas (e-LNG).
Associated ISIC Code(s)	2011, 3520
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	For biofuels, the activity complies with criteria A and B. For electro-fuels, the activity complies criteria C and D. **<u>Biofuels</u>** **A. Emissions intensity** Emissions intensity of the production process meets the thresholds in Table 25, based on a lifecycle approach (with methodological notes for biofuels detailed in Annex V).

Table 25. Emissions thresholds for biofuels in gCO_2e/MJ

	2026	2030	2040	2050
Road transport: • Bio-diesel • Renewable diesel • Bio-methanol • Bio-ethanol • Bio-ammonia • Bio-LNG	47	37.6	18.8	4.7
Maritime transport: • Bio-diesel • Renewable diesel • Bio-methanol • Bio-ethanol • Bio-ammonia • Bio-LNG	32.9	28.2	18.8	4.7
Air transport: • Bio-SAF	44.5	35.6	17.8	4.45

Green Activity

Note:
The thresholds for 2040 and 2050 (indicated in grey) are considered indicative in this iteration of the Taxonomy and may be subject to revision in future updates.

B. Feedstock

Biofuel feedstock must comply with at least one of the following criteria under (1) to (4).

(1) Agricultural biomass

(a) Feedstock is recognised under (i) or (ii), and/or certified under any one of the following schemes (iii) to (xiii):

(i) European Union Renewable Energy Directive (EU RED III).
(ii) Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).
(iii) International Sustainability and Carbon Certification (ISCC).
(iv) Roundtable on Sustainable Biomaterials (RSB).
(v) Class NK Sustainable Certification Scheme (SCS).
(vi) Biomass Biofuel Sustainability Voluntary Scheme (2BSvs).
(vii) Better Biomass.
(viii) Sustainable Biomass Programme (SBP).
(ix) Roundtable on Sustainable Palm Oil (RSPO).
(x) Round Table on Responsible Soy (RTRS).
(xi) Bonsucro.
(xii) Better Cotton Initiative (BCI).
(xiii) Green Gold Label (GGL).

(b) The share of food and feed crops used as input feedstock shall not exceed 10% by weight as an annual average.[113]

(c) For palm oil and soybeans feedstock,[114] indirect land use change risk management is demonstrated through one of the following strategies:[115]

(i) Yield increase: demonstration of additional biomass production through increased yield, compared to a baseline yield, without any additional land conversion.
(ii) Unused/degraded land: demonstration that biomass production was out of land not previously cultivated or arable after a cut-off date.

The above strategies and cut-off dates need to align with a credible standard, namely the ISCC CORSIA Guidance for Low LUC Risk Certification,[116] RSB Low Indirect Land-Use Change (ILUC) Criteria Indicators,[117] or the EU Rules to verify sustainability and greenhouse gas emissions saving criteria and low indirect land-use change-risk criteria.[118]

(2) Forestry biomass

(a) Feedstock is certified by one of the following schemes:

(i) International Sustainability and Carbon Certification (ISCC).
(ii) Forest Stewardship Council (FSC).
(iii) Sustainable Biomass Programme (SBP).
(iv) Green Gold Label (GGL).

113 This threshold references the EU Taxonomy.

114 Palm oil and soybeans are considered high Indirect Land-Use Change (ILUC)-risk crops per the EU ILUC Delegated Regulation (Delegated Regulation (EU) 2019/807). https://energy.ec.europa.eu/document/download/f32bc7f2-a8ea-4af9-8ab8-4d8e60d763db_en?filename=COM_2026_36_1_EN_ACT_part1_v4.pdf

115 While the fundamental principles for yield increase and unused/degraded land are consistent across various standards, specific criteria and definitions may differ. For yield increase, the baseline yield typically ranges from three to five years before the implementation of yield increase measures. For unused/degraded land, the cut-off date typically refers to three to five years before the start of cultivation of the feedstock, or 1 January 2008.

116 https://www.iscc-system.org/wp-content/uploads/2022/05/ISCC_CORSIA_Guidance_for_low_LUC_risk_certification_v1.1.pdf

117 https://rsb.org/wp-content/uploads/2024/06/RSB-STD-04-001-ver-0.3_RSB-Low-iLUC-Criteria-Indicators.pdf

118 https://eur-lex.europa.eu/eli/reg_impl/2022/996/oj/eng

Green Activity

(3) Aquatic biomass

(a) Feedstock is certified by one of the following schemes:

(i) Aquaculture Stewardship Council (ASC) – Marine Stewardship Council (MSC)'s Seaweed Standard

(ii) Japanese Agricultural Standard.

(iii) MarinTrust Global Standard for Responsible Supply of Marine Ingredients.

(4) Processing waste and residues

(a) Palm Oil Mill Effluent (POME) and used cooking oil are certified by one of the following schemes:

(i) International Sustainability and Carbon Certification (ISCC).

(ii) Roundtable on Sustainable Biomaterials (RSB).

(iii) Roundtable on Sustainable Palm Oil (RSPO).

(b) Other processing waste and residues are eligible.[119]

Electro-fuels

C. Emissions intensity

Emissions intensity of the production process meets the thresholds in 26, based on a lifecycle approach.

Table 26. Emissions thresholds for biofuels in gCO_2e/MJ

	2026	2030	2040	2050
All modes of transport • E-diesel • E-ethanol • E-ammonia • E-methanol • E-LNG • E-SAF	28.2	22.6	11.3	4.7

Note:
The thresholds for 2040 and 2050 (indicated in grey) are considered indicative in this iteration of the Taxonomy and may be subject to revision in future updates.

D. Feedstock

Electro-fuels must comply with both feedstock criteria under (1) or (2), and (3).

(1) Carbon dioxide

CO_2 captured from industrial processes or the atmosphere.

(2) Nitrogen

N_2 captured from industrial processes or the atmosphere.

(3) Hydrogen

Hydrogen that meets the Green Activity criteria for manufacture of hydrogen under the Manufacturing sector (refer to E-001).

Transition Activity

N/A.

119 For avoidance of doubt, only waste and residues from industrial processing of biomass are automatically eligible. Waste and residues directly generated from agriculture, forestry, and aquaculture, should comply with the relevant requirements under criteria B(1), B(2), B(3) and/or B(4).

Transition Measure	The measure complies with one of the following criteria and is implemented before the sunset date of 2035:[120] (1) Investment in the supply of eligible feedstocks. (2) Sourcing or purchasing of renewable and low-carbon energy for the production of low-carbon liquid fuels, where the renewable and low-carbon energy fulfil the Green Activity criteria under the Energy sector (refer to Section A).
Exclusion	N/A.

Annex V. Additional information on manufacture of low-carbon biofuels for transportation.

Scope of emissions considered in meeting thresholds

1. GHG emissions accounting for biofuels:

$$E_{total} = e_{ec} + e_{l} + e_{p} + e_{td} + e_{u} - e_{sca} - e_{ccs/ccu}$$

$\boldsymbol{E_{total}}$: Total emissions from the production of the fuel before energy conversion

$\boldsymbol{e_{ec}}$: Emissions from the extraction and cultivation of raw materials

$\boldsymbol{e_{l}}$: Annualised emissions from carbon stock changes caused by land-use change

$\boldsymbol{e_{p}}$: Emissions from processing

$\boldsymbol{e_{td}}$: Emissions from transport and distribution

$\boldsymbol{e_{u}}$: Non-CO_2 emissions (i.e., N_2O and CH_4) from the fuel in use

$\boldsymbol{e_{sca}}$: Emissions saving from soil carbon accumulation via improved agricultural management

$\boldsymbol{e_{ccs/ccu}}$: Emissions savings from CO_2 captured, and its geological storage or utilisation

Note: CO_2 absorbed by living biomass are neutralised by CO_2 emissions released during the combustion of biomass-based fuels. Therefore, both terms are not considered in the GHG emissions accounting.

2. For bio-LNG, associated methane emissions across different stages of the value chain should be factored in. This includes emissions from feedstock management (including storage); biogas processing; digestate management (including composting and storage); raw biogas upgrading; and distribution (including piping, maintenance, and leaks).

120 While the specific measures listed may remain necessary after 2035, a sunset date is introduced to accelerate progress towards substantial decarbonisation at the activity-level. It is envisaged that Transition Measures will be deployed at scale to enable the activity to meet its Green Activity thresholds.

3. Issuers can use the following (non-exhaustive) list of tools in calculating the GHG emissions of biofuels.

    - **RSB GHG Calculator**:[121] Liquid biofuels.
    - **GREET**:[122] Alternative fuels in transport.
    - **RenovaCalc**:[123] Bioethanol, biodiesel, aviation biokerosene and biogas from waste.

Manufacture of batteries

Criteria and Thresholds

Batteries are an important enabling technology for scaling clean energy, accelerating grid decarbonisation, and displacing fossil fuels. They are also critical to the implementation of smart grids, load management, grid balancing, and supply of back-up power. Their deployment in transport, energy storage, and industrial applications are well established as contributing to substantial GHG emissions reductions.

The Green Activity criteria require that the batteries manufactured enable substantial GHG emissions reduction in their end-use applications, while the respective components are by design technically suitable for use in eligible batteries. Manufacturers of batteries and respective components can demonstrate this using technical specifications.

Substantial GHG emissions reduction means that the application of the battery results in emissions that are substantially lower than the established baseline scenario and thereby able to offset emissions from the battery manufacturing process. Baseline scenarios include internal combustion engine (ICE) vehicles, fossil-based power plants, or electricity grids with lower shares of clean energy.

Examples of applications which lead to substantial GHG emissions reduction include:

- **Electric vehicles**: enables zero-tailpipe-emission transport, replacing ICE vehicles.
- **Grid energy storage**: enables greater integration of clean energy into the grid, reducing uptake of fossil-based power.
- **Household energy storage**: enables behind-the-meter battery storage to power homes, increasing self-consumption of clean energy and reducing reliance on grid electricity generated from fossil fuels.
- **Grid balancing**: provides rapid-response frequency stabilisation, reducing reliance on fossil-fuel-fired peaking plants.
- **Micro-grid and backup power**: enables the use of clean energy as backup power, reducing reliance on fossil-based generators.

