Joint Committee on Climate Change

Sustainable & Transition Finance Guidance

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The Sustainable and Transition Finance Guidance ("STFG") is issued by Joint Committee on Climate Change ("JC3") Sub-Committee 3 ("SC3"), Product and Innovation.

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Foreword

By Maybank

In the long arc of history, progress rarely travels in a straight line and in moments of crisis, retreat can carry profound consequences.

The world today is at a climate tipping point. Climate change, biodiversity loss and pollution are no longer distant threats, they represent an existential crisis that manifests in many forms: more severe and frequent floods, heatwaves, nature degradation, rising sea levels and healthcare-related challenges. These manifestations not only jeopardise growth and economic development, but also threaten the fabric of social harmony prevalent in ASEAN today.

ASEAN now finds itself at a critical crossroad. As our region undergoes transition-led economic development, we are still expected to depend on fossil fuels and hard-to-abate sectors in the medium term. Therefore, it is imperative that our pursuit of sustainable and transition finance is proactive and progressive, balanced with pragmatism and credibility when dealing with this reality. The global pursuit of net-zero must be grounded in regional considerations, and rooted in national policy implementations. The world cannot reach net-zero without ASEAN, and ASEAN cannot achieve net-zero without sustainable and transition finance.

Around the world, financial institutions are being called upon to lead, not only by decarbonising their own portfolios, but also by enabling real economy companies to transition in a credible and orderly way.

At Maybank, we share this conviction. Chairing the development of the **JC3** Sustainable and Transition Finance Guidance marks a key milestone in our thought leadership efforts and our broader journey toward net-zero. The Guidance is developed to guide banks on the recommended sustainable and transition finance principles that they should adhere to and assess against at both the asset and entity level when extending financing to real economy companies. A list of practical and widely available tools supplement the guiding principles to facilitate banks in their transaction evaluation.

To ensure consistency and maximise interoperability, elements within this Guidance draw upon existing international and regional sustainable and transition finance frameworks, guidelines and handbooks issued by various organisations and industry bodies and has been adapted with an ASEAN lens. Development was informed by industry needs, following an industry-wide survey conducted earlier in the year, and further refined based on the subsequent public consultation. In that spirit, the Guidance is developed by banks for banks in Malaysia, with the intention of spurring capital deployment towards activities, assets and real economy companies that are credibly transitioning with the aim of broadening the participation of Malaysian banks in sustainable and transition finance transactions.

Dato' Sri Khairussaleh Bin Ramli

President & Group CEO,
Maybank

Today, Malaysia's own transition is gathering pace. With the National Energy Transition Roadmap and Hydrogen Economy and Technology Roadmap, we now have bold blueprints to re-shape our energy system, accelerate industrial decarbonisation, and unlock opportunities for inclusive growth. The Guidance aims to lay the foundational groundwork and complement these national ambitions by guiding capital flows towards sectors and technologies that will power a just and orderly transition.

Maybank is proud to play an active role in JC3 to accelerate the financial sector's response to climate risk and transition finance. Through JC3, we have collaborated with peers, regulators, and stakeholders to co-develop a practical guidance and shape the broader policy environment that underpins sustainable and transition finance in Malaysia. This reflects JC3's spirit of collective action and commitment to thought leadership, technical expertise, and market-tested experience in support of Malaysia's net-zero ambitions. Together, we can - and must - build a future that is sustainable, resilient, and inclusive.

Contributor's Note

by CIMB & HSBC Amanah

The financial sector has a critical role to play in shaping an economy that grows responsibly while delivering long-term value for people and the planet. As the region continues to advance its climate and sustainability ambitions, the need for credible, transparent, and practical sustainable and transition finance solutions has never been greater.

This document serves as a guidance for Malaysian banks, offering clear principles and practical tools to assess sustainable and transition finance alignment. It aims to spur capital deployment towards activities, assets, and companies that are credibly transitioning, while maintaining consistency, transparency, and integrity in financing practices.

As Deputy Chair of this initiative, CIMB is proud to have contributed to this industry effort which we view as an essential step in strengthening Malaysia's collective ability to mobilise credible sustainable and transition finance at scale. By setting out clear principles, the Sustainable and Transition Finance Guidance supports Malaysia's climate and sustainability ambitions centered on achieving low-carbon, climate resilient development while balancing economic growth and social equity, well aligned with CIMB's purpose of Advancing Customers and Society.

Novan Amirudin

Group Chief Executive Officer/
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Malaysia has made clear and ambitious commitments in its transition journey. These targets represent a fundamental transformation of Malaysia's development model, aligning financial flows with climate goals, empowering our youth with green jobs, and turning policy into progress.

Globally, our customers are navigating a complex transition to net-zero. In some sectors and regions there has been significant progress; in others, the transition is proving harder and slower than anticipated. At HSBC Amanah, we continue to believe that the greatest contribution we can make as a financial institution to real world emission reductions is to deploy HSBC's strengths in support of our customers' transition. This will help to deliver long term value for customers and shareholders.

As a member of the JC3, HSBC Amanah seeks to support JC3 in pursuing collaborative actions for building climate resilience within the Malaysia financial sector. The development of the Sustainable and Transition Finance Guidance is an important endeavour to promote responsible sustainable and transition practices for financial institutions in Malaysia while serving as a reference point for capacity building initiatives that the JC3 can promote.

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Abbreviations

AMS	ASEAN Member States
APLMA	Asia Pacific Loan Market Association
ASEAN	Association of Southeast Asian Nations
ASEAN TFG	ASEAN Transition Finance Guidance
ATFG	Asia Transition Finance Guidelines
ATFWG	Asia Transition Finance Working Group
BAT	Best Available Technologies
BAU	Business as Usual
BECCS	Bioenergy with Carbon Capture and Storage
BF/BOF	Blast Furnace/Basic Oxygen Furnace
BNM	Bank Negara Malaysia
BREEAM	Building Research Establishment Environmental Assessment Method
CAPEX	Capital Expenditure
CBI	Climate Bonds Initiative
CCGT	Combined-Cycle Gas Turbine
CCPT	Climate Change and Principle-based Taxonomy
CCUS	Carbon Capture, Utilisation and Storage
CDP	Carbon Disclosure Project
CEO	Chief Executive Officer
CFPP	Coal Fired Power Plants
CO_2	Carbon Dioxide
DACCS	Direct Air Carbon Capture and Storage
DDQ	Due Diligence Questions
DFI	Development Financial Institution
DNSH	Do No Significant Harm
EC	Essential Criteria
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ERIA	Economic Research Institute for ASEAN and East Asia
ESG	Environmental, Social and Governance
ETI	Energy Transition Index
EU	European Union
EUI	Energy Usage Intensity
EV	Electric Vehicle
FAST-P	Financing Asia's Transition Partnership
GBC	Green Building Certification
GBI	Green Building Index
GDP	Gross Domestic Product
GFANZ	Glasgow Financial Alliance for Net-Zero
GHG	Greenhouse Gas
GLP	Green Loan Principles
GRI	Global Reporting Initiative
HETR	Hydrogen Economy and Technology Roadmap
ICE	Internal Combustion Engine
ICMA	International Capital Market Association
IEA	International Energy Agency
IFC	International Finance Corporation
IFRS	International Financial Reporting Standards
IPCC	Intergovernmental Panel on Climate Change
JC3	Joint Committee on Climate Change

KPI	Key Performance Indicator
KRI	Key Risk Indicators
KYC	Know your Customer
LEED	Leadership in Energy and Environmental Design
LMA	Loan Market Association
LSTA	Loan Syndications and Trading Association
LT-LEDS	Long-term Low Emission Development Strategies
MAS	Monetary Authority of Singapore
METI	Ministry of Economy, Trade and Industry
MPP	Mission Possible Partnership
MSME	Micro, Small and Medium Enterprise
NDC	Nationally Determined Contribution
NETR	National Energy Transition Roadmap
NGFS	Network for Greening the Financial System
NGO	Non-governmental Organization
NZBA	Net-Zero Banking Alliance
OECD TFG	Organisation for Economic Co-operation and Development Guidance on Transition Finance
OECD	Organisation for Economic Co-operation and Development
OPEX	Operational Expenditure
RM	Relationship Manager
SAF	Sustainable Aviation Fuel
SBTi	Science-Based Targets initiative
SBTs	Science-Based Targets
SC	Securities Commission Malaysia
SC3	Sub-Committee 3
SDGs	Sustainable Development Goals
SFIA	Sustainable Finance Institute Asia
SIA	Social Impact Assessment
SLB	Sustainability-Linked Bond
SLF	Sustainability-Linked Financing
SLLs	Sustainability-Linked Loans
SLP	Social Loans Principles
SME	Small and Medium Enterprise
SPO	Second Party Opinion
SPT	Sustainability Performance Target
SPV	Special Purpose Vehicle
SSFA	Singapore Sustainable Finance Association
STEPS	International Energy Agency's Stated Policies Scenario
STFG	Sustainable and Transition Finance Guidance
TPES	Total Primary Energy Supply
TPI	Transition Pathway Initiative
TPT	Transition Plan Taskforce
TSC	Technical Screening Criteria
UN	United Nations
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UOP	Use of Proceeds

1 Introduction

1.1 Preamble

The Earth's warming climate is amplifying the severity of violent weather events and eroding the long-term security of future generations. The Earth's annual average temperature anomaly was recorded at 1.28°C increasing from 1.17°C and 0.98°C in 2023 and 2020 respectively.[1] Consequently, this has negatively impacted food security, economic equality and standards of living in many developing nations, especially within vulnerable communities. Therefore, navigating the measures required to mitigate and remediate global warming must be considered together with ensuring an inclusive and just transition across all aspects of society.

Each economic participant has a role to play in ensuring that the collective target of keeping the global temperature rise this century well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5°C, for the betterment of future generations. Concerning financial industry players, banks play a pivotal role of allocating resources towards economic activities that generate economic growth and a positive sustainable impact. This holds especially true in critical economic sectors such as oil & gas, power generation and agriculture which are energy intensive and hard to abate. Like many ASEAN countries, Malaysia's growing population and shift towards a digital economy is expected to add further to energy demand. The Total Primary Energy Source ("TPES") indicates that Malaysia's energy demand is forecasted to increase from 95 Mtoe in 2023 to 102 Mtoe in 2050.[2]

To address the climate crisis and impending risks towards the nation, Malaysia has published the Nationally Determined Contributions Roadmap and Action Plan ("NDC RAP") that seeks to harmonise the policies and strategies the Malaysian government has already implemented and announced, and present a consolidated view of 5 sectors' decarbonisation trajectory (Energy, Industrial Processes and Product Use, Agriculture, Forestry and Other Land Use and Waste). The Malaysian financial sector's approach to sustainability and climate change is broadly guided by blueprints and masterplans released by regulators. In early 2022, Bank Negara Malaysia ("BNM") launched the Financial Sector Blueprint 2022- 2026 with a strategic thrust of facilitating an orderly transition of the banking system into a greener economy. The Capital Market Master Plan 4 ("CMP4"), which succeeds CMP3 (2021 – 2025), will be released by Securities Commission Malaysia in 2026. The CMP4 aims to strengthen Malaysia's position as a global hub for green, social and Islamic finance and facilitate capital mobilisation for transition efforts, adaptation and climate resilience. This demonstrates Malaysia's commitment to invest in the long-term security and resilience of the nation's economy, to ensure long-term prosperity.

In the same spirit, the Joint Committee on Climate Change ("JC3") was established in September 2019 and now serves as a platform for 25 financial industry practitioners and regulators to collaborate towards spurring climate resilience within the Malaysian financial sector. To deepen the understanding and provide further guidance amongst industry practitioners, the JC3 has developed this Sustainable and Transition Finance Guidance document. The document draws from a qualitative survey and existing frameworks and guidance to propound a structured approach for adopting sustainable and transition finance by

[1] NASA Global Temperature Latest Annual Average Anomaly, 2025
[2] National Energy Transition Roadmap, 2023

industry practitioners. The guidance attempts to contribute to the depth of existing publications, leveraging on the findings observed from 22 banks in Malaysia via a survey launched in March 2025. The survey aimed to understand and assess the current state of sustainable and transition finance and readiness within the financial sector. It focuses on key aspects of sustainable and transition finance journey to ascertain the maturity, challenges, capacity and capability of banks in Malaysia in order postulate recommendations for areas deemed as a high priority by practitioners.

1.2 Executive Summary

Malaysia's transition towards a low-carbon, climate-resilient economy presents both risks and opportunities for the financial sector. As the country advances towards its 2050 net-zero commitment, banks must play a central role in steering capital toward sustainable economic activities and credibly transitioning assets and entities. By referencing this Guidance, banks can support clients in developing viable transition plans, while spurring capital deployment and aligning financial flow towards activities, assets and real economy companies that are credibly transitioning. Consequently, this can help banks unlock new growth opportunities in areas such as the green economy and other emerging sectors while managing greenwashing risk.

Sustainable Finance Guiding Principles and Approach

Sustainable finance refers to the integration of environmental, social and governance (ESG) considerations across the full spectrum of financial products and services. Examples of environmental and social considerations are as below:

Environmental Considerations:

Climate change mitigation and adaptation, clean transportation, preservation of biodiversity, pollution prevention, circular economy, etc.

Social Considerations:

Issues of inequality, inclusiveness, affordability, accessibility, labour relations, investment in people and communities, human rights, etc.

Within this Guidance, sustainable finance refers to the provision of capital whether for capital expenditure or operational expenditure, by banks to support business activities with positive environmental and/or social objectives. In practice, sustainable finance mobilisation can be divided into two main categories:

- **Use of Proceeds Financing** – Financing that is earmarked towards activities or projects that contribute positively to one or more environmental and/or social objectives. This includes Green, Social and Sustainable Financing.
  - **Green / Environmental** – Financing that supports environmental objectives such as climate change mitigation and adaptation
  - **Social** – Financing that supports social objectives for target populations
  - **Sustainable** – Financing that supports both green and social objectives

- **General Purpose Financing** – Financing mobilised that is not tied to a specific asset, activity or project but can still qualify as sustainable finance. This typically includes financing mobilised:
  - **To Pure-Play Companies** – Companies whose core business contributes directly to sustainability outcomes. Generally, Pure-Play entities are those that derive ≥90% of their revenue from eligible green, social, or sustainable activities.
  - **Via Sustainability-Linked Financing** - Sustainability-Linked Financing are forms of financing where the financial terms of the financing facility are linked to the borrower achieving material, ambitious and pre-determined sustainability performance targets ("SPTs"), regardless of how the funds are used.

The Sustainable Finance section of the Guidance delves into the four key components as prescribed by the LMA/LSTA/APLMA Green and Social Loan Principles:

i. Use of Proceeds: The UOP component requires banks to establish a list of eligible projects or activities with clear environmental and/or social benefits where sustainable financing can be mobilised towards.

Key Recommendation

- Banks should setup an internal framework or reference of green and social eligible activities that can qualify for sustainable finance.
- Taxonomies or sustainable finance frameworks from peer banks can serve as benchmarks or references in developing this internal framework.

ii. Project Evaluation & Selection: Borrowers and banks should put in place processes to ensure that projects financed are reviewed against the UOP criteria before the sustainable financing proceeds is allocated to the project.

Key Recommendation

- Banks should set up an evaluation process involving the Business Units, Sustainability, and Risk teams amongst others to evaluate whether a particular deal meets the sustainable finance criteria.
- Banks should conduct an environmental and social risk assessment on the deal to identify potential negative harm caused by the deal, and work with clients to ensure mitigating plans are in place before approving the deal.

iii. Management of Proceeds: The financing provided must be linked to a specific project and that any allocation/placement of proceeds, including any unallocated amounts, must be transparently disclosed.

Key Recommendation

- Banks should conduct due diligence to ensure that the funds are used by clients for its intended purpose, i.e. during the annual credit review process.
- Safeguards such as ring-fencing clauses, disbursement conditions or verification obligations could also be imposed in the financing agreements.

iv. Reporting: Borrowers must be ready to disclose how the sustainable financing is allocated, and its environmental or social impacts, where feasible to banks.

Key Recommendation

- Banks should ensure they have an ability to assess that the funds are allocated to the intended sustainability projects. Depending on the nature of the financing, this could be achieved via regular client due diligence or reporting clauses.
- While impact reporting is less common amongst banks in Malaysia, banks should attempt to obtain relevant information from borrowers on the expected impact of the project to promote better disclosure and obtain more insights to guide future strategic decisions.

Best Practices for Governance of Sustainable Finance Transactions

The Guidance provides some governance best practices for banks when undertaking sustainable finance transactions. Recommendations include:

i. **Develop a Sustainable Finance Framework**: Banks can set up a Sustainable Finance Framework to outline principles and processes governing its approach to sustainable finance transactions, to ensure consistent adoption by its business units and relationship managers.

ii. **Disclosure of the Sustainable Finance Framework**: The Sustainable Finance Framework can either be published internally or externally, making it accessible to a wider range of stakeholders.

iii. **Second Party Opinion**: Although not mandatory, obtaining a Second-Party Opinion ("SPO") on the bank's Sustainable Finance Framework is widely regarded as best practice. An SPO provides an independent assessment that the framework aligns with recognised market standards and principles.

iv. **Governance Process**: Establish a formal governance process overseen by the institution's formal governing bodies with clear approval authorities and supplement with periodic audits to ensure that the Sustainable Finance Framework has continued alignment with internal policies and external standards.

Transition Finance Guiding Principles and Approach

Over the years, transition finance has lent itself to various definitions put forth by an array of organisations, industry bodies and governments, albeit to a varying degree of stringency and scoping. Nevertheless, the underlying motive of doing so remains the same – to spur and align financial flows towards activities and entities that can meaningfully drive real world decarbonisation at a speed and scale that is in-line with the temperature goals of the Paris Agreement.

Recognising the proliferation of transition finance definitions this Guidance does not prescribe a specific definition to transition finance. However, it is worth noting that most transition finance definitions carry some degree of commonality, and typically involves the mobilisation of finance towards activities or entities that:

- Are hard-to-abate, emission intensive or carbon intensive whose services are crucial and needed up to or beyond 2050;
- Facilitate material and core emission reduction with alignment towards net-zero via science-based pathway(s) that are aligned to the temperature outcome of the Paris Agreement; AND
- May not currently have a natively low or zero-emission alternative that is currently technologically available, or commercially viable;

Given that transition is ultimately defined by progress with the end goal being net-zero, activities financed under the transition finance label are expected to either:

i. Transition towards a low-to-zero (green) emission pathway within a reasonable timeframe - if they have a significant role to play in a beyond-2050 economy; OR

ii. Facilitate significant emissions reduction in the short term until a sunset date, pending the development and adoption of green asset/activity. These activities are therefore not fully green or deemed as long term climate solutions.

Transition finance, similar to green finance can be delivered through a wide variety of financial products, including debt instruments such as bonds and loans or equity instruments. Many transition finance Guidelines opine that the approach a bank should take when evaluating transition finance transactions depends on the type of financing provided, which can consist of:

Use of Proceeds financing

Financing that is ring-fenced towards a specific transition asset or activity.

General Purpose Financing

Financing provided for general use to credibly transitioning entities or for sustainability/transition linked loans/bonds.

However, the underlying financial structure and type of financing used to mobilise transition finance is not a key determinant or reflection of the credibility of the overall transaction. Instead, the credibility of a transition finance transaction is highly contingent on the purpose to which the financing is provided and the underlying principles that govern the transaction.

Transition finance is typically provided at either:

i. Asset Level: Involves the financing of a particular transitionary asset or activity and is governed by a dedicated use of proceeds to that asset or activity.

Recommended Guiding Principles

a. Net-Zero Aligned Science-Based Targets
b. Transition over time, not at a point in time
c. Material and Core Emission Reduction
d. No Carbon Lock in
e. Do No Significant Harm & Social Impact

ii. Entity Level: Involves the mobilisation of finance to real economy companies that have ambitious, robust and credible transition plans that ensures the company's alignment to the temperature outcome of the Paris Agreement. This form of financing is governed by a general use of proceeds

Recommended Guiding Principles

a. Net-Zero Commitment, Targets and Pathway
b. Timebound Action Plan
c. Governance & Accountability
d. Expenditure Plan
e. Monitoring
f. Just Transition
g. Transparency & Disclosure

While some Guidelines advocate a singular-lens approach—allowing either the asset or the entity to demonstrate transition alignment for the financing to be considered as transition finance - others advocate for a dual-lens approach, where both the asset being financed and the entity receiving the financing must demonstrate transition alignment. The transition finance section of this Guidance sheds light into the pros and cons of both approaches and provides some recommendation for banks in their pursuit of either approach.

The Guidance then delves further to provide clarity on the asset and entity level guiding principles (as listed above) that banks should minimally adhere to and assess against when mobilising transition finance to real economy companies. This is supplemented with existing practical and publicly available tools that can be used by banks for their evaluation. Where relevant, case studies have also been drawn up to assist banks in better understanding the tools and guiding principles put forth.

In closing, the Guidance outlines the most common challenges faced by banks and real economy companies when it comes to mobilising or seeking sustainable and transition finance and the efforts governments and organisations across different jurisdictions are taking to address these challenges. The section also briefly highlights the risks that could incur if sustainable and transition finance transactions are designed poorly.

1.3 Current State of Affairs in Malaysia

Malaysia's GDP is predominantly attributed to the Manufacturing and Services sector. These sectors collectively contributed approximately 82.0% to Malaysia's quarterly GDP growth as of Q3 2025.[3] Malaysia's Manufacturing sector grew by 4.1% YoY during the period, most notably via the electrical and electronics industry.[3] At the same time, the services sector recorded a growth of 5.0% YoY underpinned by Whole Sale and Retail Trade.[3,4]

Retrospectively, Malaysia's topmost emission intensive sectors are the Energy and Manufacturing Sectors with 79% of emissions attributed to the energy production and transportation. This is followed by the manufacturing sector which accounts for approximately 10% of total emissions. In terms of Energy Transition Index published annually by World Economic Forum, Malaysia ranked 2nd after China, amongst emerging and developing Asian economies with an ETI score of 58.7 above the Global average of 56.9[5]. This highlights the country's progress in terms of navigating a transition that is secure, equitable, and sustainable.

To ensure the country's long term energy security, Malaysia's National Energy Transition Roadmap ("NETR") aims to transition its energy systems from fossil fuels to greener, low-carbon systems. It targets to achieve net-zero emissions by 2050 and aims for installed renewable energy capacity of 70%, concurrently phasing out high emission sources such as coal by 2050.

Malaysia's Nationally Determined Contribution ("NDC") and action plans were introduced as a metric of success to guide its net-zero journey.[6] To ensure an inclusive sustainable economic transition, Malaysia announced key targets to guide its broad national transition:

- Reduce its greenhouse gas ("GHG") emissions intensity of GDP by 45% by 2030 relative to the emissions intensity of GDP in 2005[6]; and
- Achieve Net-Zero Emissions by 2050.[7]

In line with its ambitious aspirations, Malaysia unveiled the NETR in 2023 which charts the trajectory towards a brighter, cleaner, and resilient future. This is in line with the country's commitment to protect the rights of future generation and create sustainable economic opportunities to elevate itself on the global stage.[8]

The NETR outlines 50 initiatives under six energy transition levers and five enablers, in addition to the 10 flagship projects and initiatives which were announced in July 2023. The energy transition will be financed through a combination of grants, loans, rebates, incentives, and other investments. The provisions set out in the NETR align with the Budget provisions set out in Malaysia's National Budget 2025 to ensure adequate support is given to strategic areas of the economy, to navigate the transition.

Malaysia also unveiled its Hydrogen Economy and Technology Roadmap ("HETR"), which aims to ensure energy security in a net-zero economy through the predominant use of hydrogen in the country's clean energy portfolio.[9] This is attributed to

[3] Malaysia Economic Performance Third Quarter, 2025
[4] Quarterly Volume Index of Wholesale and Retail Trade, 2025
[5] Fostering Effective Energy Transition Report WEF, 2025
[6] Intended Nationally Determined Contribution of Government of Malaysia, 2015
[7] Targets: Can Malaysia reach net-zero?, 2025
[8] National Energy Transition Roadmap, 2023
[9] Hydrogen Economy and Technology Roadmap MOSTI, 2023

hydrogen's inherent properties that make it ideal in the circular economy model by promoting high resource efficiency by recycling and optimally utilising resources without much waste. In addition, the HETR could contribute to the country's economic growth via the creation of new high-skilled jobs and industries.

The HETR sets out a 5-year development plan of the Hydrogen Economy in Malaysia, which entails developing a complete value chain and mapping of industry players across upstream and downstream processes. To achieve this, the HETR outlines pilot projects, development plans, and support schemes to deepen industry expertise and capacity building. The plans intend to promote collaborative involvement of Government-linked entities, multinational companies, large enterprises, SMEs, and start-ups.

In October 2025, Malaysia published its updated Nationally Determined Contribution (NDC 3.0).[10] The country has committed to peaking its GHG emissions no later than 2034, with the ambition to achieve the peak earlier by 2030. By 2035, the country aims for an economy-wide absolute emissions reduction of 15–30 $MtCO_2eq$ from its peak. This includes an unconditional reduction of up to 20 $MtCO_2eq$, with a further 10 $MtCO_2eq$ reduction conditional upon the provision of climate finance, technology transfer, and capacity-building support from international sources.

1.4 Purpose & Objective

This Guidance aims to:[11]

- Provide guidance on the recommended sustainable and transition finance principles that banks should adhere to and assess against at asset and entity level when extending sustainable or transition finance to real economy companies.
- Supplement banks with existing practical tools that can be used to assess alignment against the recommended principles to facilitate their evaluation of whether financing an activity or entity can amount to sustainable or transition finance.
- Spur capital deployment and align financial flow towards activities, assets and real economy companies that are credibly transitioning with an end goal of broadening the participation of Malaysian banks in national and regional sustainable and transition finance transactions.
- To prevent any inconsistent incentives towards poorly transitioning activities, assets or entities thereby minimising greenwashing risk.

Creating a set of sustainable and transition finance principles that are aligned to regional and international guidelines yet simple enough to comprehend is crucial to accelerate the penetration of Malaysian banks in the space that is pivotal to deliver a net-zero future, but whose maturity (especially for transition finance) in terms of transactional value still lags where it needs to be. Notwithstanding the jurisdictional considerations, capital and capital market participants are global, further emphasising the need for the guiding principles within this document to be interoperable with regional and international guidelines.

The coming decade is termed as the 'decade of delivery' for transition finance, making it imperative that Malaysian banks are rightfully supported to be able to take advantage of this.

While primarily serving to assist banks, this guidance can also support:

i. Real economy companies in understanding the key elements of a credible sustainable and transition finance from the perspective of banks; AND
ii. Policymakers in developing an enabling environment and robust frameworks to bridge existing sustainable finance and transition finance challenges

[10] Malaysia's Third Iteration of the Nationally Determined Contribution, 2025

[11] Refer to Appendix 1 that provides high level overview of the survey questions and key findings from the survey conducted amongst banks in Malaysia.

2

Sustainable Finance Guiding Principles And Recommended Approach

2.1 Defining Sustainable Finance

Sustainable finance refers to the integration of environmental, social and governance ("ESG") considerations across the full spectrum of financial products and services. Examples of environmental and social considerations are as below:

Environmental Considerations:

Climate change mitigation and adaptation, clean transportation, preservation of biodiversity, pollution prevention, circular economy, etc.

Social Considerations:

Issues of inequality, inclusiveness, affordability, accessibility, labour relations, investment in people and communities, human rights issues, etc.

Sustainable finance includes not only lending and capital raising but also deposits, insurance, investments, asset management and treasury amongst others. It involves structuring, underwriting, and distributing financial solutions that proactively support sustainable development objectives while systematically identifying and managing ESG related risks and opportunities.

For the purpose of this Guidance however, sustainable finance refers to the provision of capital whether for capital expenditure ("CAPEX") or operational expenditure ("OPEX"), by banks to support business activities with positive environmental and/or social objectives. For CAPEX-related projects, financing is typically extended via term financing, while OPEX or working capital needs can be supported through a broader suite of short-term financial instruments. This includes both on and off-balance sheet solutions such as working capital financing, trade financing products, bank guarantees, and overdraft facilities.

These financing solutions are made available across a wide spectrum of real economy companies, from large corporates and SMEs to retail consumers (collectively known as borrowers). As compared to sustainable finance products for large corporates which are often bespoke, the use of standardised and simpler products combined with a supporting ecosystem can assist SMEs to access sustainable finance. Banks should consider the client profile and maturity in determining the extent of application of the principles discussed in the following sections in order to ensure that companies can access sustainable financing in a straightforward manner without compromising the key elements of these principles.

Additionally, sustainable finance can be extended through conventional and Islamic instruments. This section does not make a distinction between the two. Principles, guidelines and taxonomies discussed under this section are applicable to both conventional and Islamic instruments.

These instruments are labelled as "sustainable" due to their alignment with recognised industry principles—such as the Green Loan Principles[12], Social Loan Principles[13], and

[12] LMA/APLMA/LSTA Green Loan Principles
[13] LMA/APLMA/LSTA Social Loan Principles

Sustainability-Linked Loan Principles[14] (collective referred to as "Principles") by the Loan Market Association ("LMA"), Asia Pacific Loan Market Association ("APLMA") and Loan Syndications and Trading Association ("LSTA"). These principles create a voluntary high-level framework of market standards and guidelines to support borrowers in financing eligible environmental and social activities or projects that foster a net-zero emissions economy, protect the environment or bring about positive social benefits. Leveraging on the transparency of these Principles, banks can then label financing that align to these Principles as sustainable finance, ensuring credibility while doing so.

In practice, sustainable finance mobilisation can be divided into two main categories:

Beyond direct lending, banks can support real economy companies in raising capital from the debt capital market through instruments such as green, social, sustainability-linked or sustainability bonds or Sukuk. These instruments follow widely accepted references such as the ICMA Green Bond Principles[15], ICMA Social Bond Principles[16], ICMA Sustainability Bond Guidelines[17], ASEAN Sustainability Bond Standards[18], ASEAN Green Bond Standards[19], ASEAN Social Bond Standards[20], SC's Sustainable and Responsible Investment Sukuk Framework[21].

Use of Proceeds ("UOP") Financing

Financing that is earmarked towards activities or projects that contribute positively to one or more environmental and/or social objectives. This includes Green, Social and Sustainable Financing.

- **Green / Environmental** – Financing that supports environmental objectives such as climate change mitigation and adaptation
- **Social** – Financing that supports social objectives for target populations
- **Sustainable** – Financing that supports both green and social objectives

General Purpose Financing

Financing mobilised that is not tied to a specific asset, activity or project but can still qualify as sustainable finance. This typically includes financing mobilised:

- **To Pure-Play Companies** – Companies whose core business contributes directly to sustainability outcomes. Generally, Pure-Play entities are those that derive ≥90% of their revenue from eligible green, social, or sustainable activities.
- **Via Sustainability-Linked Financing** - Sustainability-Linked Financing are forms of financing where the financial terms of the financing facility are linked to the borrower achieving material, ambitious and pre-determined sustainability performance targets ("SPTs"), regardless of how the funds are used.

While the aforementioned frameworks primarily target non-retail borrowers, banks may also provide green or social retail products aligned with environmental and social objectives. Example of green and social products include EV financing, green mortgages, solar rooftop financing, affordable home financing, SME financing and financing for smallholder farmers. When designing such retail products, it is advisable for banks to incorporate specific elements of the Green and Social Loan Principles, for example by specifying clear use of proceeds, to enhance both credibility and consistency.

[14] LMA/APLMA/LSTA Sustainability-Linked Loan Principles
[15] ICMA Green Bond Principles
[16] ICMA Social Bond Principles
[17] ICMA Sustainability Bond Guidelines
[18] ASEAN Sustainability Bond Standards
[19] ASEAN Green Bond Standards
[20] ASEAN Social Bond Standards
[21] Securities Commission Malaysia's Sustainable and Responsible Investment Sukuk Framework

Factbox

Understanding the Concept of Environmental Objectives within Taxonomies

Establishing environmental objectives provide a clear and consistent approach to classifying activities as sustainable finance. This is the fundamental approach taken when developing a sustainable finance taxonomy.

By setting environmental objectives, activities can then be qualified as sustainable finance if they:

- Demonstrate contribution to a least one of these objectives
- Does not significantly harm any of the remaining objectives
- Meets the minimum safeguards established

Environmental Objectives

Currently, most national taxonomies developed within ASEAN have only established environmental objectives that are supplemented with social considerations to ensure that there is no significant harm to society, minimum social safeguards are in place or social aspects are considered.

While most of these national taxonomies (of ASEAN countries) prioritise different environmental objectives based on their local context, they are broadly consistent with the 6 environmental objectives in the EU Taxonomy which are:

i. Climate change mitigation
ii. Climate change adaptation
iii. Sustainable use and protection of water and marine resources
iv. Transition to a circular economy
v. Pollution prevention and control
vi. Protection and restoration of biodiversity and ecosystems

Additionally, most taxonomies place greater emphasis on climate change adaptation and mitigation due to the pressing need to mitigate climate change and mobilise more private capital for investments in these areas. In addition to establishing environmental objectives, these taxonomies also prescribe Technical Screening Criteria ("TSC") with specific requirements and thresholds to ensure that the economic activity substantially contributes to an environmental objective. To identify if an economic activity does not significantly harm any of the remaining environmental objectives, Do No Significant Harm Criteria have also been established.

Factbox

What does Do No Significant Harm mean?

Do No Significant Harm ("DNSH") broadly means ensuring that an economic activity pursuing environmental benefits does not cause significant harm to any other environmental objectives. DNSH requires that entities demonstrate, through criteria or qualitative safeguards, that their operations avoid material harm such as increased pollution, damage to ecosystems, or exacerbation of climate risks.

Refer to the Section 3.3(i)(e) for more information on DNSH and the tools available to assess DNSH.

Given the breadth of retail and non-retail sustainable finance solutions across both Use of Proceeds and General Purpose Financing categories, the sustainable finance guidance below primarily focuses on Use of Proceeds financing for the non-retail segment.

Factbox

Understanding the Basics of Sustainability-Linked Financing and Pure-Play Financing

Sustainability-Linked Financing or Loans

Sustainability-Linked Financing ("SLF") or Sustainability-Linked Loans ("SLL") are financial instruments where the terms of financing – typically the interest rates - are linked to the borrower's performance against predefined sustainability targets. The facility can be utilised for any general purpose and is not limited to any specific asset, activity or project.

To initiate a credible SLL issuance, there are 5 core components that banks will need to adhere to:

i. **Selection of Key Performance Index ("KPIs")** – KPIs established must be relevant, core and material to the borrower's overall operations and be of high strategic significance to the borrower's current and/or future operation.

ii. **Calibration of Sustainability Performance Targets ("SPTs")** –SPTs must be set such that they represent a beyond "Business as Usual" trajectory and beyond regulatory required targets.

iii. **Loan Characteristics** – SLLs must be accompanied by proposed variations of financial terms (e.g. margin of finance) or structural terms (e.g. collateral requirements, drawdown conditions)

iv. **Reporting** – Reporting by the borrower to the lenders on an annual basis is minimally required. Where SPTs are set to be more frequent than annually (i.e. 6 or 9 months), then the client is obligated to report the achievement of the SPT per the frequency of the SPTs.

v. **Verification** – Independent verification from a third-party on whether the borrower has met the SPTs.

Further information on SLL can be found in the Sustainability-Linked Loan Principles by LMA/APLMA/LSTA[22] and Sustainability-Linked Bond Principles by ICMA[23].

Setting KPIs & SPTs

Following the guidance from SLL and SLB Principles, all KPIs should be:

- Relevant, core and material to the client's overall business, and of high strategic significance to the client's current and/ or future operations;
- Consistent with the client's overall sustainability strategy;
- Be within the management's control (i.e. non passive KPIs)
- Measurable or quantifiable with a consistent methodological basis;
- Externally verifiable; and
- Able to be benchmarked, i.e. as much as possible using an external reference or definitions to facilitate the assessment of the SPT's level of ambition.

Well-designed KPIs and SPTs are essential to ensure sustainability-linked products deliver genuine, measurable impact rather than superficial commitments. They safeguard the integrity of the financing instrument, ensure material progress of the client towards better sustainability practices, build stakeholder trust, and align financial incentives with meaningful long-term sustainability outcomes.

[22] LMA/APLMA/LSTA Sustainability-Linked Loan Principles
[23] ICMA Sustainability-Linked Bond Principles

Further guidance on structuring SLPs, including how to select and calibrate KPIs and SPTs, can be found in the:

- JC3 Application Handbook for Issuances of Sustainable and Responsible Investment Linked Sukuk and Sustainability-Linked Bonds for the Malaysian Capital Market 2025
- ICMA Guidance Handbook 2025
- LSTA Guidance on Sustainability-Linked Loan Principles 2025
- ASEAN Sustainability-Linked Bond Standards 2025

Pure-play Green/Social Finance

In cases where a financing is extended to a borrower without specifying the use of proceeds, the financing may still qualify as green under the "pure-play" approach. This applies when the borrower's core business model is dedicated to environmentally or socially sustainable activities. A common working definition considers a company to be pure-play if ≥90% of the company's revenue is derived from sustainable (green or social) activities.

The threshold of 90% is an established threshold according to market practice as it ensures that the financing proceeds will mainly be channelled to sustainable activities even when the use of proceeds is undefined, which is common in general working capital lines.

However, if the financing activity is already known upfront and is non-sustainable in nature (e.g. a green pure-play entity requires funding for a new non-green activity/asset), the financing should not be considered as a pure-play sustainable finance.

Due diligence is required to confirm that the entity meets the revenue requirement, and generally intends to use the financing to support its green/social business.

2.2 Introduction to the Green and Social Loan Principles

The Green Loan Principles ("GLP") was first published in 2018 by the LMA, APLMA and LSTA. The principles prescribed are used as the primary reference by banks when mobilising green financing. Per the GLP, all green financing should adhere to the following core components:

i. **Use of Proceeds ("UOP")**
ii. **Process for Project Evaluation and Selection**
iii. **Management of Proceeds**
iv. **Reporting**

According to the Social Loans Principles ("SLP") first published in 2021, Social Loans mirror Green Loans as they are structured with the same core components in mind. However, the use of proceeds are channelled to finance social projects that benefit specific target populations. These social projects seek to directly address or mitigate social matters.

This section has been developed with reference to a suite of industry-accepted principles, guiding documents and taxonomies (collectively referred to a "Guidelines"), some of which are listed below:

Primary Reference	Description	References (non-exhaustive)
Principles	Voluntary market standards that set out high-level eligibility criteria, disclosure expectations and best practices	• Green Loan Principles • Social Loan Principles
Guiding Documents	Developed by the industry to clarify key aspects of sustainable finance	• ICMA's Green Enabling Projects Guidance[24] • ICMA Handbook – Harmonised Framework for Impact Reporting[25] • Equator Principles[26]
Taxonomies	Classification system that provides businesses with a common language and the means to identify whether or not a given economic activity is environmentally sustainable	• Bank Negara Malaysia Climate Change and Principle-based Taxonomy[27] • EU Taxonomy for Sustainable Activities[28] • ASEAN Taxonomy for Sustainable Finance[29] • Climate Bonds Taxonomy[30] • Multi-Jurisdiction Common Ground Taxonomy[31] • Singapore-Asia Taxonomy for Sustainable Finance[32] • Securities Commission Malaysia Sustainable and Responsible Investment ("SRI") Taxonomy[33]

[24] ICMA Green Enabling Projects Guidance, 2024
[25] ICMA Harmonised Framework for Impact Reporting, 2024
[26] Equator Principles, 2020
[27] BNM Climate Change and Principle-Based Taxonomy, 2021
[28] EU Commission Taxonomy for Sustainable Activities
[29] ASEAN Taxonomy Version 4, 2025
[30] CBI Climate Bonds Taxonomy, 2021
[31] IPSF Multi Jurisdiction Common Ground Taxonomy, 2024
[32] Singapore-Asia Taxonomy, 2023
[33] Principles-Based Sustainable And Responsible Investment Taxonomy For The Malaysian Capital Market, 2022

2.3 Sustainable Finance Principles

Non-retail sustainable finance transactions should adhere to the Green Loan Principles or Social Loan Principles by LMA/APLMA/LSTA to ensure alignment to market standards and demonstrate credibility. This means ensuring that the financing extended adheres to the four main components below:

i. **Use of Proceeds**

ii. **Project Evaluation & Selection**

iii. **Management of Proceeds**

iv. **Reporting**

Across these components, the GLP and SLP outlines mandatory and recommended actions that should be implemented at transaction level. Banks can then institutionalise these components via internally developed frameworks or policies to apply across all sustainable finance transactions. The following sections deep dives further into these key principles and the considerations.

i. Use of Proceeds

The UOP component requires banks to establish a list of eligible projects or activities with clear environmental and/or social benefits where sustainable finance can be mobilised towards.