121 https://rsb.org/certification/ghg-calculator/

122 https://greet.anl.gov/

123 https://www.gov.br/anp/pt-br/assuntos/renovabio/renovacalc

Activity card

E-008 Manufacture of batteries

Sector	Manufacturing
Activity Category	Manufacture of batteries
Activity Description	Manufacture (including from secondary raw materials) of rechargeable batteries, battery packs, and accumulators for transport, stationary and off-grid energy storage (such as for household and industrial applications). This includes the manufacture of respective components, such as battery active materials, battery cells, casings, battery electrode, battery separator, and electronic components.
Associated ISIC Code(s)	2011, 2610, 2720
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	(1) Batteries enable substantial GHG emissions reduction in transport, or stationary and off-grid energy storage (such as for household or industrial applications). (2) Battery components are by design technically suitable for use in eligible batteries. **Note:** Alignment with Taxonomy criteria can be demonstrated using technical specifications.
Transition Activity	N/A.
Transition Measure	N/A.
Exclusion	N/A.

Manufacture of low-carbon technologies

Criteria and Thresholds

Low-carbon technologies, including novel solutions, that contribute to reducing the emissions profiles of other sectors are eligible. These technologies must enable lifecycle GHG emissions reduction, including through energy efficiency improvements where relevant. The emissions reduction achieved should be on par with the reduction by the best performing commercially available solutions available on the market.

Best performing commercially available solutions may be identified based on public information, market research, due diligence, etc.

Lifecycle GHG emissions reduction must be calculated using recognised methodologies and verified by an independent third party. To qualify, the **enabled emissions reduction** by the manufactured technology needs to outweigh any incremental **process emissions** generated from manufacturing and integrating the technology. Emissions arising from the manufacture of the technology should be assessed using primary emissions data. However, to address potential data gaps, emissions arising from the integration of the technology and enabled emissions reduction can be assessed using primary emissions data, technical specifications, design specifications, and proxy data, depending on how the enabled emissions reduction is achieved.

- **Enabled emissions reduction is direct:** Emissions reduction is achieved from the direct operation of the manufactured low-carbon technology. Primary emissions data and technical specifications may be used.
    - Example: An electric motor manufacturer needs to demonstrate that its motors deliver emissions reduction on par with the reduction by the market's best-performing models. Additionally, the reduction must outweigh any incremental emissions generated from the manufacturing process. The manufacturer may verify the emissions reduction using technical specifications that demonstrate improved energy efficiency of the motor.
- **Enabled emissions reduction is indirect**: Emissions reduction is achieved from the application of the manufactured low-carbon technology down the value chain. Primary emissions data, technical specifications, design specifications, and proxy data may be used.
    - Example: A semiconductor manufacturer supplying advanced microchips to a smart phone producer needs to demonstrate that the chips enable emissions reduction on par with the reduction by the market's best-performing smart phone models, and that the reduction outweighs any incremental emissions generated from manufacturing and integrating the advanced chips. In the absence of primary data from the downstream smart phone producer, the semiconductor manufacturer may rely on technical or design specifications to prove that the chips improve energy consumption per charging cycle across the smart phone's lifespan.

Activity card

E-009 Manufacture of low-carbon technologies

Sector	Manufacturing
Activity Category	Manufacture of low-carbon technologies
Activity Description	Manufacture of technologies designed to achieve lifecycle GHG emissions reduction in other sectors of the economy through optimisation and enhanced energy efficiency. Such technologies include, but are not limited to, robots, electrical generators, transformers, motors, and semi-conductors.
Associated ISIC Code(s)	2610, 2710, 2829
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity complies with criteria (1) or (2), and meets (3). (1) **Existing technologies**: Demonstrates lifecycle GHG emissions reduction on par with the reduction by the best performing commercially available solution on the market[124]. (2) **Novel technologies**: Involves manufacturing a technology that is expected to achieve better lifecycle GHG emissions performance compared to the best performing commercially available solutions on the market with similar functions[1]. (1) and (2) covers emissions reduction achieved through improvements in energy efficiency. (3) Lifecycle GHG emissions reduction should be calculated using GHG Protocol[125], ISO 14067:2018, ISO 14064-2:2019, or a similar methodology, and verified by an independent third party. To achieve lifecycle GHG emissions reduction, emissions reduction enabled by the manufactured technology needs to outweigh any incremental process emissions generated from manufacturing and integrating the technology. While primary emissions data is expected for the manufacture of the technology, other forms of data may be utilised for integration of the technology and enabled emissions reduction, depending on how the enabled emissions reduction is achieved: (a) **Enabled emissions reduction is direct**: Achieved from the direct operation of the manufactured low-carbon technology. Primary emissions data and technical specifications may be used. (b) **Enabled emissions reduction is indirect**: Achieved from the application of the manufactured low-carbon technology down the value chain. Primary emissions data, technical specifications, design specifications, and proxy data with clear and reasonable justifications may be used.
Transition Activity	N/A.
Transition Measure	N/A.
Exclusion	N/A.

124 Best performing commercially available solutions may be identified based on public information, market research, due diligence, etc.

125 https://ghgprotocol.org/

F. Information and Communications Technology (ICT)

Overview

The Information and Communications Technology (ICT) sector is a cross-cutting industry where technologies and services drive sustainability improvements across various economic sectors. Globally, the data centre industry is expanding rapidly, with new data centre capacity expected to grow at a 14% CAGR through 2030 to meet soaring demand for hyperscalers, cloud services, AI workloads, and digital infrastructure.[126] The energy use is also projected to double, reaching around 945 TWh by 2030, while power demand from AI-focused data centre is expected to triple during the same period.[127] This trend underscores the urgent need to enhance energy efficiency and adopt sustainable practices within the sector.

Reflecting this global trend, Hong Kong serves as an important data centre hub, with more than 60 facilities currently in operation and the total is expected to exceed 80 data centres by 2030, including the new Sandy Ridge Data Facility Cluster in the Northern Metropolis.[128,129] In 2023, local data centres accounted for around 5.8% of the commercial sector's total energy consumption.[130] To further drive innovation and technological advancement, Hong Kong has developed its first AI supercomputer centre, reinforcing its commitment to becoming a high-performance, data-driven economy.[132] The expansion into AI supercomputing, alongside the rapid growth in energy demand from data centres, is expected to continue, highlighting the critical need for enhanced energy efficiency and sustainable practices within the sector.

126 https://www.jll.com.hk/en/trends-and-insights/research/data-center-outlook

127 https://www.iea.org/reports/energy-and-ai/energy-demand-from-ai#abstract

128 https://app7.legco.gov.hk/rpdb/en/uploads/2023/ISSH/ISSH07_2023_20230525_en.pdf

129 https://www.scmp.com/news/hong-kong/health-environment/article/3356395/hong-kong-data-centres-outpace-global-average-carbon-footprint-un-study

130 https://data.gov.hk/en-data/dataset/hk-emsd-emsd1-energy-end-use-data-2025

131 https://www.cyberport.hk/wp-content/uploads/Press-Release-Cyberport-Artificial-Intelligence-Supercomputing-Centre-Officially-Commences-Operations.pdf#:~:text=Hong%20Kong%2C%209%20December%202024%20%E2%80%93%20Cyberport's,the%20AI%20Lab%20is%20also%20open%20concurrently.&text=The%20AI%20Lab%20launched%20today%20brings%20together,showcase%20AI%20solutions%20and%20launch%20service%20products.

Table 27: ICT Sector – Activity Classification

Activity		Green Activity	Transition Activity	Transition Measure
F-001	Data processing, hosting and related activities	✓	✓	
F-002	Data-driven solutions for greenhouse gas emissions reductions	✓		

Data processing, hosting and related activities

Metrics

Data centres refer to the physical infrastructures and facilities used to house, connect, and operate computer systems, servers, telecommunications equipment, and associated support components in a secure and controlled environment for providing data storage, processing, and network services. The most commonly used metrics for data centres are as follows:

Power Usage Effectiveness (PUE)

The PUE is the global industry metric for measuring the energy efficiency of data centres. It measures the ratio of the annual energy used by the data centre and its IT equipment. The formula for calculating PUE is as follows:

$$\text{PUE} = \frac{\textit{Annual amount of energy used by the data centre (in kWh or MWh)}}{\textit{Annual amount of energy used by the IT equipment (in kWh or MWh)}}$$

The PUE changes based on the IT load, which reflects how much the servers are being utilised at any given time. Since IT equipment rarely operates at full capacity continuously, the varying server workloads directly impacts PUE value. To accurately reflect energy efficiency across different operating conditions, specific PUE thresholds are established for different levels of IT load.

Water Usage Effectiveness (WUE)

The WUE is a key metric for addressing water usage in data centres. It measures the ratio of the annual water consumption by the data centre and the energy consumption of the IT equipment. The formula for calculating WUE is as follows:

$$\text{WUE} = \frac{\textit{Annual water consumption by the data centre (in litres or } m^3\textit{)}}{\textit{Annual amount of energy used by the IT equipment (in kWh)}}$$

The WUE helps data centre operators monitor and optimise water use, particularly for cooling and humidification systems, which are among the largest water-consuming processes in data centres. Similar to how PUE varies with IT load, WUE can also vary depending on operational conditions and cooling demands.

Global Warming Potential (GWP)

The GWP of refrigerants is a key metric for measuring the amount of heat a greenhouse gas traps in the atmosphere over a given time compared to carbon dioxide. The Taxonomy sets a GWP cap of 675, aiming to reduce reliance on hydrofluorocarbon (HFC) refrigerants, which typically have GWP values thousands of times higher than carbon dioxide. This threshold aligns with international standards such as the EU Taxonomy.

Criteria and Thresholds

To qualify as a Green Activity under the Taxonomy for data centres, three criteria must be met:

- Energy usage: The data centre should demonstrate high energy efficiency by achieving PUE levels appropriate to its IT load, or by being fully powered by renewable or low-carbon energy sources. This ensures that energy consumption is optimally managed relative to the data centre's operational demands, while the use of renewable or low-carbon energy reduces carbon emissions. The PUE thresholds are aligned with BEAM Plus New Data Centres Version 1.0 (NDC V1.0).

- Water usage: The data centre must implement effective water management practices, such as using advanced water treatment systems to reduce freshwater consumption in cooling towers. Alternatively, it should maintain WUE within established efficiency thresholds.

- GWP: The refrigerants used must have a low global warming potential, complying with either specified limits or applicable local environmental regulations, whichever is lower (i.e. more stringent).

For new data centre construction, the building must also comply with the Taxonomy's green criteria for construction of new commercial buildings.

Transition Activity will remain eligible until the 2035 sunset date, and is only applicable to retrofits and operations of existing data centres.

Similar to the Green Activity, it assesses data centres based on their PUE, water usage and GWP, with defined thresholds for each.

Data-driven solutions for greenhouse gas emissions reductions

Criteria and Thresholds

ICT solutions, including hardware and software, that contribute to reducing the emissions profiles of other activities are eligible. These solutions must demonstrate performance on par with leading technologies and undergo assessment using recognised standards, with independent verification. Alternatively, ICT solutions should improve the emissions profiles of other IT products and processes through improving energy efficiency, reducing emissions, and maximising product use.

Activity cards

F-001 Data processing, hosting and related activities

Sector	Information and communications technology (ICT)
Activity Category	Information services
Activity Description	Construction, operation, or retrofitting of data centres. Data centres include data centre buildings, ICT equipment and services, servers, cooling, data centre power equipment, data centre power distribution equipment, and monitoring systems.
Associated ISIC Code(s)	6311
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity complies with criteria A, B and C; and must also comply with criteria D if it involves the construction of a new data centre building. **A. Energy usage** Complies with one of the following criteria: (1) Data centre meets the PUE value of the IT load in Table 28. (2) Data centre is powered by 100% renewable (including solar, wind power) or low-carbon energy (including nuclear power) with ≤100gCO_2e/kWh lifecycle emissions, or a combination of these sources. *Table 28. Green PUE value required at different IT loads* IT load: 100% — Required PUE[132]: ≤1.35 IT load: 75% — Required PUE[132]: ≤1.40 IT load: 50% — Required PUE[132]: ≤1.45 IT load: 25% — Required PUE[132]: ≤1.50 **Note:** The PUE thresholds should be interpolated linearly for different IT loads. For example, the corresponding PUE threshold for a 65% IT load is 1.42. **B. Water usage** If only air cooling is used, the activity is exempt from meeting the water usage criteria. In all other cases, it must comply with one of the following criteria: (1) Water treatment systems with 8 or more cycles of concentration with acceptable water quality to reduce freshwater consumption in cooling tower makeup.[133] (2) Water usage effectiveness (WUE) of the data centre is no more than 2.0 L/kWh. **C. Global warming potential (GWP)** Complies with the following criteria: (1) The GWP of refrigerants used in the data centre cooling system must not exceed 675, or meet applicable local standards and regulations, whichever is lower.

132 PUE values are based on industry best practices. For 75% IT load, the PUE value also corresponds to the most stringent requirement under BEAM Plus New Data Centres v1.0, EU-01-02.

133 Corresponds to BEAM Plus NDC v1.0, WU-01-06 requirement.

Green Activity

D. Construction of new data centre building

For projects that include construction of a new data centre building, the building complies with the following criteria:

(1) Aligns with the green criteria under "Construction of new commercial buildings" from the present Taxonomy (refer to C-002).

Transition Activity

The Transition Activity applies only to retrofitting and operation of existing data centres.

The activity complies with criteria A, B and C.

A. Energy usage

Complies with all of the following criteria:

(1) Data centre meets the PUE value of IT load in Table 29.

(2) A commitment to align with Green Activity criteria for the PUE value in Table 28 by 2035.

Table 29. Transition PUE value required at different IT loads

IT load	Required PUE
100%	≤1.40
75%	≤1.45
50%	≤1.50
25%	≤1.55

Note:
The PUE thresholds should be interpolated linearly for different IT loads. For example, the corresponding PUE threshold for a 65% IT load is 1.47.

B. Water usage

If only air cooling is used, the activity is exempt from meeting the water usage criteria. In all other cases, it must comply with one of the following criteria:

(1) Water treatment systems with 8 or more cycles of concentration with acceptable water quality to reduce freshwater consumption in cooling tower makeup.[134]

(2) WUE of the data centre is no more than 2.3 L/kWh, and meets the WUE Green Activity criteria by 2035.

C. GWP

Complies with the following criteria:

(1) The GWP of refrigerants used in the data centre cooling system must not exceed 675, or meet applicable local standards and regulations, whichever is lower.

Transition Measure

N/A.

Exclusion

N/A.

134 Corresponds to BEAM Plus EDC v1.0, WU-01-06 requirement.

F-002 Data-driven solutions for greenhouse gas emissions reductions

Sector	Information and communications technology (ICT)
Activity Category	Information services
Activity Description	Development or use of ICT solutions for collecting, transmitting, storing, analysing, and modelling of data that support the reduction of GHG emissions. ICT solutions include the use of decentralised technologies (i.e. distributed ledger technologies), Internet of Things (IoT), 5G and Artificial Intelligence. Examples include but are not limited to smart meters, intelligent energy management systems, AI-powered carbon measurement and accounting software and tools, plant and system optimisation using AI, and big data analytics to help reduce emissions.
Associated ISIC Code(s)	61XX*, 62XX*, 6311 * Includes all activities classified under the division denoted by the first two digits of the relevant ISIC code.
Criteria and Thresholds	
Environmental Objective	Climate change mitigation
Green Activity	The activity complies with the scope of either A or B. **A. ICT solutions that improve the emission profiles of other sectors** The activity complies with all of the following criteria: (1) Provides data and analytics for energy efficiency that enable GHG emission reductions. (2) Demonstrates life cycle GHG emissions reduction on par with the best performing solutions on the market. (3) GHG emissions reductions are calculated using GHG Protocol,[135] ISO 14067:2018, ISO 14064-2:2019, or a similar methodology, and verified by an independent third party. **B. ICT solutions that improve the emission profile of the IT industry (including IT products and processes)** The activity complies with one of the following criteria: (1) Increasing energy efficiency. (2) Reducing GHG emissions. (3) Maximising product use, including Software-as-a-Service (SaaS) applications.
Transition Activity	N/A.
Transition Measure	N/A.
Exclusion	N/A.

135 https://ghgprotocol.org/

Chapter III:

Climate Change Adaptation

Background

Despite ongoing global efforts to limit global warming to 1.5°C under the Paris Agreement, physical climate risks continue to intensify. Between 2014 and 2023, economic losses from extreme weather exceeded US$2 trillion.[136] At the same time, over 40% of the global population resides in areas highly vulnerable to climate change.[137] The annual adaptation finance gap remains staggering, estimated at US$187–359 billion, calling for ambitious climate finance commitments.[138]

Climate change adaptation refers to the process of adjusting to actual and expected climate change and its impacts in order to reduce risks.[139] Adaptation is inherently location- and context-specific. Effective responses depend on local climate hazards, vulnerability profiles, and institutional capacity, while global standards and metrics for adaptation remain less developed than those for mitigation. Against this backdrop, a structured taxonomy can help prioritise adaptation actions, scale financing, and allocate resources more effectively, while providing clarity and consistency for market participants to identify adaptation activities.

The adaptation framework under the Hong Kong Taxonomy aims to provide a pragmatic, locally relevant, and scalable basis for defining and classifying adaptation-related investments. Building on the foundations set out in Phase 2A, Phase 2B introduces the **Process-based Approach** as an expanded adaptation methodology that supports a more comprehensive assessment and classification of adaptation activities and measures.

136 The economic cost of extreme weather, International Chamber of Commerce, Oxera https://iccwbo.org/news-publications/policies-reports/new-report-extreme-weather-events-cost-economy-2-trillion-over-the-last-decade/

137 WHO website, https://www.who.int/health-topics/climate-change

138 UNEP Adaptation Gap Report 2024, https://wedocs.unep.org/items/b53a3c5d-7972-40d1-9995-53ab48f26ded

139 https://eur-lex.europa.eu/eli/reg/2020/852/oj/eng

Adaptation Assessment Methodology

The Process-based Approach: Backbone of the Adaptation Assessment Methodology

The **Process-based Approach (PBA)** is a robust assessment framework designed to confirm an economic activity's substantial contribution to climate change adaptation while managing maladaptation and Do No Significant Harm (DNSH) risks. As the backbone of the Taxonomy's adaptation methodology, the PBA establishes a **structured and consistent process** for identifying, designing, implementing, and monitoring adaptation activities, providing the flexibility needed to accommodate the highly context-specific nature of climate impacts. **All adaptation assessments under the Taxonomy are grounded in the PBA's five-step framework**.

- Step 1: Define the scope and classify the economic activity.
- Step 2: Conduct physical climate risk assessment.
- Step 3: Develop and implement adaptation measures in adaptation plan.
- Step 4: Monitor and evaluate implementation and performance.
- Step 5: Take corrective actions as necessary.

To facilitate market adoption, if a Taxonomy user has already completed any of the above five steps as part of their ongoing adaptation and resilience efforts, the findings can be utilised to satisfy the relevant PBA requirements without duplicating the work.

Furthermore, some baseline work has been completed under the Taxonomy framework. Specific to Step 3, this includes a pre-defined whitelist of adaptation measures confirmed by robust research, as well as a predefined non-whitelist of adaptation measures paired with relevant technical metrics for reference. Both sets of pre-defined measures are tailored to Hong Kong's local context. Details are discussed in the ensuing paragraphs.

To ensure robustness and credibility, independent verification is recommended as a best practice for all PBA assessments.

To support the effective application of the PBA, the key concepts and terms are defined below.