Why is this important:

- Ensure projects financed generate genuine environmental or social benefits, preventing greenwashing and enhancing credibility of the sustainable financing structure.
- Reduces ambiguity and subjectivity in determining projects which are eligible.
- Provides a transparent and consistent list of eligible projects for banks, delivering clarity to potential borrowers and making it easier to assess environmental and/or social impact.

Guiding Principles:

A **Utilisation of proceeds towards Green Projects shall be described in relevant financial documents, and where applicable, within marketing materials and/or a green loan framework.**

- At transaction level, banks should ensure that the UOP for a particular transaction is documented formally. In most cases, this is incorporated into the financing agreements. Some borrowers may opt to establish a green financing framework to list out their intended UOP. Under such circumstances, the financing agreement can then refer to the borrower's green financing framework.
- To ensure consistency in approach and reference for recognising transactions as sustainable finance across the bank, an eligible list of green/social activities or projects should be detailed within a bank's sustainable finance framework or other relevant internal policies/documents.

B **Green projects[34] shall be assessed to provide clear environmental benefit(s).**

- In developing the bank's reference UOP list for green projects, the bank should apply the following considerations:
  - Overall environmental objectives of the bank e.g. net-zero targets, transition plan, internal sustainability policies, strategies etc.
  - Relevant environmental objectives of the countries it operates in e.g. national policies, targets, NDCs etc.
  - Alignment to green activities within global, regional or national taxonomies
- Developing a UOP list also allows banks to systematically assess the environmental benefits of such projects. A UOP list typically includes the following information:
  - Green Project Categories
  - Details on Eligible Activities, including technical screening criteria and specific exclusions where applicable
  - Alignment to SDGs (optional)

[34] Green Projects include assets, investments and other related and supporting capital and/or operating expenditures such as R&D that may relate to more than one category and/or environmental objective

- To develop a credible UOP list, banks can benchmark against various documents including relevant taxonomies and peers to align with market practices and promote interoperability. These Guidelines are typically aligned to Science-Based Targets and would lead to emission reductions at a pace that is aligned to climate science.
- A key consideration is to design the UOP list to be interoperable or aligned to a specific framework or taxonomy. Banks that operate across various jurisdictions will need to consider potential differences in regional and national taxonomies.

Factbox

Science-Based Targets ("SBTs")

Science-Based Targets ("SBTs") are targets that are consistent with level of emissions reductions needed globally to meet the goals of the Paris agreement, particularly the objective of limiting global warming to well Below 2℃ above pre-industrial levels. These targets are developed with the global carbon budget in mind and ensure progression toward net-zero by mid-century.

Toolbox: References to List of Eligible Green UOP Categories and Activities

• Green Loan Principles

The GLP outlines a non-exhaustive list of eligible green categories and activities that banks can refer to when structuring their green financing list (as shown below). The GLP does not specifically opine on the actual list of green activities and recognises that various international or national taxonomies can provide guidance to borrowers and lenders on eligible activities. The GLP recommends that where such taxonomies exist, the appropriate alignment to the respective local taxonomy should be considered.

- **Renewable Energy**
- **Energy Efficiency**
- **Pollution Prevention and Control**
- **Environmentally sustainable management of living natural resources and land use**
- **Terrestrial and aquatic biodiversity restoration, conservation and enhancement**
- **Clean Transportation**
- **Green Technologies**
- **Sustainable Water & Wastewater Management**
- **Climate Change Resilience & Adaptation**
- **Circular economy adapted products, production technologies, processes and business models**
- **Green Buildings**

Banks are encouraged to refer to the Green Loan Principles by the LMA/APLMA/LSTA for further information on Green Loans and qualifying green activities.

• Global, Regional and National Taxonomies

In developing a list of eligible green activities, banks can also consider the local context of the jurisdiction they operate in. While there are various taxonomies available in the market, each taxonomy is usually designed to account for the environmental objectives and socioeconomic context of its target region/country. Accordingly, while taxonomies are designed to be largely interoperable, some eligible categories, projects and technical screening criteria may differ across taxonomies.

Across taxonomies, environmental objectives are the specific high level goals against which economic activities are assessed to determine whether they make a substantial contribution, avoid or prevent significant harm, and meet the taxonomy's technical screening criteria. The table below shows that while the taxonomies below share some common environmental objectives, they operationalise the environmental objectives differently. The BNM Climate Change and Principle-based Taxonomy ("CCPT") focuses on climate change mitigation and adaptation activities and is principles-based. The ASEAN Taxonomy, Singapore Asia Taxonomy and Climate Bonds Taxonomy currently only list out eligible activities and technical screening criteria to fulfil the climate change mitigation objective as a start. Only the EU Taxonomy covers all the environmental objectives stated.

Environmental Objectives	EU Taxonomy	BNM CCPT	SC SRI Taxonomy	ASEAN Taxonomy	Climate Bonds Taxonomy	SG-Asia Taxonomy
Climate Change Mitigation	✓	✓	✓	✓	✓	✓
Climate Change Adaptation	✓	✓	✓	✓		✓
Protection of Biodiversity & Ecosystems	✓		✓	✓		✓
Promotion of Resource Efficiency & Circular Economy	✓		✓	✓		✓
Pollution Prevention & Control	✓					✓
Sustainable Use and Protection of Water & Marine Resources	✓					

As a general principle, projects labelled as green should have substantial contributions to the environmental objectives, which often means alignment to Science-Based Targets especially when related to climate change mitigation. In practice, this means that activities classified as "green" for climate change mitigation should be demonstrably consistent with climate science.

While certain UOP are generally considered as green from the get-go (e.g. solar, electric vehicles), other UOP (e.g. energy efficiency, hybrid vehicles) may require certain thresholds to be met to qualify as green financing. These thresholds are necessary so that that green activity makes a substantial contribution to an environmental initiative instead of marginal contributions.

Examples from the ASEAN Taxonomy[35] on Thresholds:

Activity	Threshold
Renovation of existing buildings	Leads to a reduction of Energy Usage Intensity ("EUI") of at least 30%
Transport by motorbikes, passenger cars and light commercial vehicles	For passenger cars and light commercial vehicles: i. Until 31 December 2025, direct emissions of CO_2 are < 50 gCO_2e/v-km23; ii. From 1 January 2026, direct emissions of CO_2 are 0 gCO_2e/vkm; For motorbikes, tailpipe CO_2 emissions are 0 gCO_2e/vkm.

Some green UOP (e.g. green building certification, sustainable agriculture) are based on the sustainability certifications obtained by the project/activity. While some taxonomies have listed out eligible certifications, it is important that the bank assesses the credibility of the specific certification, its assessment criteria, and review process and whether the certification tiers (where applicable) chosen substantially contributes to the intended environmental objective.

[35] ASEAN Taxonomy Version 4, 2025

Example from the ASEAN Taxonomy[36] on Certification:

Activity	Threshold
Construction of new buildings	a. The building has been certified under a national Green Building Certification ("GBC") programs that is recognised by AMS or through an industry association and relevant for that jurisdiction, that achieves an advanced level of certification and is applicable to climate change mitigation; OR b. The building has been certified under one of the applicable internationally recognised GBC programs achieving an advanced level of certification and is applicable to climate change mitigation: • Leadership in Energy and Environmental Design ("LEED") • Building Research Establishment Environmental Assessment Method ("BREEAM") • Alternative GBC programs that can demonstrate consistent requirements with the above-mentioned programs, particularly that have a scoring credit system for energy, can also be used upon demonstrating the energy performance requirements are consistent and contextually relevant.

Taxonomies such as the ASEAN Taxonomy, Singapore Asia Taxonomy, Thailand Taxonomy and more use a traffic light approach. Activities labelled as "green" are generally aligned to green UOPs that contribute substantially to the environmental objectives and are science-based. Activities and thresholds labelled as 'amber' are generally referred to as 'transitional' and for the purposes of this Guidance, will be discussed under Section 3.

Note:

Taxonomies are also in various stages of development, with some taxonomies being developed in a phased approach, starting with only a few key sectors (e.g. energy, buildings) and environmental objectives (e.g. climate change mitigation and adaptation). Pending the development of the remaining environmental objectives and sectors, banks would need to formulate their own eligible activities, considering current market practice, the project's ability to contribute substantially to environmental objectives and alignment to climate science. In this case, it is also helpful to refer to existing UOP frameworks by both global and peer banks where taxonomies do not cover a specific sector or focus area, especially those which have received Second Party Opinion or have been co-developed with reputable agencies (as explained below).

Sustainable Finance Framework of Peer Banks

Peer banks' Sustainable Finance Frameworks are a highly practical reference point when developing a UOP list. Peer frameworks can provide clear activity descriptions, selection of sectors/industry for UOP and TSC, the governance and assurance arrangements adopted, and the impact indicators they report. Reviewing peer frameworks helps a bank translate market norms into bank specific eligibility rules while maintaining alignment with the Green Loan Principles and applicable taxonomies. Examples of Sustainable Finance Frameworks that can be referenced include:

[36] Ibid

Bank	Documents and link
Maybank	Maybank Group Sustainable Product Framework 2024
Deutsche Bank	Sustainable Finance Framework – 2024
Barclays	Barclays Sustainable Finance Framework – Version 4.2, 2025
Standard Chartered	Green and Sustainable Product Framework – Version 6.0 2024
HSBC	HSBC Sustainable Finance & Data Dictionary 2025
DBS	DBS Sustainable Finance & Taxonomy Framework

IFC Sustainable MSME Finance Reference Guide

The IFC MSME Guide provides a comprehensive approach for practitioners such as banks to operationalise use of proceeds sustainable finance towards MSME. The document also provides eligible green activities that could potentially qualify for sustainable finance across 5 sectors – agribusiness, textile, tourism, manufacturing and others.

C Social projects shall be assessed to have clear social benefit(s).

- As defined by the SLP, social projects aim to address or mitigate a specific social issue and/or achieve positive social outcomes, including for but not limited to, a target population(s).
- There are currently no standard taxonomies that focus on social financing. While the EU is reportedly working on a social taxonomy, the region has only so far published a report detailing how a social taxonomy could work in practice, and the key concepts that need to be developed.

  While the SLP recommends eligible social categories and target populations, the differing social and economic conditions across countries require borrowers and banks to tailor the UOP to be applicable for the local context.
- The accessibility, affordability and target population of the social services offered is a key determinant of whether the project qualifies as a social project, as compared to typical commercial projects which also offer social benefits.

	Social Projects	Commercial Projects
Affordability	Prioritises affordability, often free, low-cost or subsidised	Prices are set based on market rates and aims to optimise profitability of the project owner
Accessibility	Designed to improve access and promote inclusivity for essential services	Access may be limited to commercially viable areas and customer
Target Populations	Aims to serve socially disadvantaged or underserved target populations, or a general population with a social objective	Targets suitable customers based on commercial angles to drive profit maximisation

Toolbox: References to List of Eligible Social UOP Categories and Activities

Social Loan Principles (SLP)

The SLP outlines a non-exhaustive list of eligible social categories and activities that banks can refer to when structuring their social financing list (as shown below). While these activities are indicative only and high-level, they capture common types of projects supported, or expected to be supported. These include:

- **Affordable basic infrastructure**
- **Access to essential services**
- **Affordable, social or supported housing**
- **Employment generation, re-skilling and programs designed to prevent and/or alleviate unemployment**
- **Food security and sustainable food systems**
- **Socioeconomic advancement and empowerment**

The SLP also provides examples of target populations:

- **Living below the poverty line;**
- **Excluded and/or marginalised populations and/or communities;**
- **People with disabilities;**
- **Migrants and/or displaced persons;**
- **Undereducated (including illiteracy/digital illiteracy);**
- **Underserved, owing to a lack of quality access to essential goods and services;**
- **Unemployed;**
- **Aging populations and/or vulnerable youths; and**
- **Other vulnerable groups, including as a result of natural disasters, climate change, and/or climate transition projects that cause or exacerbate socioeconomic inequity**

Banks are encouraged to refer to the Social Loan Principles by the LMA/APLMA/LSTA for further information on Social Loans and qualifying social activities and target populations.

Social Finance Framework of Peer Banks

Banks may choose to publish a dedicated Social Finance Framework rather than a broader Sustainable Finance Framework to signal strategic focus and provide greater clarity to investors and stakeholders about their social-impact commitments. This may be due to the bank's mandate or background as a cooperative or development financial institution ("DFI") with a focus on vulnerable populations.

Examples of Social Finance Frameworks that can be referenced includes:

Bank	Documents and link
Citibank	Social Finance Framework - 2021
Bank Rakyat Indonesia	Social Finance Framework Bank Rakyat Indonesia – 2025
Government Savings Bank – Thailand	GSB Social Finance Framework

IFC Sustainable MSME Finance Reference Guide

The IFC MSME Guide provides a comprehensive approach for practitioners such as banks to operationalise use of proceeds sustainable finance towards MSME. The document also provides eligible social activities that could potentially qualify for sustainable finance across 5 sectors – agribusiness, textile, tourism, manufacturing and others.

D **Obtaining a Second Party Opinion on the UOP list by a qualified provider may also help to provide an independent assessment of the eligible activities.**

- A Second Party Opinion ("SPO") provides an independent external assessment of a borrower/issuer's green, social, sustainability or transition framework and intended use of proceeds, evaluating alignment with market principles/ taxonomies and the credibility of targets and processes.

E **Provide estimate of financing versus refinancing and the expected look-back period for Green and Social Projects.**

- Sustainable finance covers both new projects or refinancing of existing projects. When extending green or social loans to real economy companies, banks should aim to clarify how the funds mobilised will be used, in whole or part, for refinancing. Where possible, borrowers should provide an estimate of the share of financing versus refinancing.
- Banks must assess if the activities that is refinanced still meets the UOP requirements at point of financing, and will continue to contribute to environmental or social benefits. It is insufficient to rely on the initial design requirements or certification at this point. For example, if an existing green building is refinanced, the green building certification must still be valid, according to the latest criteria at the point of refinancing, regardless of whether the project previously qualified as a green loan at initial financing.

Key Recommendations for Use of Proceeds:

1. Banks should set up an internal framework or reference of green and social eligible activities that can qualify for sustainable finance
2. Taxonomies or sustainable finance frameworks from peer banks can serve as benchmarks or references in developing this internal framework

ii. Project Evaluation & Selection

Both borrowers and banks should put in place processes to ensure that projects financed are reviewed against the UOP criteria before the sustainable finance proceeds is allocated to the project.

Why is this important:

- Ensures that projects are properly reviewed against the agreed UOP and Do No Significant Harm ("DNSH") criteria
- A maker-checker or committee review ensures that the transactions are reviewed by multiple parties in the bank and proper governance is implemented in the review process. This process is also important to ensure that there is consistency within the bank's processes.
- Some deals may require detailed technical assessment, especially where technical screening criteria or risk assessments are involved. As such, project evaluation and selection ensure that proper due diligence is conducted prior to the mobilisation of funds.

Guiding Principles:

A **Ensure clear communication of the intended environmental sustainability objective or social impact from clients to the bank.**

- Banks should ensure that borrowers communicate the intended use of the financing provided, be it for green or social projects, during the credit assessment or pre-disbursement due diligence process. This should include the environmental or social objective of the project/activity to be financed, exclusion criteria (if any) and perceived environmental or social risks of the project.
- If available up-front, banks should request for supporting evidence for the intended financing, which may include project documentation (project plans, approvals, budgets), relevant sustainability certification(s), and third party assessments.

B **Ensure robust governance process by the clients to evaluate potential green/social projects**

- Banks should ensure that borrowers establish a robust internal governance process to evaluate proposed projects before the financing is allocated to the specific green/social project. This process shall then be disclosed to the bank.
- In cases where the UOP is a key part of the bank's credit assessment and known upfront at the point of financing, for example in the case of project financing or where project documentation is required as disbursement conditions, this requirement between the borrower and bank is typically already met.

Working Example

A typical Green/Social Project evaluation process for real economy companies:

1. **Nomination of Projects** – Relevant business departments within the company nominates eligible green/social projects for financing/refinancing and provides the relevant supporting evidence.
2. **Eligibility Assessment and Screening** – A central/dedicated team within the company then acts as a second line of defence and assesses whether the projects meet the UOP requirements.
3. **Risk and Impact Analysis** – The central/dedicated team then assesses the environmental and social risks associated to the project, and ensures that risk mitigation measures are in place. As a best practice, this team should be independent from the business team to avoid any conflict of interest.
4. **Management Review** (recommended best practice) – Based on the central/dedicated team's recommendations, a management committee or senior management figure will perform a review and provide their approval for the Green/Social Project.
5. **Post-Approval** – The Finance / Treasury team will allocate the funds towards the project.

- Banks are encouraged to set up a similar process as above to ensure that the green/social finance transactions are properly evaluated. This is necessary to provide a maker-checker review process before the transaction is classified as sustainable finance.

Working Example

A typical Green/Social Project evaluation process within banks:

1. **Nomination of Projects** – Relationship Managers within the bank will nominate eligible green/social finance transactions and supplement this nomination with the relevant supporting evidence (e.g. certifications, project plans/design).
2. **Eligibility Assessment and Screening** – A central team e.g. Group Sustainability assesses whether the transaction is aligned to the internally established UOP requirements.
3. **Risk and Impact Analysis** – The central team e.g. Group Sustainability or Group Risk assesses both the environmental and social risks associated to the project, and ensures that risk mitigation measures are in place and that the project will not do significant harm. As a best practice, this team should be independent from the business to avoid any conflict of interest.
4. **Management Review** (recommended best practice, but normally only seen when sustainable loans are allocated to sustainable bond issuances) – Based on the central team's recommendations, a management committee will perform a review and provide their approval for the Green/Social Project. Banks should set up an appropriate composition of the committee compromising of relevant functions of the bank i.e. business, risk, sustainability to ensure that all aspects of the project are reviewed thoroughly. In cases where banks already have a pre-established UOP list of qualifying green/social criteria that has been approved by the management, this step is no longer required.
5. **Post-Approval** – The transaction is recognised as green/social sustainable finance for both deal labelling and disclosure purposes.

C **Ensure robust Risk and Impact assessment and transparent disclosure on process to identify and manage environmental and social risks associated with the project.**

- Banks should obtain clarity from borrowers on the processes by which the borrower identifies and manages perceived, potential or actual environmental and social risks associated with the relevant project(s). Banks should also conduct their own due diligence and DNSH evaluation on the project to verify potential environmental and social risks, which may cause significant harm to the environment and/or society. Projects across different sectors and technologies may pose different forms of environmental and social risks, which requires different remediation methods.
- Upon identifying the environmental and social risks, banks should ensure that the borrowers have processes or action plans in place to manage and mitigate the environmental/social risks. These requirements can also be integrated into clauses within the financing agreement.

- This due diligence typically takes the form of a checklist. While this is typically performed by the RM as part of the KYC and credit assessment processes, central teams with the relevant technical experience e.g. Group Sustainability and/or Group Risk may also provide their inputs and concurrence to the due diligence. To support the due diligence, references such as project documentation, 3rd party ESG assessments, regulatory approvals, sustainability policies/frameworks, media reports could be relied upon to supplement the borrower's disclosure.
- Ultimately, if a project is assessed to cause significant harm and does not have sufficient mitigating plans in place, at minimum, the bank should not proceed to label the transaction as sustainable finance.

- Building of a green certified resort which requires demolishing an existing mangrove plantation that serves as a flood barrier and key habitat for selected species. This may cause increased risk of flooding of nearby communities.
- Development of affordable homes within key biodiversity areas or biodiversity protected areas. This may cause significant loss of rare and protected species.

Working Example

Example of projects which may cause significant harm (for illustration purposes only):

- Development of large-scale solar farms which requires clearing of prime agriculture land or forest areas – which can lead to increased emissions from land use change, loss of biodiversity, negative harm to local livelihoods.

Key Recommendations for Project Evaluation & Selection:

1. Banks should set up an evaluation process involving the Business Units, Sustainability, and Risk teams amongst others to evaluate whether a particular deal meets the sustainable finance criteria
2. Banks should conduct an environmental and social risk assessment on the deal to identify potential negative harm caused by the deal, and work with clients to ensure mitigating plans are in place before approving the deal

Toolbox: Resources to Guide Environmental and Social Risk Assessment

All projects must comply with all applicable regulations and requirements at the state, national, regional or international level where applicable. Below are some resources that banks could refer to when developing their own environmental and social risk assessment requirements and processes, which may go above the regulatory standards.

Bank Negara Malaysia Climate Change & Principle Based Taxonomy (CCPT)

GP3 & GP4 Due Diligence Questions ("DDQ")

- BNM has outlined the following guiding principles and questions when assessing a borrower's sustainability practices:
  - GP3: No significant harm to the environment requirement to ensure that the economic activity and the overall business, even those that contribute to climate change mitigation and/or adaptation, do not cause unintended harm to the environment.

  - GP4: Remedial measures to transition addresses the harm caused at the economic activity or overall business level.
  - GP5: Prohibited activities further outline that activities financed are not illegal and do not breach environmental laws.
- The DDQ was developed by the CCPT Implementation Group that was established under the purview of the JC3 Sub Committee 1 – Risk Management. While the GP3 and GP4 are company level assessments, which is not required for sustainable finance eligibility, it is useful to apply the concepts and examples under CCPT and its associated guidance, such as the DDQ at a project / economic activity level.
- Per GP4, remedial measures that are yet to commence should be planned at minimum. Such measures should also be time-bound, monitored for progress/effectiveness and accompanied with a funding plan.

ASEAN Taxonomy

- The ASEAN Taxonomy provides three essential criteria that must be met before any project can be classified as sustainable/ transition finance. Banks can refer to the Annex 2 - Significant Harm criteria of the ASEAN Taxonomy for Sustainable Finance for further guidance.
  - **Do No Significant Harm** – Projects shall not cause direct or indirect harm to other environmental objectives. Guiding questions are available for activities assessed under the foundational framework (principle based), while under the plus standard which covers technical screening criteria with more prescriptive science-based thresholds, the DNSH criteria is also included in Annex 2 of the document.
  - **Remedial measures to transition** – Any actual or potential significant harm should be mitigated within 5 years. Comprehensive and realistic measures must be presented.
  - **Social aspects** – An assessment that the project does not cause harm to 3 key social aspects - namely promotion and protection of human rights, labour rights and worker protection, and impact on people living close to the investments.

iii. Management of Proceeds

The GLP and SLP requires that the financing be linked to a specific project and that any allocation/placement of proceeds, including any unallocated amounts, must be transparently disclosed.

Why is this important:

- Upholds the integrity of the green/social financing product by ensuring that funds are exclusively utilised for their intended purposes.

Guiding Principles:

A **Ensure proper management of proceeds of the Green/Social Financing**

- Banks should ensure that borrowers use a dedicated account or internal tracker to monitor funds and also maintain records of disbursements of the green/social loan received through invoices or accounting entries.
- This should be accompanied by a governance process to ensure that these funds are only utilised for their intended purpose and the status of the fund is readily available. A facility can only be considered eligible as green/social financing if all its intended use of proceeds meets the eligible UOP.
- To further ensure this guiding principle is adhered to – banks can implement safeguards such as ring-fencing clauses, disbursement conditions or verification obligations in the financing agreements to ensure that the borrower does not utilise the funds disbursed for non-green or prohibited economic activities.
- The respective RMs can also conduct due diligence on how the funds are being utilised during the annual credit review, site visits or via other engagements.

- If the transaction is deemed to be in breach to the agreed UOP, banks should declassify the financing as sustainable finance after conducting further assessment. Depending on the credit requirements, a breach may or may not be considered an event of default. In either case, both the borrower and bank should stop classifying and marketing the transaction as sustainable financing moving forward.
- Borrowers may temporarily place unallocated funds into liquid investment instruments such as fixed deposits or money market instruments pending allocation to an approved green/social project. It is critical that the funds are not allocated to projects that do not meet the UOP or governance requirements.

Key Recommendations for Management of Proceeds:

1. Banks should conduct due diligence to ensure that the funds are used by clients for its intended purpose, i.e. during the annual credit review process.
2. Safeguards such as ring-fencing clauses, disbursement conditions or verification obligations could also be imposed in the financing agreements.

iv. Reporting

The borrower must be ready to disclose how the sustainable finance is allocated, and its environmental or social impacts, where feasible to banks.

Why is this important:

- Ensure that the financing is allocated to its intended purposes
- Both the borrower and bank can quantify the expected/actual environmental or social impacts of the project, which can better inform decision making with respect to their sustainability strategy. This also validates the environmental or social objectives of the UOP
- Promotes better disclosure practices, ensuring accountability for both the borrower and banks
- Allows banks to monitor the usage of the sustainable finance proceeds, which also supports the credit monitoring processes

Guiding Principles:

A **Ensure provision of up-to-date information on the use of proceeds to the bank, including allocation of the use of proceeds.**

- Banks can rely on due diligence done during the annual client review or account planning process to obtain information on the allocation of the disbursed funds, especially for smaller clients or where only a small number of projects are financed. Apart from ensuring integrity of the sustainable finance, this is also useful for credit monitoring and KYC purposes.
- Especially in cases where there may be multiple projects financed or multiple sustainable loans for a single client, banks can also request for an allocation report of the green/social financing disbursed. An allocation report typically includes a list of green or social projects to which the sustainable finance proceeds have been allocated including descriptions of the projects with the corresponding amount allocated and remaining unallocated.
- It is critical that the RMs and bank can assess that the financing has been fully allocated (by the borrower) to the agreed UOP. Banks should determine a suitable reporting process that fits the profile of the client and loan, or include clauses that require provision of this information as and when requested.

B **Ensure provision of actual/expected impact.**

- In addition to obtaining an allocation report, as a best practice, banks can also opt to request for impact data or reports relevant to the project financed from borrowers. An impact report generally covers the expected or actual environmental or social impacts of the green or social projects that have been financed by the borrower.
- Expected impacts are based on a pre-assessment of the environmental or social outcomes of the projects. This is usually based on the project characteristics, with various quantitative performance metrics that can be used to demonstrate the project outcomes. Actual impact measurements apply only after the project has been completed. It would also require a tracking and measurement process in place.

- In cases where the exact impact data is unclear or unfeasible to obtain, banks and borrowers can agree on suitable proxies, until more accurate impact data can be provided.
- Impact data may already be part of the information gathered during the credit approval process, e.g. power generation capacity of a solar farm or floor area of a green building. In these cases, banks could consider using this impact data to quantify the overall environmental or social impact of the financing disbursed.
- While impact measurements are less common in the market today, they can provide valuable insights to support the sustainable finance objectives for both the borrower and the bank, all while promoting better disclosure.
- The borrower and bank can use the impacts to provide validation on the environmental or social objectives of the project, while actual impacts help to compare the real world outcomes versus initial projections, helping to inform future decisions.

Key Recommendations for Reporting:

1. Banks should ensure they have an ability to assess that the funds are allocated to the intended sustainability projects. Depending on the nature of the financing, this could be achieved via regular client due diligence or reporting clauses.
2. While impact reporting is less common amongst banks in Malaysia, banks should attempt to obtain relevant information from borrowers on the expected impact of the project to promote better disclosure and obtain more insights to guide future strategic decisions.

Toolbox: Resources for impact measurement process for green financing

Below are some resources that banks could refer to when developing their own environmental and social risk assessment requirements and processes

ICMA Handbook

Harmonised Framework for Impact Reporting for Green Bonds

- Covers the core principles of impact reporting, recommended reporting templates, impact indicators by sector, qualitative forms of reporting and suggestions on assurance. The impact indicators by sectors such as renewable energy, energy efficiency and others provide a useful guide on recommended impact indicators that a project could measure.

ICMA Handbook

Harmonised Framework for Impact Reporting for Social Bonds

- Covers the core principles of impact reporting, recommended reporting templates, impact indicators by sector, qualitative forms of reporting and suggestions on assurance. It provides an illustrative list of quantitative social indicators that banks can consider requesting from clients when financing eligible social activities/projects.

Working Example

Allocation and Impact Reporting for a Green & Social Financing Transaction

Eligible Projects	Solar PV and Green Building
Total Facility	• RM 800m
Allocated as of Year 1	• RM 100m for Solar PV • RM 300m for GBI Buildings
Unallocated amount	• RM 400m (invested in short-term ESG money market fund)
Expected Green Impact	• 25MW of renewable electricity generation, resulting in 25,000 tCO_2 of avoided emissions annually • 200 GBI Certified (Gold Rating) houses completed, with an average 30% of estimated energy usage intensity savings, compared to baseline
Expected Social Impact	• 8,750 rural community households supported by solar energy. • 100 out of 200 GBI certified houses are sold as affordable houses for vulnerable low-income households

Working Example

Impact Metrics

Banks can also develop their own impact matrix to align impact reporting across different green/social projects across the organisation. Example of impact matrix for green and social projects are as listed below:

Green Projects

Project Category	Impact Metric	Unit of Measurement
Renewable Energy	Installed Capacity	MW
	Annual RE generation	MWh
	GHG Emissions Avoided	tCO_2e
Energy Efficiency	Energy Savings	MWh
	GHG Emissions Avoided	tCO_2e
Sustainable Agriculture	Area Under Sustainable Cultivation	Hectares (ha)
	Water Use Reduction	Cubic metres (m^3)

Social Projects

Project Category	Impact Metric	Unit of Measurement
Affordable Housing	Improved access to affordable housing or housing loans	Number of individuals/ families benefiting from subsidised housing
	Increase in vulnerable groups ownership of property and housing	Participation (rate) of vulnerable group in housing ownership
Education	Increased school enrolment rate in rural areas	Number of students
	Improved literacy rate	Number of students achieve passing grade
Financial Inclusion	Improved financial access to SMEs	Number of loans to SMEs
	Increased financial inclusion	Number of people provided with financial literacy training

Further information on developing an impact matrix can be referred to in the

ICMA Handbook – Harmonised Framework for Impact Reporting for Social / Green Bonds.

2.4 Best Practices for Governance of Sustainable Finance Transactions

i. Develop a Sustainable Finance Framework

Banks can set up a Sustainable Finance Framework to outline core principles and processes governing their approach to sustainable finance transactions, to ensure consistent adoption by their business units and RMs. The Sustainable Finance Framework typically acts as the internal Sustainable Finance Taxonomy to recognise the bank's mobilisation of Sustainable Finance.

ii. Disclosure of the Sustainable Finance Framework

The Sustainable Finance Framework can either be published internally or externally, making it accessible to a wider range of stakeholders. When the framework is published internally, its primary audience are RMs, credit officers, risk teams and product-development units. This allows for operational consistency.

While optional, publishing the framework externally provides transparency to stakeholders and reinforces accountability. Stakeholders could include potential borrowers, regulators, NGOs etc. It demonstrates that the bank adheres to recognised principles (e.g. GLP), enhancing reputation and facilitating green/social financing issuance. It also enables external feedback, driving continuous improvement.

In both cases, banks need to account for the fact that the field of climate science will continue to evolve and so will policies, industry expectations and technological innovation. As such, banks should ensure that their Sustainable Finance Frameworks are updated periodically to meet latest requirements.

iii. Second Party Opinion

Although not mandatory, obtaining an SPO on the bank's Sustainable Finance Framework is widely regarded as best practice. An SPO provides an independent assessment that the framework aligns with recognised market standards and principles. An SPO benefits the bank through enhanced market confidence in the framework, allows potential improvement via feedback from the SPO provider and demonstrates further transparency via public disclosure of these documents. ICMA has provided a guideline on the criteria that is recommended for the selection of Second Party Opinion organisations which can be referred to in the Guidelines for Green, Social, Sustainability and Sustainability-Linked Bonds External Reviews.[37]

iv. Governance Process

The bank's Sustainable Finance Framework should be overseen by the institution's formal governing bodies, with clear approval authorities and periodic audits to ensure continued alignment with internal policies and external standards.

For example, the governance could be structured as below. Ultimately, the bank should tailor its governance structure to meet its own internal governance requirements and address its sustainable finance requirements in an effective manner.

- **Board-Level Endorsement** – The relevant Board Committee formally approves the Sustainable Finance Framework, including any material updates during periodic updates.
- **Executive-Level Oversight** - An Executive Sustainability Council (comprising senior management across Business, Risk, Finance, Sustainability, Compliance and Marketing) reviews framework performance, approves new product lines, and addresses emerging regulatory or market changes.
- **Operational Steering Committee** - A Sustainable Finance Working Group—made up of Business Units and relevant supporting functions such as Sustainability and Risk - meets regularly to oversee transaction-level implementation.
- **Internal or External Audit** - The Audit function conducts periodic review including transaction audits to ensure that sustainable finance transactions that have been mobilised are in adherence to the Sustainable Finance Framework and are supported by the relevant documents.

[37] ICMA Guidelines for Green, Social, Sustainability and Sustainability-Linked Bonds External Reviews, 2022

3

Transition Finance Guiding Principles And Recommended Approach

This section **aims to provide guidance on the recommended transition finance principles that banks should adhere to and assess against when extending transition finance to real economy companies**. To ensure consistency and maximise interoperability, elements in this section refer to existing international and regional transition finance frameworks, guidelines, taxonomies and handbooks (collectively referred to as "Guidelines"). It has also been adapted to take into account ASEAN-based considerations.

While most transition finance Guidelines only provide guidance and recommendation for entity-level assessments, this section provides broad guiding principles at both asset and entity level. Since most transition finance definitions and Guidelines are broadly aligned and set similar core expectations, this section provides high-level guidance by simplifying and synthesising key guiding principles from the various Guidelines. To avoid proliferation of transition finance approaches, each recommended transition finance principle is supplemented with existing market-accepted practical tools that banks can use to assess adherence against the recommended principles. Banks can exercise their own discretion in choosing their preferred tools based on:

- **Geography**: Some tools are developed at a global level, with more stringent requirements and a higher burden of proof while others are developed or adapted to take into account local or regional context. Banks should balance the maturity of the entity and location of the asset/ transaction when choosing the right tool. Considerations should also be made to account for the type and domicile of investors, given that some investors may require a higher attention to detail.
- **Level of Granularity**: Some tools are more comprehensive than others and are better suited for entities with a more mature transition plan or activities which are more well-defined. Other tools may be less developed, more basic, are open-ended or are less detailed in their assessment requirements.

For meaningful progress, banks are encouraged to evaluate the pros and cons of the tools against each transition finance transaction.

Additionally, this section **does not define specific sectors, activities or technologies that are eligible for transition finance** given the unique starting point of each country, their net-zero priorities (reflected through varying NDCs and Long Term-Low Emission Development Strategy), differing policy environment and socioeconomic considerations, all of which warrant a degree of localisation. Similarly, technological readiness, availability, affordability and commercial viability differ across sectors and jurisdictions. Attempting to create a singular list of transition activities with emissions thresholds will not only add redundancy given the existing proliferation of taxonomies, but also be counterproductive to the overall objective of this document.

A common, principles-based voluntary guidance was deemed to be more suitable to support banks in their evaluation of whether financing an activity or entity can amount to transition finance, or in the development of their own transition finance frameworks.

Similarly, cognisant that structuring credible transition finance can be complicated and time-consuming given the various challenges, distinctive nuances and requirements that need to be considered at both asset and entity level, this section does not aim to provide a detailed explanation or a step-by-step walkthrough of what a bank should do from start to end when financing or evaluating the credibility of a transition finance instrument/issuance. This sequencing is left to the bank's discretion, so long as the recommended guiding principles are adhered to. The principled-based approach adopted by the STFG seeks to provide steps towards a common approach for assessing when the financing of an activity or entity credibly amounts to transition finance. This offers banks a greater degree of flexibility to then form their own judgements as to what falls within their understanding and risk tolerance of credible transition finance. Where relevant, case studies are also provided to better guide banks in their approach.

While transition finance is not dependent on the size of a company, it is likely to be pursued by large corporations, as opposed to medium sized companies and SMEs, at least in the short-to-medium term, given the operational complexities and other challenges surrounding transition finance (highlighted in the later parts of this Guidance). This section is therefore better suited for banks that are structuring/providing transition finance transactions to larger corporations. Banks that predominantly engage SMEs are encouraged to promote the adoption of sustainable finance in the short-to-medium term. Refer to the Toolbox under Section 2.3 (i) for guidance on MSME sustainable financing.

3.1 Defining Transition Finance

Transition finance has lent itself to various definitions put forth by an array of organisations, industry bodies and governments, albeit to a varying degree of stringency and scoping (i.e. some focusing on asset or activity level definitions while others focus on entity level definitions). Nevertheless, the underlying motive of doing so remains the same – i.e. to spur and align financial flows towards activities and entities that can meaningfully drive real world decarbonisation at a speed and scale that is in-line with the temperature goals of the Paris Agreement.

Recognising the proliferation of transition finance definitions, **this guidance does not aim to prescribe a specific definition to transition finance**. This is left to the discretion of the respective banks. However, it is worth noting that most **transition finance definitions carry some degree of commonality**, and typically involve the mobilisation of finance towards activities or entities that:

- Are hard-to-abate, emission intensive or carbon intensive[38] whose services are crucial and needed up to or beyond 2050;
- Facilitate material and core emission reduction with alignment towards net-zero via science-based pathway(s) that are aligned to the temperature outcome of the Paris Agreement; AND
- May not currently have a natively low or zero-emission alternative that is currently technologically available, or commercially viable;

[38] Existing transition finance Guidelines tend to use the phrase "hard-to-abate sectors", "high emitting sectors", "emission intensive sectors" or "carbon intensive sectors" when describing suitability of qualifying sectors for transition finance. While there are nuances between each, for the purpose of this guidance, they may be used interchangeably

Given that transition is ultimately defined by progress with the end goal being net-zero, activities financed under the transition finance label are expected to either:

i. Transition towards a low-to-zero (green) emission pathway within a reasonable timeframe - if they have a significant role to play in a beyond-2050 economy; OR
ii. Facilitate significant emissions reduction in the short term until a sunset date, pending the development and adoption of green asset/activity. These activities are therefore not fully green or deemed as long term climate solutions.

Factbox

Knowing the Difference: 'Hard-to-Abate' vs 'High Emitting/Carbon Intensive'

Different transition finance Guidelines use different terminologies when describing the suitability of qualifying sectors for transition finance. While in some cases they may be used interchangeably, it is worth knowing that there are some differences between the terminologies. This is reflected in the table below:

	Hard-to-abate	High Emitting/Carbon Intensive
Broad Definition	Generally refers to sectors where reducing emissions is technically, economically, or logistically difficult, even if they are not the highest emitters presently.	Generally refers to sectors that emit large volumes of greenhouse gases.
Key Distinction	These sectors often rely on process emissions, fossil fuels for heat, or have long capital replacement cycles, making decarbonisation challenging.	These sectors have high absolute emissions, regardless of how easy or difficult it is to reduce them.
Ease of Decarbonising	Difficult due to unavailability or nascence of commercially viable technologies.	Varying Difficulty. Not all high emitting sectors face technological and economical challenges for decarbonisation. Some sectors may have commercially viable low-carbon solutions
Role of Transition Finance	Plays a crucial role in developing or scaling emerging solutions like low-carbon hydrogen, carbon capture, and low carbon fuels.	Supports efforts to facilitate significant emissions reduction, often using already available solutions like renewables, electrification, or efficiency improvements.
Examples of Sectors	Power (co-fired natural gas power plants), Chemicals, Aviation	Power (coal fired power plants), Agriculture, Shipping

Given the distinction above, it can be argued that hard-to-abate sectors are a subset of high-emitting sectors. This means that all hard-to abate sectors are usually high emitting, but not all high-emitting sectors are hard-to-abate.