Activities Contributing to Climate Change Adaptation

Under the PBA, two types of economic activities may be recognised as making a substantial contribution to climate change adaptation:

Adapted activity

An existing or new economic activity that has **implemented adaptation measures** to reduce **its own vulnerability** to the climate hazard(s) most relevant to **its operations, assets**, **or performance**. The adaptation benefit is realised directly by the activity being assessed.

For example, a warehouse for logistics operations is retrofitted with heat-resilient cooling systems and flood barriers to protect against extreme heat and flooding.

Enabling activity

An existing or new economic activity that **produces, manufactures, or develops adaptation measures** to enhance the adaptive capacity[140] or resilience of other activities or systems. Such measures may include technologies, products, services, information, or practices that support the adaptation and resilience of **other activities or at the system** level. The enabling activity itself must also be designed and operated in a climate adapted manner, but the distinguishing feature is that it supplies or delivers adaptation measures to others, rather than merely adapting itself.

For example, the manufacturing of smart leak detection sensors and monitoring systems for water utilities, enabling external water distribution networks to reduce water loss and maintain supply reliability during droughts and other climate-related events.

Adaptation Measures as the Building Blocks

The Taxonomy alignment of an economic activity (adapted or enabling) needs to be justified by the specific, concrete interventions implemented within it. These interventions are defined as **adaptation measures** under the Taxonomy. They include specialised technologies, upgraded processes, resilient materials, or adaptive operational practices or services implemented within an economic activity to enhance its climate resilience.

Adaptation measures are categorised into two types:

Whitelist measures

Measures that make a substantial contribution to climate change adaptation across a broad range of contexts and carry minimal risk of maladaptation and DNSH. Because they have both their substantial contribution and minimal maladaptation and DNSH risk confirmed by rigorous research, they are automatically eligible for Taxonomy alignment without the need to satisfy additional technical screening criteria for substantial contribution.[141]

Non-whitelist measures

Measures that are not automatically eligible, but may achieve Taxonomy alignment where the user provides clear evidence, underpinned by a PBA, that the measures make a substantial contribution to climate change adaptation and that all associated maladaptation and DNSH risks are effectively managed. In this context, appropriate assessment metrics and thresholds should be designed to ensure that substantial contribution is demonstrated in a robust manner, while maladaptation and DNSH risks are properly managed and mitigated.

140 Adaptive capacity refers to the ability of people and systems to cope with climate change by absorbing, deflecting, or reducing their negative effects. https://climateknowledgeportal.worldbank.org/country/hong-kong-sar-china/chri-adm1

141 The adaptation measures introduced under Phase 2A are whitelist measures that underwent a rigorous review process led by CBI's technical working groups.

In brief, **adaptation measures are the foundational building blocks** through which an economic activity delivers climate adaptation outcomes and demonstrates alignment with the Taxonomy. In practice, a Taxonomy-aligned activity may, as necessary, comprise one or a basket of whitelist and non-whitelist adaptation measures to enhance its resilience (and that of others). In light of the above, the Taxonomy is designed to define and evaluate adaptation measures at the granular, building-block level that supports activity level adaptation.

Eligibility for Taxonomy Alignment

Taxonomy alignment should be reserved for actions that contribute to reducing physical climate risks and vulnerability. Eligibility for Capital Expenditure (CapEx), Operational Expenditure (OpEx) and Revenue alignment is determined by the nature of the activity:

Adapted activities and adaptation measures: Only the specific portion of CapEx and OpEx that directly contribute to adaptation are eligible for Taxonomy alignment.

Enabling activities: The Revenue, CapEx and OpEx of the entire enabling activity are eligible for Taxonomy alignment. Full eligibility applies because the primary objective and inherent function of an enabling activity are to enhance the climate resilience of other activities or systems.

Scope of eligible costs		Taxonomy alignment metrics		
		CapEx	OpEx	Revenue
Adaptation measure	Only the cost of the measure is eligible – not the cost of the entire asset or activity in which it is implemented.	✓	✓	✗
Adapted activity	Only the costs of all adaptation measures implemented are eligible – not the cost of the entire asset or activity.	✓	✓	✗
Enabling activity	Entire cost of the activity, including the costs of all adaptation measures implemented*, are eligible.	✓	✓	✓

* This includes the adaptation measures implemented to ensure that the enabling activity itself is operated in a climate adapted manner (e.g. installing heat-resilient cooling systems at a factory that produces smart leak-detection sensors, so as to protect the factory from extreme heat).

The Process-based Approach – Five-step Assessment

The five steps involved in applying the PBA for Taxonomy alignment are summarised in Table 30. Users should also comply with the detailed guidance set out in Annex VI.

It is worth noting that the PBA is not intended to duplicate an entity's existing climate risk management work. Hence, where a Taxonomy user has already conducted a climate-related risk or adaptation assessment (for example as part of its building design specifications) that satisfies one or more PBA steps and associated requirements, the user may rely on those findings for determining Taxonomy alignment, provided that the assessment concerned is sufficiently robust, current, and relevant to the activity in scope. Where it covers only a few of the PBA steps, the user should complete the outstanding steps and address any gaps.

Table 30. Steps in the Process-based Approach.

Step	Description	Short Illustrative Example
Step 1: Define the scope and classify the economic activity	Define the economic activity being assessed, determine whether it is an adapted or enabling activity, and set the boundary of the assessment, including the location, the assets or processes in scope, and the timeframe. For enabling activities, this also includes identifying the target users or systems, and confirming that the adaptation measures being provided have an enabling contribution.	A port operator defines the assessed activity as the operation of a container terminal in Hong Kong, with the assessment covering its quay walls, cranes, power supply, and drainage systems over a 30-year timeframe.
Step 2: Conduct physical climate risk assessment	Identify the relevant climate hazards, assess the activity's vulnerability and the significance of the climate risks, and use appropriate climate data and methodologies to support the analysis. For enabling activities, this should consider risks to both the enabling activity itself and, where relevant, the target activities or systems it supports.	The port operator assesses exposure to sea-level rise, storm surge, extreme rainfall and typhoons, and finds that low-lying electrical equipment and access roads face increasing flood risk over the asset's lifetime.
Step 3: Develop and implement measures in adaptation plan	Develop and implement an adaptation plan with targeted adaptation measures to address the identified risks. The measures should be suited to the activity, manage maladaptation and DNSH risks, and, where feasible, prioritise nature-based solutions and align with relevant policies or strategies.	In response to the risk assessment, the port operator adopts an adaptation plan that includes raising critical equipment, installing flood barriers, upgrading drainage capacity, revising typhoon response procedures, and using vegetated buffers where feasible to reduce runoff.
Step 4: Monitor and evaluate implementation and performance	Monitor whether the adaptation measures are being implemented effectively and are delivering the intended resilience outcomes, using pre-defined indicators aligned with best practice.	The port operator monitors indicators such as the frequency of flood-related disruptions, drainage performance during heavy rainfall, equipment downtime after extreme weather events, and maintenance needs for protective infrastructure.
Step 5: Take corrective actions as necessary	If monitoring shows that measures are not performing as expected, take corrective actions, such as implementing additional measures and updating the climate risk assessment using the latest information.	After several extreme rainfall events exceed design assumptions, the port operator updates its climate risk assessment and strengthens its response by enlarging drainage capacity, adjusting operating procedures, and adding renewable backup power for critical systems.

Developing Adaptation Measures

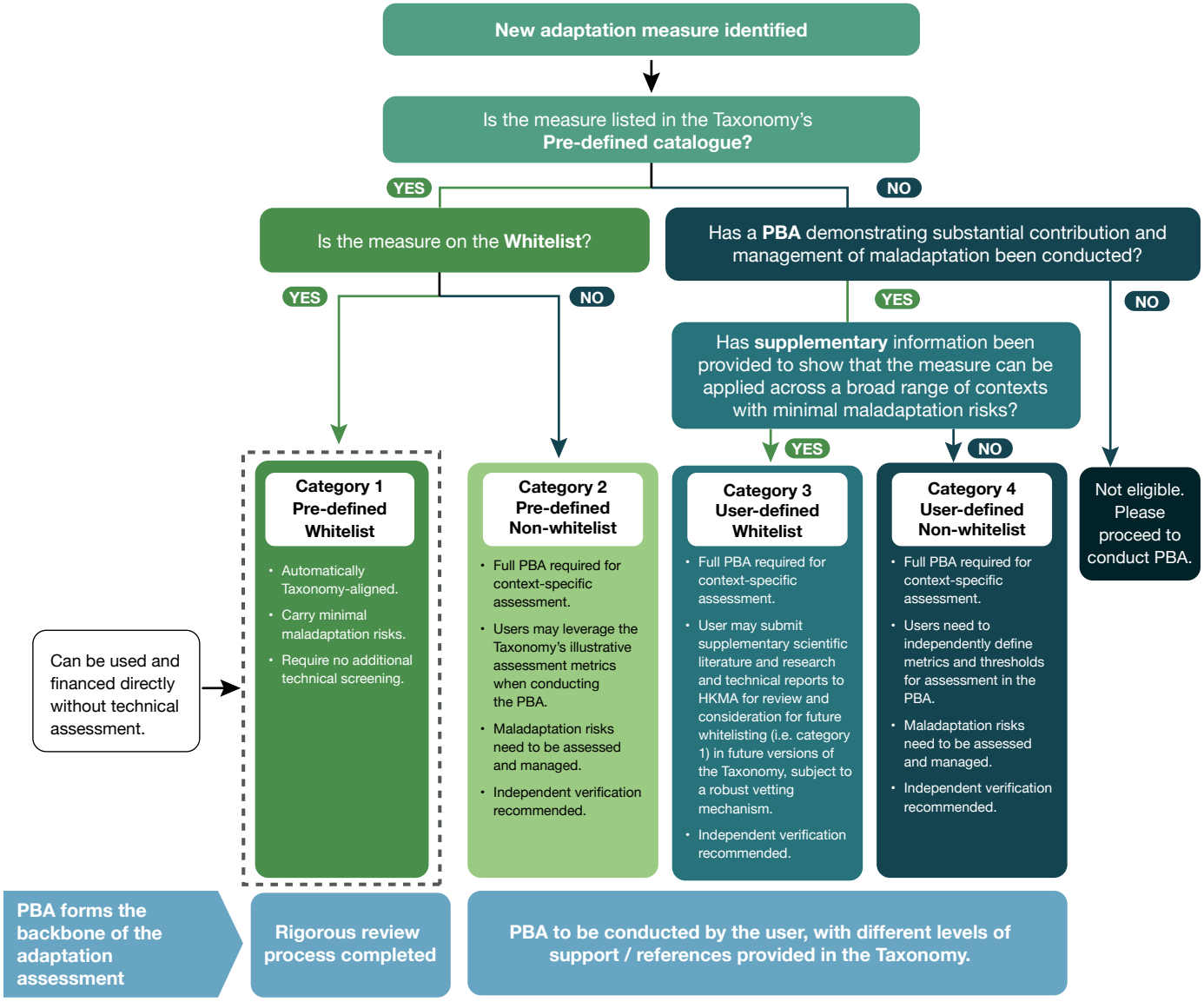
Under the Taxonomy, adaptation measures are categorised along two core dimensions, which together determine the level of assessment required under the PBA:

- **Pre-defined vs. User-defined**: This distinguishes measures already identified and catalogued within the Taxonomy from new measures proposed by a Taxonomy user.
- **Whitelist vs. Non-whitelist**: This indicates whether a measure is automatically eligible for making substantial contribution, or if it requires further evidence and thresholds to demonstrate alignment.

Taken together, these two dimensions establish four categories of adaptation measures, namely:

Pre-defined whitelist	Pre-defined non-whitelist	User-defined whitelist	User-defined non-whitelist

To determine which category applies to a specific measure, users can navigate the decision tree provided below.



Four Categories of Adaptation Measures

Category 1 – Pre-defined Whitelist

Under this category, the Taxonomy provides a pre-defined list of adaptation measures that have undergone a rigorous review process led by a technical working group to confirm that all whitelisting criteria are met. Consequently, they are recognised as **automatically Taxonomy-aligned**, requiring no additional technical screening and carrying minimal maladaptation and DNSH risks. Users may also finance these Taxonomy-aligned measures on a **standalone basis without undergoing any technical assessment from PBA**.

While the Phase 2A Taxonomy piloted this approach with a focus on the Water sector, Phase 2B expands the pre-defined whitelist to incorporate measures applicable to Hong Kong which have been confirmed by research. These newly added whitelist measures target the sectors of Energy, Transportation, Buildings, ICT, and Risk Management & Response, with a focus on addressing climate hazards relating to **storm damage** and **flood damage**. Consistent with Phase 2A, these newly added measures have undergone the same expert-led review process and are likewise treated as automatically aligned without further technical screening.

When shortlisting these new measures, reference was made to relevant government studies on shoreline protection and flood management.[142] Accordingly, the Taxonomy incorporates proposed management actions from these government studies, such as enhancing emergency preparedness through installation of warning systems and increasing monitoring, forecasting, and modelling capabilities, etc.

The current pre-defined whitelist is set out in Table 31. The list may be updated in future iterations of the Taxonomy as further measures are identified and assessed.

Category 2 – Pre-defined Non-whitelist

Under this category, the Taxonomy provides a pre-defined non-whitelist of adaptation measures tailored to suit the circumstances of Hong Kong. In Phase 2B, this approach is piloted for measures related to **shoreline protection** and **flood management**, having regard to the climate hazards of storm damage and flood damage faced by Hong Kong.

To ensure alignment with public policies, the Taxonomy's pre-defined non-whitelist references government studies on shoreline protection and flood management,[143] which in turn are informed by robust climate risk analyses that account for major climate change scenarios to identify vulnerabilities and propose targeted interventions.[144] Aligned with the Government's integrated strategy of "Adaptation, Resilience, and Management", the Taxonomy's pre-defined non-whitelist covers drainage and coastal improvement works, as well as measures to control flood risks and reduce flooding impact for speedy societal recovery. Practical examples include improving drainage capacities in existing systems, installing wave walls, elevating formation levels, and deploying flood barriers or gates, etc. The Taxonomy measures also apply to new infrastructure

142 "Strategic Planning Study on Flood Management against Sea Level Rise and Extreme Rainfall" and "Study on Shoreline Management Plan".

143 Ibid.

144 The analyses consider intermediate and very high greenhouse gas (GHG) emission pathways at both mid-century and end-century, according to the Sixth Assessment Report (AR6) of the United Nations Intergovernmental Panel on Climate Change.

and development areas, such as the Northern Metropolis where relevant systems and infrastructure will be designed to address mid-century climate change impacts, while implementation plans will be developed and land will be reserved for scenarios at the end of the century to enable future expansion.

Unlike the pre-defined whitelist, the non-whitelist measures have **not been pre-assessed**. Specifically, their technical performance thresholds, site-specific suitability, and potential localised environmental impacts have not been evaluated or verified in advance. Because climate adaptation is highly context-dependent, universal pre-assessment is not feasible. A measure that delivers a substantial adaptation benefit in one location could inadvertently trigger maladaptation, or fail to meet operational needs, in another. Consequently, non-whitelist measures are **not automatically eligible** for Taxonomy alignment. Users need to subject them to the full PBA, demonstrating with robust evidence that the measures make a substantial contribution to adaptation and that all associated maladaptation and DNSH risks are effectively identified, assessed, and managed.

Despite requiring a full PBA, the pre-defined non-whitelist can facilitate practical market application by providing a curated set of potentially relevant adaptation measures as a starting point. This helps reduce the effort involved in scoping options, supports more consistent assessment, and lowers the reporting and analytical burden associated with developing measures entirely from scratch.

To further support users, the Taxonomy provides a list of **illustrative assessment metrics** for each pre-defined non-whitelist measure. These metrics consist of threshold-based, quantitative indicators that evaluates how effectively an adaptation measure demonstrates a substantial contribution to adaptation. To inform the setting of these quantitative thresholds, the Taxonomy also provides relevant parameters that reflect location-specific considerations, drawing reference from technical guidelines and specifications by relevant Government departments. For the purpose of assessing Taxonomy alignment, these metrics are non-exhaustive and serve as guidance references rather than fixed criteria. When adopting a measure from the pre-defined non-whitelist, the user needs to determine the appropriate thresholds and specifications for the relevant metrics based on the findings of the physical climate risk assessment and the adaptation plan developed under the PBA.

For the pre-defined non-whitelist, refer to Table 32.

Illustrative example

For a coastal wave wall, relevant assessment metrics may include increased flood protection level in [x] meters (m) against business as usual, based on its structural dimensions (e.g. height and length) and the maximum sea levels expected at the site. The project proponent is responsible for determining appropriate thresholds for these metrics based on the findings of a physical climate risk assessment and adaptation plan developed under the PBA. For instance, the assessment may be used to determine the minimum height required for the wave wall to withstand projected storm surges and overtopping waves.

A real-life example of this is in Tseung Kwan O, Hong Kong, where a multiple-line of defence strategy is adopted to mitigate coastal flood risks alongside ongoing management measures:

- 1st line of defence: A 1.1-metre-high wave wall to attenuate incoming waves.
- 2nd line of defence: A 1.3-metre-high flood wall to prevent water ingress to inland area by forming a coastal buffer zone.
- 3rd line of defence: Demountable flood barriers installed at building entrances.

Note:
The dimensions quoted are site-specific and should not be interpreted as generic design criteria or Taxonomy thresholds.

The design of these structures needs to take into account various parameters, such as extreme sea levels, projected sea-level rise, storm surges, and wind speed. Technical details are available in the Port Works Design Manual published by the Civil Engineering and Development Department.[145]

Category 3 – User-defined Whitelist

Under this category, Taxonomy users may propose whitelist measures that are not captured in the pre-defined whitelist. In such cases, the user must first conduct a PBA. The PBA must demonstrate that the measure is fit-for-purpose, makes a substantial contribution to climate adaptation, and manages maladaptation and DNSH risks. In addition, users should provide supporting evidence, such as credible scientific literature and research and technical reports, to demonstrate that the proposed measure is universally applicable, delivers a substantial contribution to adaptation across a broad range of contexts, and that it presents minimal risks of maladaptation and DNSH.

Upon completing the assessment, users may submit the proposed measure(s) along with robust supporting evidence to the HKMA for consideration. This submission is strictly for consideration of potential inclusion of the measure(s) in future iterations of the Taxonomy and does not guarantee adoption. The measure(s) must undergo a rigorous vetting and governance process, which includes review by HKMA's external expert consultant. This evaluation ensures that the proposed measure(s) delivers a substantial contribution to climate adaptation across a broad range of contexts, while presenting minimal risks of maladaptation and DNSH.

145 https://www.cedd.gov.hk/eng/publications/ceo/pwdm/index.html

Category 4 – User-defined Non-whitelist

Under this category, Taxonomy users may define bespoke non-whitelist measures that are not captured in the pre-defined lists. This category is intended to accommodate project-specific, location-specific, or innovative measures where no suitable reference measure is yet available in the Taxonomy.

This flexibility is particularly important in the context of climate change adaptation, as the suitability of a measure will often depend on the specific climate hazards, site conditions, asset characteristics, and operational needs of the activity concerned. A measure that is appropriate in one project or location may not be appropriate in another, even when the broad hazard type is similar.

Where this category is adopted, the Taxonomy user is responsible for identifying the measure having regard to the physical climate risk assessment and adaptation plan under the PBA, and for demonstrating why the measure is appropriate to address the relevant climate risks facing the activity. The user is also responsible for identifying appropriate assessment metrics and determining suitable thresholds for those metrics, taking into account the location, design, operating conditions, and climate vulnerability of the activity, among other factors.

Future Application of Do No Significant Harm (DNSH)

While the concept of DNSH is not yet fully considered under Phase 2B of the Taxonomy, it is expected that future iterations will develop detailed DNSH criteria across the relevant environmental objectives, consistent with international practices while taking into account local contexts.