Factbox

Knowing the Difference: Sustainable Finance vs Transition Finance

The difference between sustainable finance (specifically green finance) and transition finance is broadly summarised in the table below:

	Sustainable Finance (Green Finance)	Transition Finance
Broad Definition	Finance mobilised towards activities that are already natively low-to-zero emissions	Financing mobilised towards hard-to-abate or carbon intensive sectors whose services are needed up to and in a post-2050 economy, but whose current ability to decarbonise is hampered by commercial viability or technological readiness, with the intention of having the sector/asset/activity aligned to a science-based pathway
Sector Coverage	All Sectors	Primarily mobilised towards hard-to-abate or carbon intensive sectors
Alignment to climate science	Green finance activities are activities or assets with low or zero emissions and are already aligned to the temperature outcome of the Paris Agreement	Activities/assets whose emissions are not currently aligned to climate science but are expected to be aligned/are in the midst of aligning to a science-based pathway within a predefined period
Asset/Activity Level Requirements	• Green assets/activities must have natively low-to-zero emissions • Assets/Activities must be assessed to ensure they do not do significant harm to the broader environment or society	• Transition activities either facilitate significant emission reduction in the short term, pending the development and adoption of green technologies, OR are transitioning towards a low-to-zero (green) emission pathway within a reasonable timeframe. • Assets are typically assessed for their emissions alignment to a science-based pathway over time[39] • Assessed for other factors such as DNSH and carbon lock-in prevention
Provision of Funds for general corporate purposes	• General purpose financing can be recognised as sustainable finance when mobilised to pure-play entities[40] or SLLs/SLBs[41]	• General purpose financing may be recognised as transition finance when mobilised to pure-play entities[42] or transition linked loans/SLLs/SLBs. • General purpose financing may be recognised as transition finance when mobilised to entities that have an ambitious, robust and credible net-zero aligned transition plan[43]

[39] The initial (high) emissions of an asset does not matter so long as the asset possesses a forward looking decarbonisation plan that aligns its emissions to a science-based pathway.

[40] Entities that derive ≥90% of their revenue from qualifying green activities

[41] Subject to adherence to relevant market guidances such as ICMA Sustainability Linked Bonds Principles, LMA/APLMA/LSTA Sustainability Linked Loan Principles, ICMA Climate Transition Finance Handbook, etc.

[42] Entities that derive ≥90% of their revenue from qualifying transition activities or that provide ancillary transition services (e.g. production of green hydrogen, specialises in installing CCUS). For companies that are at pre-revenue stage, the company dedicates at least 90% of its Capex / R&D expenditure to activities eligible transition activities

[43] The term "ambitious" pertains to the alignment of the transition plan to a 1.5°C or well-below 2°C pathway, "robust" signifies the presence of established and enforceable mechanisms that demonstrate the company's capacity to deliver on its plan; while "credible" denotes a transition plan that is underpinned by clear and transparent disclosures and corroborative evidence.

Client Level Assessment	The client's nature of business or transition/decarbonisation plans are not relevant and do not need to be assessed when mobilising sustainable finance. Any sector can request for green finance.	Assessment of the robustness, credibility and ambition of the entity's transition plans is an essential component to the overall credibility of a transaction.
Emissions Evaluation Timeframe	Sustainable finance evaluations are based on a point-in-time assessment (e.g. of the asset's emissions threshold). It does not require forward looking plans because the asset is expected to meet the most credible threshold (that is already low/zero emission) set to be aligned to the Paris Agreement.	Transition finance involves an assessment at a point-in-time (baseline) and a forward-looking assessment of the asset's emissions to ensure alignment to a science-based pathway over time.

3.2 The Importance of Transition Finance in a net-zero Company

While multiple pathways may exist for the global economy to successfully transition to net-zero and fulfil the objectives of the Paris Agreement, there is broad international consensus that at a minimum, two fundamental shifts are imperative. First, there must be a significant scaling up of investments in zero-emission solutions. Second, investments in new high-emitting assets and infrastructure must be developed with transition in mind while existing assets are retrofitted, abated or phased out.

In today's economy, hard-to-abate and carbon intensive sectors in developing markets are often deeply rooted and are key drivers of employment, contributors to national GDPs, underpinned by vast supply chain networks and communities that depend on them. More importantly, these sectors are needed in a post-net-zero world given that they serve as a critical material to many downstream economic activities – without such importance, they would have been phased out long ago. Transition finance therefore plays a pivotal role in enabling hard-to-abate and carbon intensive sectors, especially those that are needed post-net-zero to decarbonise at a speed and scale that is aligned to the temperature outcome of the Paris Agreement, while balancing just transition considerations.

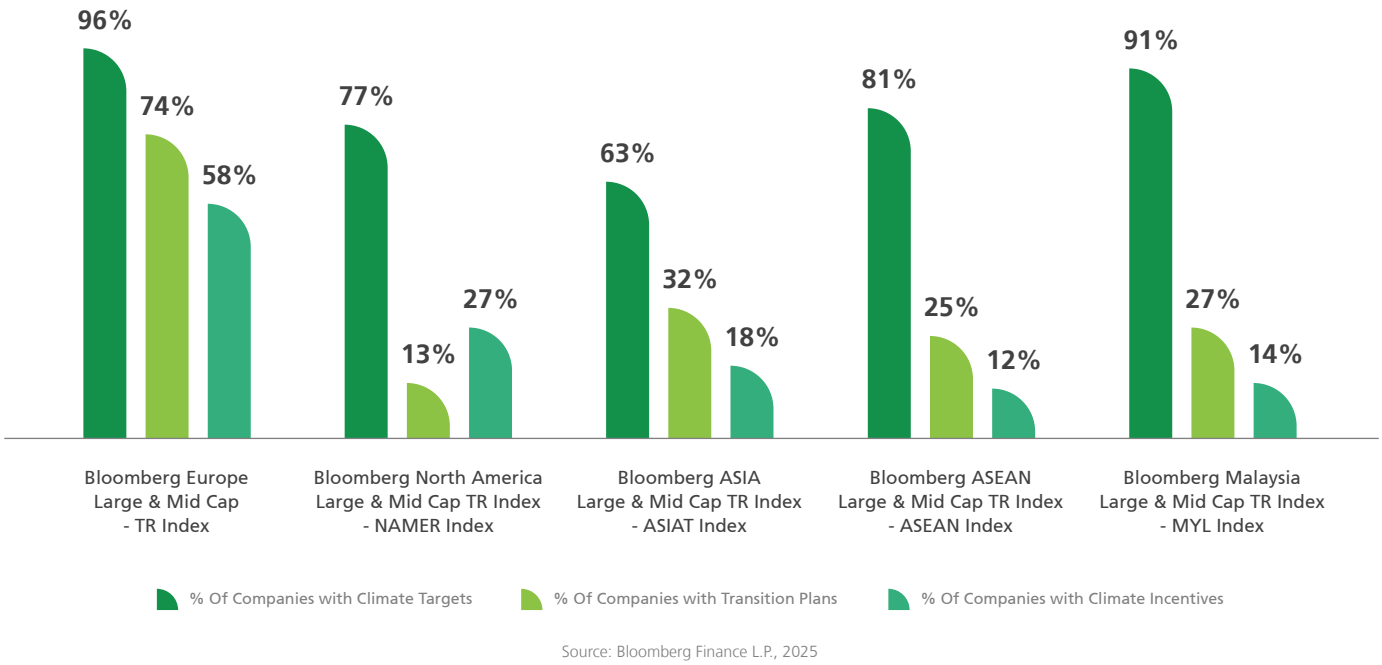
This is synonymous with the fact that while all sectors must achieve net-zero emissions, not all activities are compatible with a net-zero future. In the power sector, for example, the IEA projects that electricity generation—anticipated to become the dominant source of global energy consumption—must reach net-zero globally by 2040[44]. This transition also necessitates the phase-out of unabated coal power plants in advanced economies by 2030 and in all other countries by 2040[45]. Similarly, while steel and shipping is a key sector beyond 2050, steel production via blast-oxygen furnace and shipping using fossil fuel is not sustainable in a low carbon future.

[44] IEA – net-zero by 2050: A Roadmap for the Global Energy Sector, 2021

[45] ibid

Transition finance provides the necessary capital and strategic support needed for these firms to implement long-term decarbonisation strategies in line with global climate goals. Mounting evidence[46] highlights a critical gap between high-level emissions reduction targets and tangible transition plans required to achieve these targets.

Foundations for Transition Across Markets



Source: Bloomberg Finance L.P., 2025

The diagram above clearly illustrates that while a large number of real economy companies across all markets have established climate targets, only a fraction have actually established transition plans. In most markets, an even smaller percentage of real economy companies have established climate incentives linked to their climate targets.

This emphasises the criticality of entity level assessments as part of a broader transition finance mobilisation. Credible transition plans are not merely aspirational; they are essential to ensuring that sufficient safeguards are in place to facilitate the delivery of material emissions reductions.

Factbox

Understanding the Timelines: Paris Agreement vs Net-Zero

The overarching goal of the Paris Agreement is to limit the increase in the global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels by the end of the century. This means that the timeline to achieve the Paris Agreement is by year 2100.

To achieve the goals of the Paris Agreement, the concept of net-zero was introduced. net-zero refers to a state in which the greenhouse gases going into the atmosphere are balanced by greenhouse gas removal out of the atmosphere. To keep global warming to no more than 1.5°C – as called for in the Paris Agreement – global emissions need to be reduced by 45% by 2030 and reach net-zero by 2050. This means that achieving net-zero by 2050 is a key milestone to putting the Earth on track to meeting the climate goals of the Paris Agreement in 2100.

[46] OECD Guidance on Transition Finance, 2022

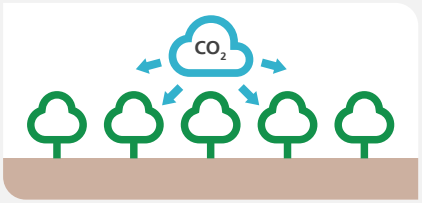
What happens after net-zero is achieved in 2050?

The concept of what happens once net-zero is achieved in 2050 and the timeframe between 2051 to 2100 is not often talked about. While achieving net-zero will stabilise the Earth's climate, a few things will likely happen after 2050:

- The Earth's temperature will continue to remain higher than pre-industrial levels. There will likely be a lag between the time net-zero is achieved and the time global temperatures begin to decline. According to the IPCC[47], 'if all human emissions that affect climate change fall to zero – including GHGs and aerosols – then the IPCC results suggest there would be a short-term 20-year bump in warming followed by a longer-term decline'. Different parts of the world will also face different pace of temperature reduction.[48]
- Global climate events such as those witnessed today – flash floods, severe thunderstorms, draughts, etc. will likely continue until the Earth's temperature gradually reduces. The assumption that climate change will stop and reverse once net-zero is achieved is highly unlikely.

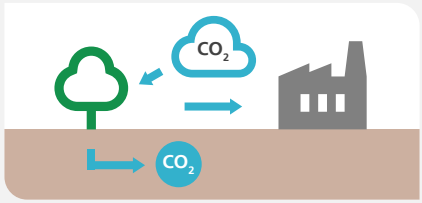
Once net-zero is achieved, countries may then be required to pursue "net negative" – a concept of sequestering more emissions than the amount emitted. This can be done by pursuing various efforts such as peatland restoration, afforestation, enhanced weathering, installation of negative emission technologies such as Direct Air Capture, Bioenergy with Carbon Capture and Storage ("BECCS") or any other means to increase carbon sequestration.

Possible approaches for negative emissions



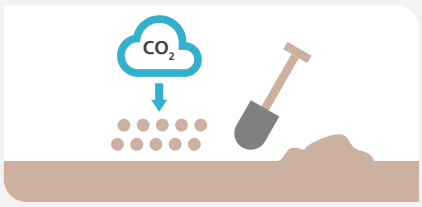
Afforestation, reforestation, forest management and wood utilisation

Trees remove CO_2 from the air as they grow. The CO_2 can be stored in trees, soil and wood products.



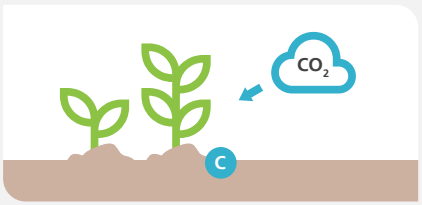
Bioenergy with carbon capture and storage (BECCS)

Plants convert CO_2 into biomass, which provides energy. CO_2 is captured and stored underground.



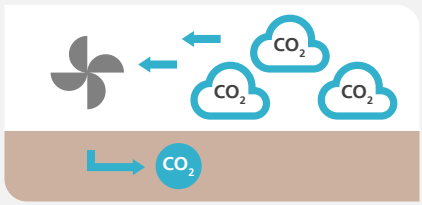
Enhanced weathering

Crushed minerals bind CO_2 chemically and can then be stored in products, in the soil or in the sea.



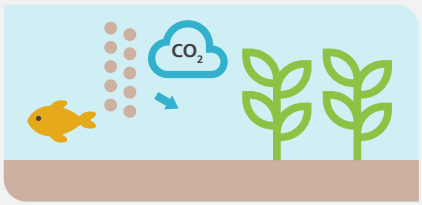
Soil management (incl. biochar)

The introduction of carbon (C) into soils, e.g. through crop residues or vegetable carbon, can accumulate C in the soil.



Direct air capture carbon capture and storage (DACCS)

CO_2 is extracted from the ambient air by chemical processes and stored underground.



Ocean fertilisation

Iron or other nutrients are added to the ocean to increase the absorption of CO_2 by algae.

Source: MyClimate, 2024

The diagram above shows the various negative emissions technologies that will likely be utilised over the coming years to remove CO_2 from the atmosphere. Some technologies are still at infancy and have not yet achieved commercial viability or scalability, while others are in the midst of being adopted more widely (e.g. afforestation and reforestation)

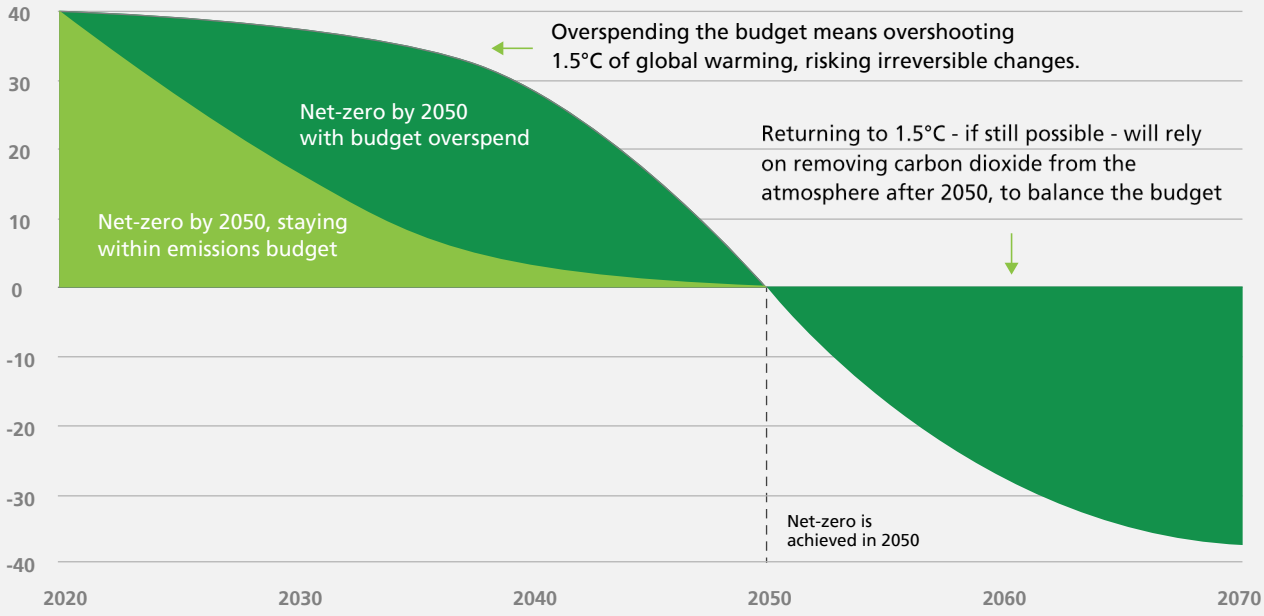
[47] IPCC Special Report 15, 2018

[48] The Conversation: What happens after net-zero? The impacts will play out for decades, with poorest countries still feeling the heat, 2023

Countries will therefore need to keep in mind that even if we succeed in limiting the global average temperature rise to below 2°C, many physical climate risks that are already manifesting today will continue to persist and intensify. Coral reefs will continue to bleach, sea levels will continue to rise, and extreme weather events may become more frequent in the short run. At that point, society may begin to question the efficacy of climate action—particularly if they had believed that limiting warming to 2°C would significantly reduce or reverse visible climate impacts. The need for adaptation will need to continue beyond 2050, as long as the global temperature trajectory remains upward. Resilience must be embedded from the outset. Only when carbon sequestration exceeds emissions (net negative) will atmospheric CO_2 concentrations begin to decline—marking the turning point at which climate risks may begin to ease over a 5-15 year timeframe.

The world has an emissions budget it must stay within to meet the 1.5°C goal of the Paris Agreement

Global annual CO_2 emissions (billions of tonnes)



Notes: Both pathways start at 40 billion tonnes in 2020. The total emissions for each pathway (the area under each curve) between 2020 and 2070 is the same - 400 billion tonnes, consistent with keeping warming below 1.5°C. Source: Grattan analysis of AR6 Climate Change 2021: The Physical Science Basis (IPCC, 2021).

Source: Grattan Institute, 2021

The diagram above illustrates how global emissions need to reduce annually in order to stay within the global carbon budget. If the global carbon budget is exceeded, returning to a 1.5°C temperature is possible but only with efforts undertaken to remove CO_2 from the atmosphere through negative emissions technology.

3.3 Transition Finance Guiding Principles

Transition finance, similar to green finance can be delivered through a wide variety of financial products, including debt instruments such as bonds, loans or equity instruments.

Many transition finance Guidelines opine that the approach a bank should take when evaluating transition finance transactions depends on the type of financing provided, which can consist of:

Use of Proceeds financing

Financing that is ring-fenced towards a specific transition asset or activity.

General Purpose Financing

Financing provided for general use to credibly transitioning entities or for sustainability/transition linked loans/bonds.

However, the underlying financial structure and type of financing used to mobilise transition finance is not a key determinant or reflection of the credibility of the overall transaction. Instead, the credibility of a transition finance transaction is highly contingent on the purpose to which the financing is provided and the underlying principles that govern the transaction.

Transition finance is typically provided at either:

Asset Level[49]

Involves the financing of a particular transitionary asset or activity and is governed by a dedicated use of proceeds to that asset or activity.

Entity Level

Involves the mobilisation of finance to real economy companies that have ambitious, robust and credible transition plans that ensures the company's alignment to the temperature outcome of the Paris Agreement. This form of financing is governed by a general use of proceeds.

Current transition finance Guidelines differ in how they assess eligibility, depending on the structure of the financing. Some Guidelines advocate a **singular-lens approach - allowing either the asset or the entity to demonstrate transition alignment for the financing to be considered as transition finance.**

Other Guidelines however advocate for a **dual-lens approach, where both the asset being financed and the entity receiving the financing must demonstrate transition alignment.** One without the other, may give rise to emission leakage[50] and moral hazard[51] amongst other risks. This dual-lens assessment is typically applied to Use of Proceeds financing, where the financing is earmarked for a specific project, asset or activity.