In the interim, the PBA introduces generic principles relating to DNSH to climate change mitigation, given the close relationship between both mitigation and adaptation objectives, which are both critical in addressing climate change impacts. In practical terms, activities that substantially contribute to adaptation should also avoid causing significant increases in GHG emissions.

Table 31. Pre-defined Whitelist Measures

Sector	Predefined whitelist measures		Climate hazard(s)	Adaptation outcome(s)
Energy	1	Installation of automated grid controls	Storm damage	Automated power distribution control during storms
	2	Strengthening of grid configuration	Storm damage	Improved power grid resilience to storm impacts
	3	Management of vegetation around transmission and distribution lines	Storm damage, Flood damage	Minimised risk of vegetation-induced power disruptions
Transportation	4	Installation of road and traffic monitoring and warning systems	Flood damage	Real-time road condition monitoring during floods
Buildings	5	Installation of lightning rods	Storm damage	Protection against lightning strikes
	6	Installation of no-return valves	Flood damage	Prevention of sewage backflow during flooding
ICT	7	Installation of underground telecommunications lines	Storm damage	Protection of communication lines from storm impacts
	8	Use of off-grid renewable energy and batteries	Storm damage	Maintained power for critical systems during storms
Risk management and response	9	Implementation of weather and energy use monitoring, forecasting, and modeling systems	Storm damage, Flood damage	Enhanced storm prediction and energy demand forecasting
	10	Installation or enhancement of safety and emergency systems and response capabilities	Storm damage, Flood damage	Rapid, effective, and enhanced emergency response capabilities during storms and floods
	11	Installation of flood monitoring and warning systems	Flood damage	Real-time flood monitoring and early warning
Water	12	Implementation of stormwater separation	Flood damage	Separation of rainwater from wastewater systems
	13	Implementation of automated water control systems	Flood damage	Optimised water usage and loss prevention
	14	Installation of water metering	Water stress	Optimised water distribution
	15	Installation of water resource monitoring equipment	Water stress	Real-time monitoring of water resource availability

Table 32. Pre-defined Non-whitelist Measures

	Pre-defined non-whitelist measures	Climate hazard(s)	Adaptation outcome(s)	Examples of assessment metrics[146] (non-exhaustive)
Buildings & infrastructure				
1	Installation of flood barriers (including demountable flood barrier, self-rising flood barrier, flip-up flood barrier, swing gate, rolling gate, water/ air filled tube barrier, portable flood barrier, doorway barrier).	Flood damage	Prevention of water entry to structures.	Key assessment metrics to consider: (i) Reduction of floodwater inundation/ intrusion by [x] cubic meters per second (m^3/s) against business as usual (ii) Increased flood protection level in [x] meters (m) against business as usual Key parameters to consider: (i) Height and length of barrier (ii) Maximum sea levels and flood depths (iii) Site constraints
2	Elevation of critical equipment and assets above flood levels		Protection of critical equipment from flood damage.	Key assessment metrics to consider: (i) Reduced flood water contact of [x] cubic meters (m^3) against business as usual Key parameters to consider: (i) Maximum sea levels and flood depths
3	Adjustment of road and walkway height		Securing the accessibility of transport and pedestrian links above flood levels.	Key assessment metrics to consider: (i) Increased flood protection in [x] meters (m) against business as usual Key parameters to consider: (i) Maximum sea levels and flood depths
Shoreline management				
4	Installation of wave wall (including wave return wall)	Flood damage	Flood protection for coastal areas.	Key assessment metrics to consider: (i) Increased flood protection level in [x] meters (m) against business as usual Key parameters to consider: (i) Height and length of wall (ii) Maximum sea levels (iii) Climate projections in extreme sea levels
5	Raising height of existing wave wall or wave return wall		Enhancement in functionality of shoreline protection structures.	Key assessment metrics to consider: (i) Increased flood protection level in [x] meters (m) against business as usual Key parameters to consider: (i) Height and length of wall (ii) Maximum sea levels (iii) Climate projections in extreme sea levels

146 Key assessment metrics refer to quantitative indicators used to evaluate the effectiveness of an adaptation measure in achieving its intended adaptation outcome(s). While selected metrics are outlined as guidance, specific thresholds have to be determined on an individual project basis, depending on the climate hazard(s) and site conditions where the project is situated. In defining the respective thresholds, relevant parameters can be considered, as listed.

Table 32. Pre-defined Non-whitelist Measures

	Pre-defined non-whitelist measures	Climate hazard(s)	Adaptation outcome(s)	Examples of assessment metrics[147] (non-exhaustive)
Shoreline management				
6	Installation of blockwork seawall and/or rubble mound seawall	Flood damage	Flood protection for coastal areas.	Key assessment metrics to consider: (i) Increased flood protection level in [x] meters (m) against business as usual Key parameters to consider: (i) Height and length (ii) Maximum sea levels
7	Installation of breakwater		Dissipation of wave energy before reaching shore for flood protection for coastal areas.	Key assessment metrics to consider: (i) Reduced average wave height in [x] meters (m) against business as usual Key parameters to consider: (i) Height and length of breakwater (ii) Maximum sea levels
Drainage management				
8	Upgrading of surface channels and surface treatment channels	Flood damage	Increased capacity to remove flood waters.	Key assessment metrics to consider: (i) Increased flood control capacity in [x] cubic meters per second (m^3/s) against business as usual Key parameters to consider: (i) Drainage capacity (ii) Rate of floodwater
9	Installation of sump pumps		Increased capacity to remove flood waters.	Key assessment metrics to consider: (i) Increased water removeal capacity in [x] cubic meters per second (m^3/s) against business as usual Key parameters to consider: (i) Drainage capacity (ii) Rate of floodwater
10	Improvement on existing drainage system (including interception and diversion of storm flow from upland catchment)		Increase in flow capacity and more effective collection of surface runoff or to direct discharge into the sea to avoid the storm flow from overloading the downstream drainage system.	Key assessment metrics to consider: (i) Increased drainage capacity in [x] cubic meters per second (m^3/s) against business as usual; or (ii) Increased water removal capacity in [x] cubic meters per second (m^3/s) against business as usual Key parameters to consider: (i) Drainage capacity (ii) Rate of floodwater (iii) Climate projections for increase in rainfall intensity (iv) Flood extent

Pre-defined non-whitelist measures		Climate hazard(s)	Adaptation outcome(s)	Examples of assessment metrics[147] (non-exhaustive)
Drainage management				
11	Installation of stormwater storage facilities	Flood damage	Temporarily retain storm flow from upland catchment and attenuate the peak runoff loading on the downstream drainage system.	Key assessment metrics to consider: (i) Increased storage capacity in [x] cubic meters (m^3) against business as usual Key parameters to consider: (i) Drainage capacity
12	Installation of stormwater pumping stations		Faster evacuation of storm flow at flood prone areas directly to the sea.	Key assessment metrics to consider: (i) Increased water removal capacity in [x] cubic meters per second (m^3/s) against business as usual Key parameters to consider: (i) Drainage capacity
13	Installation of protective bund		Stop storm flow from entering into low-lying areas.	Key assessment metrics to consider: (i) Increased flood protection level in [x] meters (m) against business as usual Key parameters to consider: (i) Height and length (ii) Maximum sea levels and flood depths (iii) Site constraints

Annex VI: Steps of the Process-based Approach

Step 1: Define the scope and classify the economic activity

The first step is to define the economic activity being assessed, determine whether it is an adapted activity or an enabling activity, and establish the boundary of the PBA assessment. This involves identifying the following parameters:

- the nature of the activity, including whether it is an adapted activity or an enabling activity;
- the location where the activity takes place;
- the assets, operations, facilities, or processes within scope;
- where relevant, key dependencies or interfaces with surrounding systems or supporting infrastructure; and
- the assessment timeframe, i.e., expected lifetime of the activity.

For enabling activities, the assessment should also identify the following parameters, where relevant:

- the technology, product, service, information, or practice being provided;
- the target activities, systems, or beneficiaries to which it relates; and
- the intended enabling adaptation function, namely how the activity is expected to reduce physical climate risk or strengthen resilience for those target activities, systems, or beneficiaries.

The purpose of this step is to establish a clear basis for the ensuing assessment by determining what is being assessed, where it is located, which parameters are covered, and how the activity is intended to support adaptation.

In defining the assessment boundary, the focus differs by activity type:

- For adapted activities, the assessment boundary should focus on the activity whose own operations, assets, or performance are being made more climate resilient.
- For enabling activities, the assessment boundary should focus on the activity that develops, manufactures, or provides the adaptation measures to enable other activities and systems to become more resilient.

Demonstration of enabling contribution

An activity classified as an enabling activity should demonstrate that it is enabling in nature and makes a substantial contribution to climate change adaptation by supporting the resilience of other activities and systems. This requirement does not apply to adapted activities.

To demonstrate the enabling contribution, the activity should satisfy both of the following conditions:

(1) **The activity has an enabling nature**
The activity should develop, manufacture, or provide a technology, product, service, information, or practice that is demonstrably relevant to addressing identified current or projected physical climate risks affecting other activities, systems, or beneficiaries.

(2) **What the activity develops, manufactures, or provides has an adaptation focus**
The technology, product, service, information, or practice developed, manufactured or provided should have the primary purpose of:

- increasing the resilience of other economic activities or systems; and
- supporting their adaptation to current and projected physical climate risks.

Step 1 is limited to defining the scope and boundary, as well as to the classification of the activity. It does not yet consider the materiality of climate hazards, which is addressed in Step 2.

Step 2: Conduct physical climate risk assessment

A physical climate risk assessment is a structured process for identifying, analysing, and evaluating the potential physical impacts of climate change on an economic activity over its expected lifetime.[147] It examines the materiality of climate hazards, an activity's vulnerability, and the resulting risks.