[49] The term 'asset-level' is used interchangeably with 'activity-level' throughout this section

[50] Emission leakage refers to the situation where net emissions arising from a given transaction is not reduced overall but is instead shifted to other regions, sectors, or activities. This happens when a client receives financing for a 'transition' project/asset in a given sector/region, but continues to develop and build new high emitting assets elsewhere, defeating the broader objective of driving real economy decarbonisation towards net-zero.

[51] Moral Hazard refers to the risk that companies may take advantage of financial support for transition finance without making genuine efforts to transition. It gives real economy companies the impression that they can continue to build new 'brown' emission intensive assets today, and still qualify for transition finance in the future because they are not required to have a net-zero transition plan in place or commit to phasing down/out fossil intensive infrastructures.

In view of varying perspectives, **this concept of singular vs dual-lens assessment is not explored further in this document**. Instead, the section delves into the key guiding principles that should be adhered to and assessed against at asset and entity level when extending transition finance to real economy companies.

While the authors of this document believe that a dual-lens assessment (i.e. transition finance should primarily be extended for use of proceeds financing and subsequently supported with robust entity-level transition plans) is the most credible approach when mobilising transition finance, at least in the interim, until such time transition planning requirements are well established and adopted, the discretion of subscribing to a singular vs dual-lens approach is left to the banks. Banks should decide for themselves if extending general purpose financing to a credibly transitioning company can on its own qualify for transition finance or if use of proceeds transition finance transactions should be supported with credible transition plans.

Factbox

Pros and cons of Singular vs Dual-lens assessment to Transition Finance

	Dual-Lens Assessment	Singular-lens assessment (Asset or activity only)	Singular-lens assessment (Entity only)
Definition	Requires both asset/ activity to demonstrate transition alignment and entity to demonstrate presence of an ambitious, robust and credible net-zero aligned transition plan to qualify for transition finance.	Requires only the asset/ activity to demonstrate transition alignment to qualify as transition finance without any entity level considerations.	Requires only the entity to demonstrate the presence of an ambitious, robust and credible net-zero aligned transition plan to qualify for transition finance.
Mobilisation of Proceeds	Dedicated towards a specific asset/activity	Dedicated towards a specific asset/activity	General Purpose Financing
Pros	• Enhances credibility and integrity of transition finance by ensuring that financing is only extended to entities that are capable of demonstrating credible and robust net-zero aligned transition plans and whose assets have emissions trajectory that is aligned to a science-based pathway • Drives meaningful real world decarbonisation • Minimises the risk of moral hazard and emission leakage	• Easier to implement and analyse in view that there is no need to evaluate the presence and robustness of the entity's transition plans which could be challenging in developing countries that have yet to mandate such practices • Encourages incremental improvement at asset level that ultimately leads to the asset being low/zero emissions	• Easier to analyse in view that there is no need to evaluate the alignment of any asset or activity to a science-based pathway that can typically be challenging • Enables broader use of proceeds and flexible corporate-level financing • Best served by sustainability-linked loans or bonds with KPIs tied to the transition pathway or entity's transition plans/net-zero KPIs

Cons	• Greater administrative burden in view that the bank will need to assess and monitor the alignment of the asset/ activity's emission trajectory to science as well as the presence and progress of the entity against its net-zero transition plan. • May reduce eligible universe or assets or clients, especially in emerging markets.	• Moral Hazard • Emission Leakage • Higher risk of greenwashing (e.g. if the entity is still developing new hard-to-abate assets or has no net-zero commitments) • Still relatively challenging to assess the asset's alignment to science-based pathway if localised pathways are not available	• Money is fungible, implying that even with the presence of a robust and credible transition plan, there is no certainty that the use of proceeds will be channelled towards an asset/ activity that will contribute to advance real economy decarbonisation • Difficult to quantify real economy impact and environmental benefits • Typically more challenging to impose covenants tied to the entity's transition plan given the long time horizon of such plans and lack of standardisation across jurisdictions. • May unintentionally reward firms for having a plan rather than executing the plan through capital deployment.

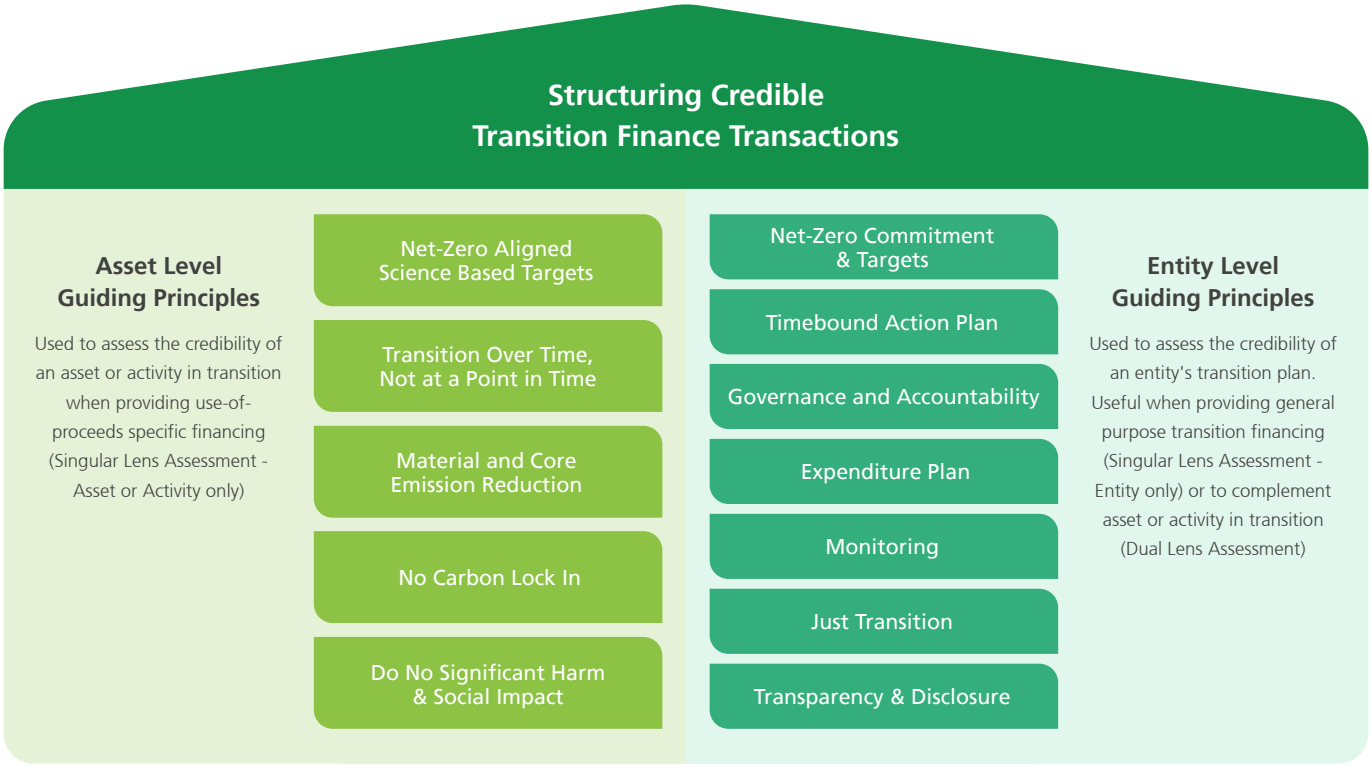
Understanding the nascence of transition planning assessments and disclosures amongst corporates in ASEAN, a dual-lens assessment may be perceived as challenging, given the need to evaluate the robustness of an entity's net-zero transition plans alongside the alignment of the asset/ activity to a science-based net-zero pathway. However, a dual-lens approach is deemed relatively more credible given that both the asset and entity will be required to demonstrate alignment to net-zero and the presence of a net-zero aligned transition plan reinforces the entity's commitment to transition over the long run, beyond the tenure of the loan.

This not only minimises the risk of moral hazard and emission leakage but also provides transparency to stakeholder on the entity's broader intent and approach towards net-zero, alleviating greenwashing risks. Therefore, banks are recommended to minimally engage the client seeking for transition finance to better understand their net-zero/ transition strategy, action plans, governance, expenditure plans, monitoring mechanisms and disclosure commitments and the extent to which these are presently available. This applies even in cases where a client is in the midst of developing a transition plan. To assist with a dual-lens assessment approach, Section 3.3(i) provides some guidance on the asset-level guiding principles that should be assessed, while Section 3.3(ii) below provides some guidance on the key entity-level guiding principles that should be evaluated.

Banks that choose to extend general purpose transition finance to credibly transitioning real economy companies (i.e. Singular-lens assessment - Entity only) should conduct rigorous assessments and due diligence of the entity's transition plans to ensure that they are ambitious, robust and credible so that the impact of the overall finance from an emission reduction standpoint is material. This should include engaging the client to understand how they intend to use the proceeds to advance their transition to net-zero as guided under Section 3.3 (ii).

Banks should also exercise caution when dealing with entities that have no transition plans currently, but are willing to or have committed to developing a transition plan in the future. "Transition towards a transition" or commitment to a future transition may not equate to having sufficient ambition, credibility and robustness. Such an entity may be better off served with sustainable finance until such time it is able to develop an ambitious, robust and credible net-zero aligned transition plan. Similarly, when dealing with entities that provide limited justifications for their backloading of investment in green or transition asset or activities, banks should err on the side of caution.

Overview of Guiding Principles



i. Asset Level Guiding Principles

The section below provides clarity on the guiding principles that banks should minimally adhere to and assess against when mobilising dedicated use of proceeds towards a transitioning activity or asset.

a. Net-Zero Aligned Science-Based Targets

While it is clear that the world needs to limit global warming to well below 2°C above pre-industrial levels, while also pursuing efforts to limit the increase to 1.5°C, this collective goal of the Paris Agreement is broadly qualitative. How this global target should be allocated to countries and economic sectors for a more impactful use, and how this will evolve over time, is a complex question. This complexity is compounded by uncertainties over future emissions levels, decarbonisation needs, and technological capabilities. In essence, different industries will have greater or lesser potential to reduce emissions or increase sequestration over time, meaning that the end goals and speed of transition toward them will vary[52].

In order for this global goal to make sense to real economy companies, there is a need to breakdown this temperature outcome into quantitative targets. To do this, the concept of carbon budget was introduced.

[52] Climate Bonds Initiative: Financing Credible Transitions, 2020

Factbox

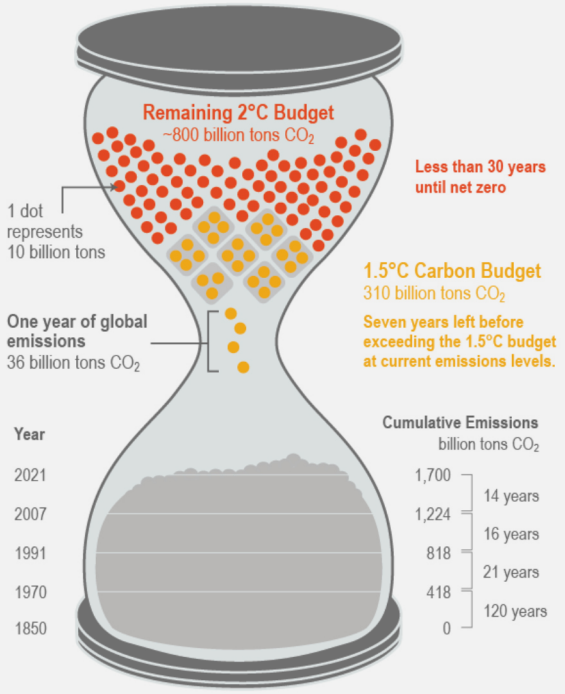
Understanding Carbon Budget:

In simple terms, carbon budget is the total quantity of carbon dioxide (CO_2) emissions that can be emitted by human activities over a set period of time in order to stay below a given temperature limit.

By accounting for the GHG emissions that have been put into in the atmosphere since the industrial revolution began, and having a good understanding of how these affect the climate, it is possible to estimate the level of further emissions that can still be put into the atmosphere and have a good chance of maintaining global warming levels below 2°C. By understanding the global carbon budget and having a good grasp of the different sources of GHG emissions from across the economy, society and natural sources, scientists can then plot the necessary reduction pathways in a fair and transparent way. When this is done at an organisational level, then this is considered to be a science-based target[53].

Carbon budgets are useful because they now provide a quantitative reference to the broader climate objective. These carbon budgets can then be broken down into different sectors or countries, providing a more granular point of reference for the development of science-based pathways and targets.

The Earth's Carbon Budget



Great Plains Institute, 2021

Given that the primary objective of transition finance is to support real economy companies operating in hard-to-abate and carbon intensive sectors to transition towards net-zero, it is crucial that financing of transition activities within these sectors are aligned to climate science. Alignment to a science-based pathway maximises the possibility that the emissions reduction of the asset or activity over time is meaningful and significant enough to keep within the carbon budget allocation while allowing for comparability between transitioning activities and entities in the same industry. If every asset or activity within a given sector keeps to the carbon budget allocated, then the probability for a sector's emissions to remain within its carbon budget will increase. When aggregated across all sectors, this then maximizes the probably of keeping the temperature goal of the Paris Agreement alive.

Given that science-based pathways are developed with carbon budgets in mind, ensuring science-based alignment when financing a transition activity or asset is key to facilitating meaningful real economy decarbonisation. Science-based targets also provide entities with a clear and measurable goal for reducing GHG emissions until net-zero.

To adhere to this principle, banks should first identify the right sectoral science-based pathway to use for a given asset or activity based. The toolbox below provides various external sources of science-based pathways for banks to choose from. Banks should be mindful that science-based pathways can vary in terms of source, geographic granularity, scope of emissions, emissions metric and temperature outcome[54].

[53] What is exactly is a science-based target?, 2018
[54] ASEAN Transition Finance Guidance, 2024

Toolbox: Sources of Science-Based Pathways

Science-based tools with specific quantitative thresholds or clear definitions of transition-aligned activities are broadly perceived as more credible. Below are some sources that provide a consolidated list of science-based pathways across various sectors.

ASEAN Transition Finance Guidance (version 2)

Pages 36-37

Provides a summary list of Paris-aligned science-based reference pathways with transparency over geographic granularity, emissions scope, emissions metric, and temperature outcome.

ICMA Climate Transition Finance Handbook

Methodologies Registry

Provides a list of tools to specifically help issuers, investors, or financial intermediaries validate that their emission reduction trajectories pathways are science-based.

Toolbox: Sources of Potential Transition Finance Activities

To assess the suitability of an activity as transition finance, it is critical to understand if the activity being financed is environmentally sustainable and technologically viable, given that transition finance is often delivered through technological retrofits or advancements. Below are some potential sources that banks can use to evaluate if current or near-term planned activities are considered transition-aligned for any activity:

Taxonomies

- A taxonomy is a classification system that provides businesses with a common language and the means to identify whether or not a given economic activity is environmentally sustainable.
- An increasing number of regional and in-country taxonomies are being developed with reference to climate science and with "transition activities" or "categories" included as part of the taxonomy. In almost all cases, the transition activities for the same sector will differ across national taxonomies due to different priorities, tolerances, and to cater to unique starting points.
- Transition activities within taxonomies typically include quantitative thresholds that ratchet down overtime until a predefined sunset date.
- Banks are encouraged to choose from the list of transition activities listed in taxonomies that are backed by science. Notwithstanding this, the transition activity chosen must still adhere to the other asset-level guiding principles (listed under this section)
- Examples of taxonomies: ASEAN Taxonomy, Singapore Asia Taxonomy, Thailand Taxonomy, Indonesia Sustainable Finance Taxonomi (Taksonomi untuk Keuangan Berkelanjutan Indonesia)

Technology Roadmap

- Technology roadmaps outline the technologies that are expected to be necessary to get specific industry sectors aligned with the Paris Agreement, while showing the year in which the technology should be ready for use.
- Banks can use such roadmaps to identify potential transition technologies and assess the credibility of a transition finance transaction. If a technology roadmap shows that a particular technology is ready for use in 2027, but the real economy borrower is only willing to include it as part of its decarbonisation plan at a much later stage, this lag could point towards a less than credible transition.
- However, banks should also take note and perform additional due diligence in view that some technology roadmaps may not have been frequently updated.
- Example of Technology Roadmaps: Malaysia Hydrogen Economy and Technology Roadmap, Japan's Ministry of Economy, Trade and Industry Transition Finance Roadmap for various hard-to-abate sectors (e.g. iron and steel, chemical , oil and gas, cement)

Technology List

- A technology list provides a reference point when assessing potential transition technologies until technology roadmaps or taxonomies with thresholds and eligible activity lists are developed.
- It can serve as a useful reference for banks to identify eligible transition technologies for transition finance.
- One useful technology list is the Technology List and Perspectives for Transition Finance in Asia by Economic Research Institute for ASEAN and East Asia ("ERIA") (version 1 & version 2). In version 1, the list evaluates potential transition technologies in the upstream energy and power sector across 6 framework dimensions - Emissions impact, Affordability, Reliability/ maturity, Lock-in prevention considerations, DNSH considerations, Social considerations which are useful to address some of the asset-level guiding principles prescribed under this guidance.

Discussion Zone

Can financing divestment be considered as transition finance?

While there is a growing need for banks to manage their scope 3 GHG emissions as a way to manage GHG emissions on a macro-level, many guidance have advised that divestment, while having an immediate effect on banks' emissions, may not benefit the overall climate agenda.

NZBA[55] and CBI[56] opine that divestment should not be eligible to qualify as transition finance and is not the most effective decarbonisation lever for banks, given that:

- Divestment does not address the real economy decarbonisation and merely passes the ownership of the carbon intensive asset to a different financial institution;
- Carbon-intensive sectors can still receive funding from less regulated or climate agnostic non-bank financial institutions, resulting in maintenance of the status quo or even higher emissions (known as 'climate shadow banking');
- Banks will no longer have a relationship with that client and therefore cannot play an active role in supporting the development of net-zero aligned transition plans and solutions for clients in carbon-intensive sectors through financing or advisory services; and
- Divestments, if done at scale, can cause economic and social dislocation as well as financial instability. This is due to the fact that carbon intensive sectors are large employers of labours and provide fundamental resources needed for downstream products and services.

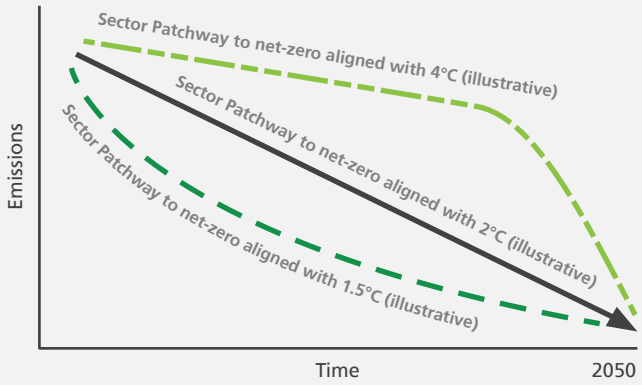
Regulators such as the Monetary Authority of Singapore ("MAS") have even set out clear expectations for financial institutions to prioritise engagement over divestment, focusing on engaging customers on the physical and transition risks they face as well as working together to build effective measures.

Divestment therefore is not a credible form of transition.

Factbox

1. Is a 1.5℃ aligned pathway and a net-zero by 2050 Pathway the same?

No they are not. net-zero by 2050 can also be achieved through a 3℃ and 4℃ pathway, which does not conform to the temperature outcome of the Paris Agreement. Focusing on 2050 as the end goal misses the most important concept which is the steepness of the curve. The figure below illustrates 2050 transition pathways that are aligned with a net-zero 2050 end point that are aligned with 4℃.



Singapore Asia Taxonomy, 2023

In other words, the end points is not as important as the rate of change[57]

Additionally, a 3℃ or 4℃ (delayed) net-zero pathway will bring about higher transition risk because global emissions peak much later, leaving a much shorter runway to reduce emissions by 2050, forcing drastic and abrupt actions by governments to meet their climate target.

2. Are all science-based pathways acceptable for transition finance?

No. Only science-based pathways or scenarios that are aligned to the temperature outcome of the Paris Agreement should be accepted. Pathways that do not align to the temperature goal of the Paris Agreement such as IEA's Stated Policies Scenario ("STEPS") or NGFS' Current Policies or NDCs scenario should not be considered as a reference.

[55] NZBA Transition Finance Guide, 2022
[56] Climate Bonds Initiative: Financing Credible Transitions, 2020
[57] Singapore Asia Taxonomy, 2023

b. Transition over time, not at a point in time

Transition finance is defined and measured through the progress of decarbonisation over time. Given that the objective of transition finance is to facilitate material and core emission reduction towards net-zero via science-based pathway(s), successful transition finance is achieved when an asset or activity:

- Transition towards a low-to-zero (green) emission pathway within a reasonable timeframe - if they have a significant role to play in a beyond-2050 economy; OR
- Facilitate significant emissions reduction in the short term until a sunset date, pending the development and adoption of green asset/activity. These activities are not fully green or a long term climate solutions

The principle of "transition over time, not at a point in time" re-emphasises the fact that transition cannot last indefinitely and that activities financed under the label of transition finance label are expected to either reach a state of low-to-zero emissions within a predefined timeframe or be phased out sometime before 2050. For this reason, 'transition activities' within certain sectors in national and regional taxonomies have emissions thresholds that gradually ratchet down until a sunset date.

Achieving success will require banks to ensure that the asset financed continues to transition over time beyond just the point of financial disbursement or financial close. In simple terms, transition finance involves both - a current, point-in time assessment of the asset's baseline emissions and forward-looking assessment of an asset's downward emission trajectory towards net-zero or its phase-out timeline. This is in contrast to green finance that typically involves the financing of low-to-zero emissions assets, therefore only requiring a current point-in-time assessment of emissions.

Real economy companies seeking asset-specific transition financing will need to disclose how they intend to maintain emissions alignment over time. **It is insufficient to be transition-aligned at a point in time and companies need to demonstrate how their assessed activity or asset will be managed so that the activity remains transition-aligned to the science-based pathway through to its net-zero year**.

To adhere to this principle, banks should assess the emissions arising from the transition asset financed and ensure that the projected emissions of the asset is either aligned or aligning to a science-based pathway over its lifetime.

Working Example

Simple Illustration:

If a given science-based pathway for the steel sector dictates that the emission intensity of steel assets need to be below 1.36 tCO_2e/t of steel in 2027, below 1.16 tCO_2e/t of steel in 2031 and below 0.64 in 2040 tCO_2e/t of steel, then a bank that is financing the retrofit or development of a new steel facility should ensure that asset will be able to deliver the emission thresholds required.

Working Example

Financing New Assets vs Financing Retrofits of Existing Assets

Because new infrastructures developed within the hard-to-abate or carbon intensive sectors risk carbon lock-in and jeopardizing global climate goals, the barrier to entry for transition finance mobilized towards new assets is higher compared to retrofits.

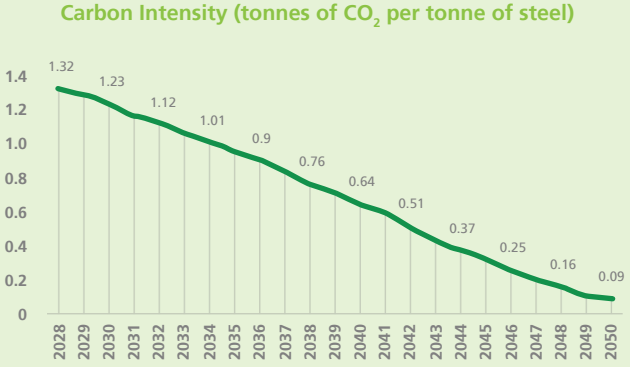
In many cases, a single retrofit alone may be insufficient to bring an asset's emissions down to net-zero. However, it is still crucial that the retrofit facilitates significant emissions reduction that is beyond a business-as-usual trajectory. Marginal improvements alone are deemed non-credible.

To account for this, new assets built should demonstrate emissions alignment over the lifetime of the asset, while retrofits can display alignment at a singular-forward looking point. This is further illustrated using the examples below:

Case Study 1: Financing of new steel production facility

A bank is looking to finance the development of a new steel production facility. Given that the steel sector is a carbon intensive sector, to ensure that this financing can qualify for transition finance, the bank will need to assess the emissions trajectory of the new asset over its lifetime in reference to a science-based pathway.

Using the TPI – Steel Sector Below 2 Degrees Pathway as a reference, the bank will need to ensure that the emissions arising from the new steel production facility is aligned or aligning to the following trajectory:



Note: 2028 is used as a starting date as a result of the assumption that funds will be disbursed within 3 years of issuance and the production facility will be completed by then

Given that the average operating lifespan of a steel production facility is around 30-40 years, if financed today, the new steel production facility financed will therefore exist beyond 2050. As a result, to qualify for transition finance, it is crucial the bank ensures that the production facility is developed with low carbon transition plans in mind.

This can be done in 2 ways:

i. Ensuring that the production facility continuously aligns itself to the emission thresholds (per the graph above) through to net-zero; OR

ii. Ensuring that the average emissions intensity over the entire lifetime of the facility is below the prescribed threshold at the halfway point of lifetime the facility. Assuming a lifetime of 30 years, then the production facility will need to demonstrate that the average emissions intensity over the entire lifetime of the facility is below 0.64 tCO_2e/t of steel for 2040 (at the 15 year midway point).

Case Study 2: Financing of retrofits to a carbon intensive production facility

A bank is looking to finance the retrofit of an existing steel production facility. To ensure that this financing can qualify for transition finance, the bank will need to assess the emissions of the retrofitted asset at the point of completion, ensuring that it brings about material and significant emission reduction and aligns the asset to a science-based pathway.

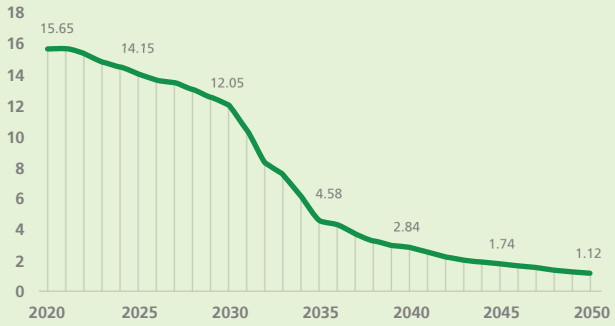
For instance, if the retrofit is undertaken in 2029 is expected to be completed in 2030, then the bank will need to ensure that the emissions of the retrofitted asset is below 1.23 tCO_2e/t of steel.

Case Study 3: Financing of new primary aluminium production facility

A bank is exploring financing the construction of a new primary aluminium smelter facility. In order to qualify the transaction as transaction finance, the bank should assess the facility's emission trajectory over its lifetime in reference to a science-based pathway.

For a carbon-intensive sector such as aluminium production, reference can be made to the MPP Pathway.

Emission Intensity (tCO_2e) /tonne Aluminium



Source: Net-Zero Aluminium Emissions Trajectory, Mission Possible - Global

Given that the average operating lifespan of an aluminium production facility is beyond 30 years, if financed today, the new aluminium production facility will operate beyond 2050. As a result, to qualify for transition finance, it is crucial the bank ensures that the production facility is developed with low carbon transition plans in mind.

This can be done in 2 ways:

i. Ensuring that the production facility continuously aligns itself to the emission thresholds (per the graph above) through to net-zero; OR

ii. Ensuring that the average emissions intensity over the entire lifetime of the facility is below the prescribed threshold at the halfway point of lifetime the facility. Assuming an operational lifetime of 40 years, then the production facility will need to demonstrate that the average emissions intensity over the entire lifetime of the facility is below 1.74 $GtCO_2e/t$ of aluminium for 2045 (at the 20-year midway point)

Banks can do this by assessing the project development plan, supplemented by an assessment of the client's CAPEX plans - which should include key decarbonising levers such as inert-anode electrolysis modules, grid connection to renewables for smelting, effective energy efficiency designs such as smart heat recovery and digitized efficiency systems and carbon capture and storage. Allocations towards R&D on further anode technologies as well as annual third-party certified GHG disclosures would also supplement the credibility of this transition finance transaction.

Factbox

Understanding Direct Emissions vs Lifecycle Emissions

When assessing the emissions arising from a transition asset, it is important to take note that there are 2 types of emissions:

Direct emissions:
emissions arising directly from the asset alone

Lifecycle emissions:
emissions associated with the production and use of a specific asset or activity throughout its entire life.

Lifecycle emissions are important because they help **provide a complete understanding of greenhouse gases across all phases of an asset's life cycle** including: raw material extraction and processing, manufacturing, transportation and distribution, operations, maintenance, renewal and end-of-life or repurposing.

In the case where a possible hard-to-abate asset is being retrofitted to co-fire with an alternate low carbon fuel (e.g. hydrogen, ammonia), a lifecycle emission analysis, will include not only the emissions that occur from combusting the fuel, but all other emissions that occur in the life cycle of the fuel such as emissions from extraction, processing, and transportation of fuels.

Taking a natural gas power plant as an example, simply co-firing a combined-cycle gas turbine ("CCGT") with hydrogen, will result in a reduction of direct emissions compared to pure natural gas CCGT, because hydrogen is a low carbon fuel that does not emit any CO_2. However, conducting a lifecycle analysis will provide clarity on the emissions arising from the production of co-fired feedstock – in this case hydrogen. If the hydrogen were to be produced using steam methane reforming without CCUS ("grey hydrogen"), the lifecycle emissions of the co-fired CCGT asset could result in an increase in the overall GHG emissions, compared to combusting solely natural gas[58]. A lifecycle analysis will therefore confirm if the hydrogen used is low carbon in nature from production to transportation and storage. It is useful to provide clarity on the GHG

[58] Institute for Policy Integrity: Hydrogen Co-Firing and the EPA's Greenhouse Gas Limits for Power Plants

emissions across the entire supply chain and not just during combustion.

Using a high-carbon feedstock is contrary to the objective of transition finance and violate the principle of Do No Significant Harm. Therefore, when utilising different transition pathways, it is worth exploring if the emissions pathway is derived based on direct emissions or lifecycle emissions.

Toolbox: Methods to evaluate credibility of asset's emission trajectory over time

In most cases, the tenure of financing extended to a transition finance asset will not span across asset's entire operating lifespan. In such cases, banks must utilise other means to assess and derive comfort that the asset will transition over time. This can include:

Analysing the asset development plan and planned capital expenditure

- Understanding the development plan of the asset and the planned upgrades, retrofits or co-firing milestones will give some insight to its emissions trajectory.
- For example, a bank can analyse the planned co-firing milestones of a given asset and compare it to a technology list or technology roadmap. If the co-firing milestones align to the technology list or technology roadmap, then the emissions trajectory can be expected to replicate the roadmap.
- Similarly, analysing the capital expenditure plan for the asset will give insights into the broader retrofits and decarbonisation plan and whether the capital investments support the represented transition approach.

Assessing the Entity's Broader Transition Plans

- Assessing an entity's overarching transition plan can support an evaluation of whether the transition finance activity is consistent with the entity's publicly stated decarbonisation milestones and transition pathway. The presence of a net-zero aligned transition plan reinforces the entity's commitment to transition over the long run, beyond the tenure of the loan.
- For example, if the entity's net-zero transition plan commits to co-firing all its existing assets with at least 70% biofuels by 2035, then the financing of a new asset that does not have such capabilities can be deemed as misaligned to net-zero. Similarly, if the entity is unable to demonstrate that it has plans to procure an increasing amount of biofuels, there is a risk that the company may stray away from its net-zero transition pathway further down the line.

Letter of Undertaking from the client

- A letter of undertaking from the client stating that it has strong intentions to transition the asset within a given timeframe can support broader alignment to the principle of "transition over time".
- Example:
  - If a bank is financing the electrification of upstream assets for an oil and gas company, obtaining a letter of undertaking from the client stating that it commits to not exploring new oil fields or that it will transition towards 100% renewable energy can provide assurance that the asset will transition overtime.
  - If a bank is financing the retrofit of a coal fired power plant to allow for co-firing with ammonia, the client should provide a letter of undertaking stating that the co-firing will not extend the life of the CFPP beyond its lifespan and that the client will commit to gradually increasing the co-firing with ammonia until 100%.

While it may be difficult to evaluate the transition trajectory of the asset over time, banks should err on the side of caution. Asset development plans that are poorly developed or limited in terms of transition milestones may increase the risk of the asset remaining fossil intensive or undergoing delayed transition. Similarly, letter of undertakings with poor repercussions when breached will not incentivise clients to transition the asset.

Discussion Zone

What are some of the practical challenges that banks will face when attempting to adhere to this guiding principle?

In assessing the alignment of an asset or activity's emissions towards net-zero, banks may face the practical challenge of financing an asset that may only be able to materially reduce emissions in later years towards the end of the loan tenure or beyond the loan tenure. This creates a challenge of having to assess the credibility of the asset's transition overtime towards net-zero.

For example, consider a bank that is financing the retrofit of an existing ship to be dual-fuel powered. While the financing is provided today, the retrofit may take a few years, and the borrower may only be able to power the ship with small amounts of low-carbon fuel in the early years due to cost viability and supply concerns. Under such a circumstance, the asset will only likely transition over time towards net-zero and materially decarbonise (by increasing the usage of biofuels) in years beyond the maturity of the loan when supply of low carbon fuel becomes significantly available or affordable. Under such a circumstance, ensuring the lifecycle emissions from the ship remains transition-aligned to the science-based pathway through to its net-zero year will require the bank to:

i. seek clarity on the milestones for increasing the usage of the low carbon fuel over time. Here, the bank can assess the entity's low carbon fuel procurement plans and allocated capital expenditure;

ii. assess the entity's current (fossil) fuel purchase agreement. Long term, inflexible fuel purchase agreements may lead to difficulties for the client to procure low carbon fuel without incurring additional costs. Similarly, banks can also assess the entity's low carbon fuel procurement plans and dual fuel co-firing milestones against technological viability and feasibility studies (if available) or that of peers; AND

iii. assess the broader transition plans of the entity to evaluate if the financing is aligned to the entity's net-zero commitment.

Ultimately, while the financing as a whole may enable meaningful decarbonisation in the future, the bank will need to derive sufficient comfort that the retrofit and entity level transition plans will see the asset transitioning towards net-zero over time.

c. Material and Core Emission Reduction

In view that transition finance involves the decarbonisation of hard-to-abate and carbon-intensive assets, meaningful and credible transition finance can only be achieved when the financing results in the reduction of emissions that are material and core to an entity's business activity. Core business activities are defined as activities which are the primary drivers of an entities current and future environmental impact. This is further illustrated in the table below:

Sector	Core Business activity	Material Source(s) of Emission*	Activities that may result in material emission reduction*
Aviation	Aircraft / Flight Operations	Scope 1: Combustion of fuel by aircraft	• Procurement of Sustainable Aviation Fuel through long term contracts • Retrofits or improvements to engines, materials and aerodynamics
Steel	Smelting (Steel Production)	Scope 1: Burning of fossil fuels to achieve high-temperature in blast furnaces	• Installing Electric Arc Furnaces to replace BF/BOF + Utilising Steel Scrap • Retrofitting existing facilities to improve thermal efficiency, allow for low-carbon feedstock, and accommodate CCUS. • Replacing coke with green hydrogen as alternate reducing agent
Shipping	Freight Operations	Scope 1: Combustion of fuel	• Retrofits to enable dual-fuel propulsion such as green ammonia/methanol or battery-electric propulsion
Natural Gas	i. Extraction and Processing and Power Generation (including flaring and methane leakage) ii. Use of End Products	i. Scope 1: Combustion to generate power, methane leaks in pipelines ii. Scope 3: Use in End Products (heating, cooking, feedstock and refining)	• Retrofitting existing pipelines to reduce methane leakage • Retrofitting natural gas turbines to allow increasing blend of low carbon fuels • Installation of CCUS • Development of new pipelines that are capable of transporting low-carbon fuel with methane leakage detections

*Non exhaustive list. Eligibility for transition finance will still depend on the activities demonstrating alignment to other asset-level guiding principles listed within this guidance

While for many industries material emissions are likely to also arise from Scope 3 emissions, it is generally understood that reducing emissions arising from these upstream and downstream activities may lie outside the operational control of the entity. Additionally, material categories of scope 3 emissions will differ depending on the sector and where the company operates on the value chain. As such, banks may see a significantly larger portion of transition finance transactions addressing material Scope 1 emissions instead of Scope 3.

Nevertheless, scope 3 emissions are deemed highly important and should be considered as part of the entity's broader transition plan to net-zero.

Factbox

Accounting for Scope 3 as part of Transition Plan to Net-Zero:

Various transition finance Guidelines prescribe the need for Scope 3 accountability as part of entity's broader transition plan to net-zero. Where an entity has yet to account for Scope 3 emissions, it is expected that the real economy company commits to a timeline.

ICMA

"Where Scope 3 emissions are expected to be material but are not yet identified or measured, a timeline for reporting should be disclosed."

ASEAN TFG

"Where entities may lack in the comprehensiveness of their current state assessment (e.g., Scope 3 emissions not assessed, measurement of only CO_2 but not the other greenhouse gases), entities should commit to a clear action plan and time frame in the near term by which they aim to build their capabilities to do so."

OECD TFG

"A credible transition plan will, as a rule, contain scope 3 emissions as part of metrics, targets, and related reporting. However, it is understood that while the inclusion of scope 3 emissions will likely always be relevant for some companies, such as those involved in the extraction, processing, sale or distribution of fossil fuels, they may not always be relevant for all companies in all sectors, such as information technology or communication services"

CBI

"Transition pathways should take into account scope 1 and 2 and upstream scope 3 emissions as under the control of the transitioning entity, but not downstream scope 3 emissions. Upstream scope 3 emissions are the emissions related to purchased goods and services (i.e. within their supply chain). While these are not directly controlled by an entity, they are indirectly controlled by their purchasing decisions. By including upstream Scope 3 emissions, the transition principles are reinforced along supply chains"

Reporting of scope 3 emissions can avoid shifting the carbon emissions of a business onto its supply chain, accurately capture the climate-related impacts of a business and highlight where the greatest opportunities for emission reductions lie. However, measuring scope 3 emissions can be challenging due to various sources of uncertainty, such as on the calculation methodologies used, the availability of data (and subsequent use of estimates), and limited ability to influence action up- and downstream[59]. Below are some documents that may be useful to assist with the assessment and calculation of scope 3 emissions:

- GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard
- GHG Protocol Technical Guidance for Calculating Scope 3 Emissions

Toolbox: Resources to Identify Material Emissions by Sector

ASEAN Transition Transition Finance Guidance (version 2)
Pages 28-29

- Provides a non-exhaustive list of sectors, their emission distribution and material sources of emissions
- Paris-aligned science-based reference pathways with transparency over geographic granularity, emissions scope, emissions metric, and temperature outcome.

CDP Technical Note:
Relevance of Scope 3 Categories by Sector

- Identifies the relevant and most significant (by size) Scope 3 categories for each of CDP's high-impact sectors and, where relevant, specific sectoral activities. While the document predominantly focuses on Scope 3, a breakdown of each sector's scope 3 emissions relative to its scope 1 and 2 emissions is also represented via a pie chart. Banks can use this to identify sectors with highly material Scope 1 (and 2) emissions which are more likely to require transition finance.

[59] OECD Guidance on Transition Finance, 2022

d. No Carbon Lock In

Carbon lock-in occurs when technologies, institutions, or behavioural norms, individually or collectively perpetuate, delay or prevent the transition to low-carbon alternatives. Essentially, because funds are being channelled towards emission intensive or fossil based activities or assets that "lock-in" high GHG emissions for a long period of time, they detract funds away from otherwise being spent on low carbon alternatives that are critical for net-zero transition, despite their apparent environmental and economic advantages.