The assessment follows a two-step process:

(1) Identifying climate hazards

Evaluate the economic activity to identify the climate hazards which could affect its physical assets, infrastructures, and/or operations:

a) For adapted activities, the climate hazards affecting the adapted activity itself;

b) For enabling activities, in addition to (a) above, the climate hazards affecting the target activities or systems that the enabling activity is intended to support, based on local adaptation policies and plans.[148]

The evaluation should consider both the likelihood and potential severity of the climate hazards. Table 33 provides a non-exhaustive list of common climate hazards contextualised for Hong Kong and aligned with global taxonomies.

147 EU Taxonomy Delegated Act, Appendix A, https://ec.europa.eu/sustainable-finance-taxonomy/assets/documents/CCM%20Appendix%20A.pdf

148 This criterion may be fulfilled by a screening against Table 1.

Table 33. Common climate hazards in Hong Kong[149,150]

	Temperature-related	Wind-related	Water-related	Solid mass-related
Chronic	• Changing temperatures • Heat stress • Temperature variability • Changing seasonality • Extreme humidity	• Changing wind patterns	• Changing precipitation patterns and types • Hydrological variability • Ocean acidification • Saline intrusion • Sea level rise • Water stress	• Coastal erosion • Soil degradation • Soil erosion
Acute	• Heat waves	• Typhoons • Cyclones • Tropical or convective storms	• Storm surges • Heavy precipitation • Flood (coastal, fluvial, pluvial, and ground water)	• Landslides or rockfalls • Subsidence

(2) Conducting physical climate risk assessment

Based on the vulnerability of the economic activity to one or more climate hazards identified above, a detailed physical climate risk assessment should be conducted.

The physical climate risk assessment should assess the significance, considering both the likelihood and consequences, of the identified climate hazards, alongside potential changes in the vulnerability of the activity over its expected lifetime.

To ensure compliance and comprehensive risk management, the physical climate risk assessment should consider the following:

(a) Selection of climate data

(i) Appropriate climate data resolution and time horizon: Select the appropriate resolution and time horizon of climate data depending on the expected lifetime of the economic activity.

- For activities with lifetimes < 10 years: Use recent historical climate variability and trend data at the smallest appropriate scale of climate data resolution. Where possible, localised decadal climate forecasts are referenced.

- For activities with lifetimes ≥ 10 years: Use the highest available climate data resolution, state-of-the-art climate science, long-term climate projections across future climate scenarios[151] relevant to the expected lifetime of the activity. For major investments, projections covering at least a 10- to 30-year horizon should be used.

149 The climate-related hazards listed in this table draw on Appendix A of the EU Taxonomy Delegated Act. The table is non-exhaustive and intended to provide an indicative list of the most common climate hazards contextualised for Hong Kong.

150 Chronic hazards refer to progressive shifts, while acute hazards refer to extreme events that occur at a point of time. https://www.hkma.gov.hk/media/eng/doc/key-functions/ifc/green-and-sustainable-finance/General_Teach-in_on_Climate_Risks_and_Terminology.pdf

151 Future scenarios include the Intergovernmental Panel on Climate Change (IPCC) Shared Socio-economic Pathways-Representative Concentration Pathways, i.e., SSP1-1.9; SSP1-2.6; SSP2-4.5; SSP3-7.0; SSP5-8.5.

(b) Methodology

(i) Use best practices and available guidance: The climate projections and physical climate risk assessment should adhere to state-of-the-art climate science and available guidance and be consistent with the latest reports of the Intergovernmental Panel on Climate Change (IPCC), peer-reviewed scientific literature, and credible models. Examples of Hong Kong-specific tools, scenarios, and models are provided in Table 34.

(ii) Range of climate models as basis: The assessment should draw on a range of climate models to evaluate the vulnerability of the economic activity to different climate hazards. It should consider the full potential range of projected changes in climate hazards across different climate models for any given emissions scenario, rather than relying solely on the average outcome. At a minimum, climate projections should include the SSP5-8.5 emissions scenario.

(c) Socio-economic impacts

(i) Socio-economic factors: The assessment should take into account relevant socio-economic factors arising from the vulnerability of the economic activity. For example, when identifying vulnerable shoreline areas, consideration could be given to factors such as land use, topography, transport connectivity, and the location of critical infrastructure, among other relevant aspects.[152]

(d) Periodic review and updates

(i) Review and update: The assessment should be reviewed and reconducted every five years (or at an interval that aligns with local policies, whichever is shorter) to ensure that it remains relevant, accurate, and fit for purpose.[153] The review should confirm whether the activity boundaries, climate scenarios, data inputs, methodologies, and underlying assumptions used in the assessment continue to reflect the characteristics of the activity and the latest available information. Updated data inputs may include localised data such as rainfall patterns from local weather observatories.

152 Example identified in the Civil Engineering and Development Department's Shoreline Management Guideline for Coastal Development.

153 In cases where there are significant changes in business or in the assumptions underpinning the assessment, a more frequent review and reconduct of the assessment is recommended.

Table 34. Hong Kong-specific tools, scenarios and models (non-exhaustive) for conducting physical climate risk assessments.

Assessment guidance
1) Environmental Protection Department, A Study of Climate Change in Hong Kong Appendix C: Vulnerability and Adaptation Assessment.
2) Civil Engineering and Development Department (2026), Shoreline Management Guideline for Coastal Development.
3) Network for Greening the Financial Systems (2022), Physical Climate Risk Assessment: Practical Lessons for the Development of Climate Scenarios with Extreme Weather Events from Emerging Markets and Developing Economies.
Assessment scenarios and projections
4) Environmental Protection Department, Hong Kong Environmental Database (HKED).
5) Hong Kong Observatory, Climate Projections for Hong Kong.
6) World Bank, Mean Projections (CMIP6) for Hong Kong.
Assessment tools and data
7) Environmental Protection Department, Hong Kong Environmental Database (HKED).
8) Hong Kong Monetary Authority, Physical Risk Assessment Platform.[154]
9) Civil Engineering and Development Department (2026), Port Works Design Manual.
10) Drainage Services Department, Technical Manuals.
11) Hong Kong Observatory, Storm Surge Records.
Additional references
12) Environmental Protection Department, Good Practices and Achievements on Ecology through the EIA process in Hong Kong.

Step 3: Develop and implement measures in adaptation plan

Following the physical climate risk assessment, an adaptation plan should be developed.

The adaptation plan should set out targeted adaptation measures to reduce the vulnerability of the economic activity to the identified climate hazards. The measures may be physical (structural) or non-physical (operational/ governance). They should be tailored to the nature, scale, and expected lifetime of the economic activity.

154 The HKMA Physical Risk Assessment Platform is made available to the Authorised Institutions of the HKMA.

When drawing up the adaptation plan, the following factors should be considered:

(a) Implementation

For **existing activities, and new activities that rely on existing physical assets**, the adaptation plan should outline an implementation strategy whereby all relevant adaptation measures are fully deployed within five years of the physical climate risk assessment.

For **new activities, and existing activities requiring newly built physical assets**, the adaptation plan should ensure that relevant adaptation measures have been integrated directly into the initial design and construction phases of the asset, and fully operationalised before the official commencement of the relevant activities.

(b) Management of potential maladaptation risks

To effectively build resilience, implemented adaptation measures should substantially contribute to climate change adaptation without causing or contributing to maladaptation – i.e. they should not adversely affect the climate resilience of other people, nature, assets, or adjacent economic activities.

The adaptation plan and measures implemented should be tailored to suit the specific local context, drawing on the assessment results on system boundaries and interdependencies, as well as climate risks from Steps 1 and 2. They should apply a precautionary principle and prepare for any potential failures, through addressing the following:

(i) Climate uncertainty: Consider data variances and uncertainties in physical climate risk assessments, such as differing flood risk projections across various climate models.

(ii) Data miscalculations: Avoid engineering errors that may undermine the effectiveness of adaptation measures and increase vulnerability, such as underestimating coastal barrier heights, which could result in breach or failure.

(iii) System boundary failures: Prevent negative externalities, such as expanding local flood walls that inadvertently displace water that floods neighbouring areas and communities.

(c) Prioritisation of Nature-Based Solutions (NbS)[155]

Where feasible, adaptation measures should strive to prioritise green or blue infrastructure[156] over traditional grey infrastructure. These solutions should be designed to simultaneously support biodiversity and deliver broader ecosystem services.

(d) Alignment with local and regional policies

Adaptation measures should strive to align with local, sectoral, and regional adaptation priorities or strategies, including physical climate risk assessments from regional authorities. Any material inconsistencies with official public strategies should be avoided, or otherwise justified and explained.[157]

155 Nature-based solutions are actions inspired and supported by nature that are cost-effective, deliver environmental, social, and economic benefits, and help build resilience. They enhance the presence, diversity, and functioning of nature and natural processes in cities, landscapes, and seascapes through locally appropriate, resource-efficient, and systemic interventions. EU Taxonomy, Appendix A, https://ec.europa.eu/sustainable-finance-taxonomy/assets/documents/CCM%20Appendix%20A.pdf

156 Green and blue infrastructure refers to a strategically planned network of natural and semi-natural areas, together with other environmental features, that is designed and managed to deliver a wide range of ecosystem services. It includes green spaces and, where aquatic ecosystems are involved, blue spaces, as well as other physical features across terrestrial, coastal, and marine areas. EU Communication from the Commission, Section 1.2, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52013DC0249

157 For avoidance of doubt, all relevant local and regional regulations should be adhered to. The Hong Kong Taxonomy does not provide any exemptions to mandatory requirements.

(e) Do No Significant Harm (DNSH) to climate change mitigation objective

While the activity substantially contributes to adaptation, it should also avoid causing significant increases in GHG emissions, which undermine climate change mitigation objectives and ultimately run counterproductive to climate change adaptation goals.

DNSH should be considered holistically at both the measure- and activity-level. For example, an investment in flood-resilient breakwaters (i.e., measure) within a port that operates as a hydrocarbon terminal (i.e., activity) should consider risks of significant harm to climate change mitigation at the activity-level, even if the measure itself may not necessarily pose such risks.

While DNSH is not yet developed under Phase 2B of the Hong Kong Taxonomy, adaptation activities / measures should align with all the following principles:

(i) The adaptation activity/measure does not involve direct fossil fuel power generation, or the exploration, refinement, supply, or transportation of fossil fuels. For avoidance of doubt, adaptation measures for protecting infrastructure that supports the transmission and distribution of power from the grid and/or directly from non-fossil power plants are eligible.

(ii) The adaptation activity/measure should avoid a lock-in of fossil fuel use. This means the activity/measure should, where technically feasible, use technologies or equipment that are compatible with non-fossil fuel alternatives and not be committed to long-term or permanent fossil fuel use. The activity/measure also should not be used to protect, reinforce, or extend the lifespan of dedicated fossil-fuel assets.

(iii) The activity/measure should avoid a material increase in GHG emissions intensity per unit across the core operations of the activity[158] over the lifespan of the investment, taking into account relevant internal assessments, project-level metrics, or other review processes selected by the user.[159]

Table 35. Hong Kong-specific guidance (non-exhaustive) for developing and implementing adaptation measures.

Assessment guidance
1) Drainage Services Department (2010), Application of the Drainage Impact Assessment Process to Private Sector Projects.
2) Drainage Services Department (2023), Practice Note No. 2/2023 - Guidelines on Flood Resilience.

158 Activities should avoid backsliding into less efficient technologies, higher emissions fuels and feedstock, etc. The consideration of increased GHG emissions arising from the implementation of adaptation measures depends on whether the measure relates to the core functioning of the activity. For example, emissions associated with retrofitting pumps within water infrastructure to manage fluctuating water demand should be taken into account, while emissions associated with installing flood defenses to protect a manufacturing facility do not need to be included.

159 Activities/measures that are dedicated to the protection of common spaces, such as community spaces, not dedicated to fossil fuel activities are exempted from this requirement. In such cases, the adaptation project developer does not have control over the operations of individual businesses operating within the common space and is not expected to collate GHG emissions intensity information from those businesses. For example, installing a sea wall to protect a seaside village.

Step 4: Monitor implementation and performance

Once adaptation measures are deployed, their performance should be monitored and measured against pre-defined indicators, including both output and outcome indicators.[160]

- **Output indicators** refer to straightforward, tangible deliverables that can be directly attributable and verifiable through contracts, commissioning, technical reports, and other documented evidence. For example, shoreline protection investments could be monitored based on the number of early warning systems operational and transmitting alerts, or kilometres of drainage infrastructure installed to design specifications.

- **Outcome indicators** refer to the operational performance, system reliability, service continuity, and loss patterns during or after climate events, demonstrating that resilience was indeed enhanced. For example, shoreline protection investments could be monitored based on the operational downtime hours of facilities during flood season as compared to their non-adapted counterparts, or the recovery time of businesses to full service after extreme weather events.

All activities should be monitored for their improved adaptive capacity resulting from their respective adaptation investments. Additionally, for enabling activities, the improved adaptive capacity of broader activities and systems benefitting from the technology, product, service, information, or practice provided should also be tracked.[161]

The tracking metrics should align with international best practices and guidance, as detailed in Table 36.

160 UNEP FI, Adaptation and Resilience Impact Measurement Toolkit: A practical framework for financial institutions, https://www.unepfi.org/themes/climate-change/adaptation-and-resilience-impact-measurement-toolkit-a-practical-framework-for-financial-institutions/

161 For example, a user may monitor performance by tracking the quantity of enabling products manufactured alongside an estimation of the number of local communities protected through the use of those products.

Table 36. Adaptation indicators (non-exhaustive).

Guidance	Description
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Repository of Adaptation Indicators: Real case examples from national Monitoring and Evaluation Systems	List of context-specific indicators for various climate parameters, climate impacts, adaptation action, and adaptation results.
Global Impact Investing Network Impact Reporting and Investment Standards (GIIN IRIS+), Climate Adaptation and Resilience Core Metrics Set	Recommended common indicators for improving the capacity of communities to adapt to climate risk, increasing agricultural resilience through technology, improving power systems resilience, and improving household resilience to flood risk.
United Nations Environment Programme (UNEP), Land Use Finance Impact Hub	Core and secondary metrics across the impact areas of biodiversity, climate action, sustainable production, livelihoods. Metrics are mapped to the relevant Sustainable Development Goals (SDGs).
EPA Research, Policy Coherence in Adaptation Studies: Selecting and Using Indicators of Climate Resilience	Provides adaptation indicators that serve as variables to measure and quantify climate resilience, tracking the progress of policy implementation and environmental actions over time.
ICMA, Harmonised Framework for Impact Reporting	Standardised performance metrics that allow green bond issuers to transparently measure and report the expected environmental impacts of their allocated proceeds.
UNEP FI, Adaptation & Resilience Impact: A measurement framework for investors	Clear, consistent, and robust framework and impact metrics examples for measuring the impact of investments on climate adaptation and resilience, which can be embedded in investment cycles.
Environmental Change Institute, Adaptation Targets and Metrics	Adaptation and nature-related targets and metrics that have been synthesised from more than 30 different standards bodies and reports, including ISSB, TCFD and SASB.

Table 37. Other references.

Guidance	Description
UNEP FI, Adaptation Finance Taxonomy Playbook	Supports the implementation of taxonomy approaches through practical, decision-useful tools. Financial institutions can apply these tools in real-world settings to more effectively identify, assess and scale adaptation finance opportunities across jurisdictions.
UNEP FI, Adaptation and Resilience Impact Measurement Toolkit: A practical framework for financial institutions	Provides a practical and credible framework for assessing, tracking, and reporting adaptation and resilience impact across financing activities.

Step 5: Take corrective actions as necessary

Where indicators or targets are not met due to previously unforeseen factors, appropriate corrective action should be taken. This should include both of the following:

(1) Implement remedial measures

Undertake remedial actions to address any further climate risks identified, including reducing vulnerability, strengthening adaptive capacity, or increasing human and/or financial resources available to manage the climate hazards and impacts.

(2) Update the physical climate risk assessment

Review and update the physical climate risk assessment using the latest available data, assumptions, and information in order to improve the accuracy and precision of climate projections and risk findings.

Third Party Verification

To ensure robustness and credibility, independent verification is recommended as a best practice for all PBA assessments.

Appendix :
Consultation Questions

Prototype of Hong Kong Taxonomy for Sustainable Finance (Phase 2B)

The public consultation for the Prototype of Hong Kong Taxonomy for Sustainable Finance (Phase 2B) will run from 7 September 2026 until 7 October 2026. The HKMA welcomes feedback from all stakeholders and members of the public.

To provide feedback, please respond to the consultation questions below. Please submit your response to hongkong.consultations@climatebonds.net on or before the deadline. In your submission, please include your name, the organisation you represent, your position title, organisation type, and email address for correspondence.

Name of respondent:

Organisation:

Type of organisation (e.g. bank, NGOs):

Position title:

Email address:

1	**Taxonomy design, structure, and scope**
A	Is the current Taxonomy design and structure clear and relevant? If not, how can they be improved?
B	Is the Taxonomy easy to navigate across the various chapters and sections? If not, what structural or formatting improvements do you recommend?
C	Are the graphics and diagrams clear and comprehensible? If not, how can they be improved to better communicate the technical framework?
D	What are your views on the current scope of the Taxonomy regarding climate change mitigation? Specifically, which sectors, activities, or structural elements should be prioritised for inclusion in future phases?
E	What are your views on the current scope of the Taxonomy regarding climate change adaptation? Specifically, which climate hazards, adaptation measures (whitelist and non-whitelist), or structural elements should be prioritised for inclusion in future phases?
F	Which environmental objective should be prioritised for development in future phases?
2	**Taxonomy methodology**
A	On climate change mitigation, does the current classification framework, including the principles and definitions for each category (i.e. Green Activity, Transition Activity, Transition Measure), remain clear, relevant, credible, and usable under the expanded Taxonomy? If not, how can it be improved?
B	On climate change adaptation, is the expanded adaptation assessment methodology, based on the Process-Based Approach, clear, relevant, credible, and usable? What are your views on the proposed adaptation categorisation and different pathways for assessing adaptation measures?
3	**Sector chapters** *(For these questions, please specify the environmental objective, sector and activity/measure concerned)*
A	Is the sector introduction clear and the level of context and detail sufficient? If not, are there other sources or related information that can be referenced? Please include the document link(s).
B	For climate change mitigation, what are your views on the metrics and technical criteria for Green Activities, Transition Activities, and Transition Measures, including their credibility, usability, clarity, interoperability with global taxonomies and level of ambition? Please provide specific suggestions for improvement.
C	For climate change adaptation, what are your views on the steps of the Process-Based Approach, the pre-defined whitelist, as well as the illustrative assessment metrics for the pre-defined non-whitelist? Please comment on their credibility, usability, clarity, and provide specific suggestions for improvement.
D	For climate change mitigation, is there an alternative approach that has not been considered for demonstrating alignment for the criteria under Green Activity, Transition Activity and Transition Measure? Please provide evidence to justify recommendation.
E	What specific gaps, ambiguities, or implementation challenges do you foresee in applying the proposed metrics and technical criteria for climate change mitigation and adaptation, as applicable? Please provide specific suggestions for improvement.

F	Are there any metrics and technical criteria that could be further adapted in the local context?
G	Please provide any feedback on specific activities and/or measures, along with evidence to support your recommendations.
4	**Taxonomy implementation**
A	What are your suggestions on how the Taxonomy can be used in Hong Kong? What use cases do you consider as the most relevant and impactful and should be prioritised in the near-term? What use cases can be developed in the longer term?
B	Given that the Taxonomy is a voluntary tool at this stage, what actions or support can regulatory agencies provide in the near-term to increase its adoption? What actions or support can be provided in the longer term?
C	The Taxonomy is a living document. How often would you like to see updates and expansions to the Taxonomy? Are there specific sectors or activities that you consider should be prioritised for more frequent updates? Do you have any other feedback on Taxonomy implementation and maintenance?
5	**Additional comments**
A	Do you have any other questions, comments, or suggestions?

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