Carbon lock-in, when present therefore, results in the high GHG emissions being "locked-in" for a long period of time, and low carbon alternatives being "locked-out" during that period, which combined can result in countries financing assets that put their national carbon budget at risk thereby increasing climate transition risk and the future cost of achieving the agreed climate goals.

Evaluating for carbon lock-in risk is a commonly agreed pre-requisite in many transition finance Guidelines, albeit the lack of coverage in these Guidelines. This risk primarily stems from the fact that many fossil infrastructures have an average operating lifespan of between 25 to 45 years[60]. This means that any new fossil based infrastructures will likely operate beyond 2050 – a critical milestone in the climate agenda. Once built, these infrastructures will take a significantly long time before they are considered for replacement, retrofits or even phase-down. The "committed emissions" from these infrastructures will therefore continue to emit and compound over time, further jeopardising the climate goals. Naturally, this risk is greater for infrastructures that have long operating lifespans and high lifecycle emissions such as coal or gas fired power plants.

Given that the primary objective of transition finance is to transition assets within the hard-to-abate and carbon intensive sectors to become low carbon over time, it is critical for banks to ensure that the financing channelled towards these assets, be it new or existing assets, are evaluated for carbon lock-in risk and supported with relevant risk prevention measures.

The importance of assessing carbon lock-in risk is also evident in sustainable finance taxonomies. Because transition finance can involve the financing of new assets or existing assets (via retrofits etc.), the risk of carbon lock-in is deemed greater for the former. As a result, some sustainable finance taxonomies limit the eligibility for "transitionary/amber activities" to existing assets only. This is in recognition of the fact that in many cases, transitionary activities are not currently aligned to a science-based pathway and building of new asset with long lifespans would lock in assets longer into the future, resulting in stranded assets. These assets are therefore expected to align with the "green thresholds" within the taxonomy from the get-go[61].

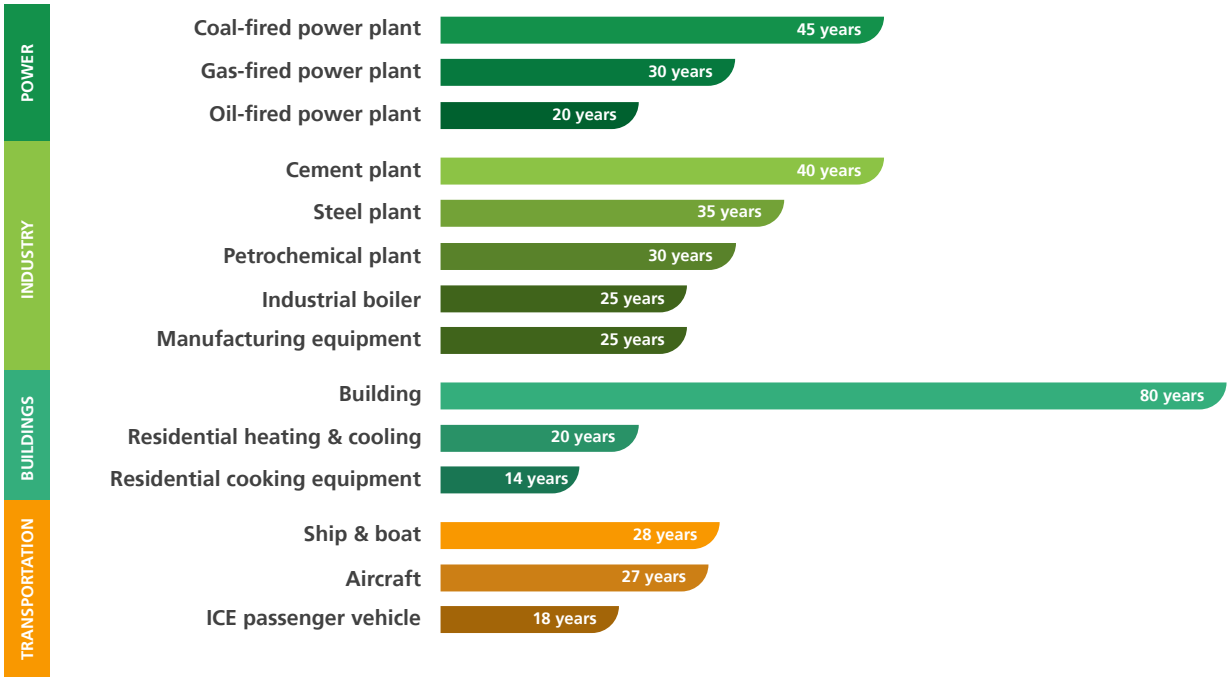
As the ASEAN region undergoes rapid urbanisation and economic development, it is expected to depend on fossil fuels at least in the medium term, thereby increasing the likelihood that new fossil based assets will be built. At the same time, as the 2050 net-zero milestone approaches, fossil fuel-based infrastructures and assets are likely to become increasingly susceptible to stranded asset risk. This growing misalignment exposes banks to heightened stranded asset risk over time, potentially resulting in premature write-offs or downward revaluations in later years, possibly triggering systemic risk. Therefore, it is key that any essential or critically required fossil based assets are built with transition in mind and lead to no carbon lock in. Given that these assets are expected to be operational far into the future, best practise dictates that they are also built with climate adaptation considerations in mind.

While solving for carbon lock in will require a multi-stakeholder engagement and approach (further explained below), assessing for carbon lock-in risk at individual asset-level when providing finance to fossil based assets as a part of transition finance is key. To adhere to this principle, banks should assess the possibility of carbon-lock in risk arising from a given asset prior to providing any transition finance. Where carbon-lock in is present, banks should ensure sufficient measures are in place to minimise the risk.

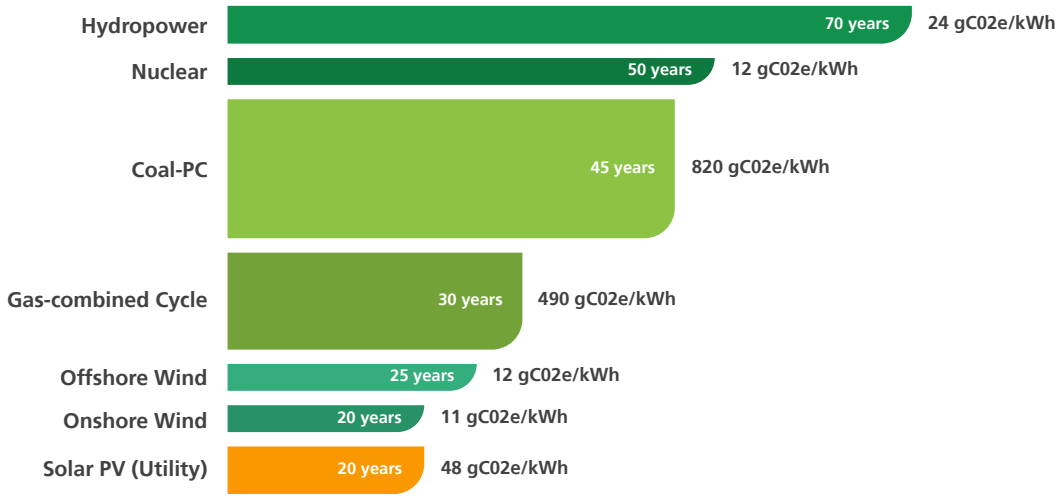
[60] World Resource Institute: What Is Carbon Lock-in and How Can We Avoid It?, 2021

[61] Singapore Asia Taxonomy, 2023

Typical lifespan of infrastructures and equipment[62]



Lifecycle emissions and typical lifetime of infrastructure and equipment



[62] World Resource Institute: What Is Carbon Lock-in and How Can We Avoid It?, 2021

Factbox

Types of Carbon Lock-In[63, 64, 65]

Carbon lock-in is amplified when a set of technologies, institutions or behaviours/norms that are inconsistent or incompatible with a low-carbon future limits progress toward that goal. It is a process by which social, political and technical barriers to decarbonisation interact to create an inertia that favours the development or retention of fossil fuel assets. Carbon lock-in can therefore be broken down into three types:

- **Infrastructural/Technological Lock-In**
- **Institutional Lock-in**
- **Behavioural Lock-in**

A summary of these types of carbon lock-in can be found in the table below:

Type of Carbon Lock-in	Infrastructural/-Technological	Institutional	Behavioural
When it happens?	Occurs when the physical systems and technologies that have been built around fossil fuels make it difficult or costly to switch to cleaner alternatives	Arises as a result of conscious efforts by powerful economic, social, or political actors that seek to reinforce the status quo trajectory of fossil assets or infrastructure through rules, norms, policies, and political-economic interests	Arises as a result of persistence of carbon-intensive habits, norms, and preferences at individual or societal levels
How or Why it happens	• Pursuit of broader macroeconomic considerations – e.g. energy security, accessibility and affordability, economic growth • Returns to scale which creates strong inertia against low carbon alternatives	Pursuit of personal interest and gain	Various complex causes: • Pursuit of convenience • Resistance to change • Lack of awareness or belief in the climate crisis
Intentional/ Unintentional	• Mostly unintentional especially for historical assets developed in early years. • Intentional lock in if assets are developed in recent years where low carbon alternatives are already present	Intentional as a result of conscious efforts by macroeconomic actors	May arise intentionally or unintentionally
Examples	Development of coal fired power plants and extensive transmission and distribution lines	• Continued subsidies for fossil based assets • Development of private highways in urban areas instead of expanding public transport • Politicians having vested interest in fossil based asset	• Using private transportation instead of public transport • Reliance on single-use plastics instead of reusable containers

[63] Annual Review of Environment and Resources: Carbon Lock-In: Types, Causes, and Policy Implications, 2016

[64] Stockholm Environment Institute: Q&A: What is carbon lock-in? SEI scientists give a primer, 2022

[65] Science Direct - Understanding carbon lock-in, 2000

Infrastructural/Technological Lock-In

- Technological or infrastructural carbon lock-in happens when the physical systems and technologies that have been built around fossil fuels make it difficult or costly to switch to cleaner alternatives.
- In some cases, technological lock-in arises as a result of the unintended consequence of pursuing activities that would bring about greater private benefits – e.g. the need to provide affordable and accessible electricity, led to the development of coal-fired power plants with long term power purchase agreements. The want to provide affordable aviation and logistics, led to the development and expansion of fossil dependent ships and aircrafts.
- These fossil and extractive based sectors and activities which began as an essential need to fuel the global move towards industrialisation and supply inexpensive, reliable energy has now grown and embedded itself as a key part of society – contributing significantly to national GDPs, employing large number of workers while developing a vast network of dependent suppliers and communities.
- Consequently, technological/infrastructural lock-in arise because large technological systems, like electricity generation, distribution and end use, cannot be fully understood as a set of discrete technological artefacts but have to be seen as complex systems of technologies embedded in a powerful conditioning social context of public and private institutions. In simple terms, economies today are stuck with carbon-heavy systems because they're built into everything—our technologies, industries, regulations, and daily lives.
- Studies also suggest that many economies today have been locked into fossil or extractive based systems through a process of technological evolution driven by path-dependent increasing returns to scale. These industries, upon gaining sufficient inertia, can be difficult to displace and can lock-out alternative technologies for extended periods, even when the alternatives demonstrate improvements upon the established.

Institutional Lock-In

- Institutional lock-in arises from conscious efforts by powerful economic, social, or political actors that seek either to reinforce a status quo trajectory of fossil assets, infrastructure or sectors that favors their interests against impending change or to create and then stabilise a new, more favorable, status quo. These actors engage in intentional and coordinated efforts to structure institutional rules, norms, and constraints to promote their goals and interests in ways that would not arise otherwise.
- Institutional lock-in differs from infrastructural/technological lock-in in important respects. First, carbon lock-in is an intended feature of institutional design, not an unintended by-product of systemic forces. Because institutions are "distributional instruments laden with power implications," institutional lock-in rarely arises from "early chance events" but from conscious efforts made.
- Example of situations that may cause institutional carbon lock-ins are:
  - the establishment of subsidies for production and consumption of fossil fuels;
  - the dependence of public expenditures on the production of fossil fuels through the generation of taxes and royalties; or
  - long term international investment agreements/power purchase agreements that allow investors to litigate a government when new policies and rules are instituted that affect their profits
  - politicians or other key economic players having a vested interest in the fossil fuel sector/asset

- Institutional lock-in is likely to be more prominent in developing countries where access to low cost, stable supply of energy is essential. While it can be argued that increasing price competitiveness of low carbon alternatives in some sectors could warrant developing countries to leapfrog carbon-intensive technologies to avoid carbon lock-in, the risks of alternative development paths as well as the significant resource constraints they face often will lead developing country governments to prefer those technological infrastructures that have already been developed, refined, and proven in developed countries, without regard to their carbon intensity.
- In some cases, national and regional governments in fossil fuel-producing areas endure tremendous pressure to resolve fiscal gaps. But instead of reducing costly subsidies, they fall back on the same arguments of energy security, sovereignty and development. These arguments perpetuate an extractive-based development model without considering the medium- and long-term consequences, resulting in short-sighted investment decisions amid the bigger-picture trend of the energy transition. These investments are at high risk of being stranded, meaning they turn out very costly instead of profitable.

Behavioural Lock-In

- Behavioural lock-in arises from individual and collective behaviours, habits, and norms that create a tendency to perpetuate reliance on carbon-intensive goods, services, and energy sources.
- Examples include preference of using private transportation instead of public transport, reliance on single-use plastics instead of reusable containers for convenience, expectations of fast and immediate delivery of goods, preference of new products over second-hand products and many more.
- Behavioural lock-in is inherently complex because it speaks directly to an individual's personality, beliefs, habits, surrounding environment, amongst many others. A research carried out in 2009 identified numerous psychological barriers that explain why people do not feel a sense of urgency regarding climate change, including habit and other ingrained behaviours that are extremely resistant to change, limited cognition about the problem, worldviews that preclude pro-environmental behaviours, undervaluing risk, distrust toward experts and authorities, and a sense of lack of control over being able to make a difference. Additionally, changing behaviours or habits involves increased functional, physical, financial, social, psychological, and temporal risks above the status quo.

As explained above, carbon lock-in can occur in multiple dimensions (technological, institutional, and behavioural) and at multiple scales (local to national or individual to structural). The reality is that all three types of carbon lock-in can interweave with one another creating a sticky, mutually reinforcing vicious inertial cycle characterised not merely by individual inertia but also by a collective inertia in which any movement out of lock-in in one of the three dimensions induces a response in the other dimension that results in further hardening the collective inertia. This inertia will then interactively limit the rate of such systemic transformations, making future emissions reductions even harder.

Carbon lock-in if not addressed, can **create persistent market and policy failures that can inhibit the take up of low carbon alternatives despite their apparent environmental and economic advantages**.

Toolbox: Tools and Approaches to evaluating Carbon Lock-in Risk

While most transition finance Guidelines cite the need to prevent carbon-lock in when extending transition finance, there is limited guidance provided on how to go about doing this. Below are some tools or approaches that banks can leverage on to assess the presence of carbon lock-in risk and minimise this risk.

Carbon Lock-in Toolkit

(by the Economic Consulting Associates Limited, UK)

- The toolkit provides a framework for assessing the risk of carbon lock-in among developing countries. Although the Toolkit is aimed at decision makers in national or local governments who are considering policy options that may result, directly or indirectly, in carbon-intensive pathways, it is also useful for banks that aim to provide transition finance.

Leveraging on National or Regional Taxonomies

- Most taxonomies today that contain technical screening criteria prescribe specific means that banks can leverage on to prevent carbon lock-in. This includes:
  - i. **Exclusion and eligibility criteria** – While most taxonomies clearly define activities that are eligible for green and transition (amber), some also spell out ineligible or excluded activities. It is key to ensure that transition finance is not extended to these activities.
  - ii. **Sunset Dates/Clauses** – Given the need to ensure that an asset transitions over time, many sustainable finance taxonomies include sunset dates, after which a specific asset may no longer qualify for transition finance. Beyond the sunset date, an asset must comply with a new set of more stringent criteria in order to continue qualifying as part of the taxonomy. In using taxonomies, banks should assess the alignment of the asset against the sunset dates to ensure that measures are in place for the asset to comply with the sunset dates so that the asset continues to transition towards becoming low carbon.

ERIA Technology List and Perspectives for Transition Finance in Asia

Version 1

- In addition to providing a list of potential transition technologies in the upstream energy and power sector, the document also assesses these technologies across six framework dimensions, which includes 'Lock-in prevention considerations'. For transition finance transactions involving assets in the upstream energy and power sector, banks should understand the relevant carbon lock-in considerations and assess the asset against such considerations.

Evaluating the credibility of the borrower's transition plans

- While not explicitly linked to the carbon lock-in risk of a particular asset, entity level transition plans do implicitly put in place mechanisms that can ultimately help prevent carbon lock-in and emission leakage.
- Notwithstanding the many components that make up a credible transition plan (which is outlined in the next section), certain components are more important to prevent carbon lock-in. This includes:
  - i. Presence of a net-zero commitment/target that aligns to the temperature outcome of the Paris Agreement with interim targets.
  - ii. Presence of action plans to achieve the net-zero commitment/target (with greater degree of granularity for short and medium term plans).
  - iii. Robust governance and accountability mechanisms with net-zero KPIs tied to remunerations
  - iv. Commitment against the development of new fossil-based assets or commitment towards developing/procuring low carbon assets only (e.g. no new coal fired power plants, no new blast oxygen furnace steel plants, commitment to only procuring low carbon/dual-fuel ships, commitment to phase out unabated natural gas power plants)
  - v. Transparency and Disclosures

OECD Guidance on Transition Finance (2022) and OECD Mechanisms to Prevent Carbon Lock-in in Transition Finance (2023)

- Both documents contain guidance on how to prevent carbon lock-in across various dimensions.
- Taking the OECD Guidance on Transition Finance (2022) as an example (ref. page 53), some methods to safeguard against carbon lock-in includes:
  - i. Ensure that any new/retrofitted emission intensive asset built is "future-proofed" by ensuring that the asset is built/retrofitted to enable the future use of near zero/net-zero technologies (e.g. hydrogen ready CCGTs, dual-fuel low-carbon ready ships)
  - ii. Ensure that the switch of the emission intensive asset or infrastructure to a near-zero or net-zero technology materialises by requiring the asset or infrastructure owner to have 'skin in the game' by making additional commitments to invest into or allocate funds for research, development and innovation.
  - iii. Introduce sunset clauses and gradually more stringent criteria.

Working Example

Using the ASEAN Taxonomy to assess carbon lock-in risk:

Case Study: Financing of new gas fired power plant

The ASEAN taxonomy[66] is built with two 'Amber tiers' (Amber Tier 2 & Amber Tier 3) which will be gradually phased out over time. The process of phasing out a Tier for an activity, and the associated Technical Screening Criteria ("TSC") with that Tier, is known as 'sunsetting'. To promote a more sustainable development pathway for activities, it is expected that the TSC will change over time and become more stringent.

Taking the power sector as an example, the ASEAN Taxonomy has published an emissions intensity pathway that gradually ratchets down across all 3 Tiers (Green, Amber Tier 2, and Amber Tier 3) from 2024 to 2045. This is reflected in the table below:

Year	Green	Amber Tier 2	Amber Tier 3
2024 - 2030	Lifecycle GHG emissions from the generation of electricity by the entire facility <100 gCO_2e/kWh	Lifecycle GHG emissions from the generation of electricity by the entire facility: ≥100 and <425 gCO_2e/kWh	Lifecycle GHG emissions from the generation of electricity by the entire facility: ≥425 and <510 gCO_2e/kWh
2031 - 2035	Lifecycle GHG emissions from the generation of electricity by the entire facility <100 gCO_2e/kWh	Lifecycle GHG emissions from the generation of electricity by the entire facility: ≥100 and <285 gCO_2e/kWh	Sunset
2036 - 2040	Lifecycle GHG emissions from the generation of electricity by the entire facility <100 gCO_2e/kWh	Lifecycle GHG emissions from the generation of electricity by the entire facility: ≥100 and <185 gCO_2e/kWh	Sunset
2041 - 2045	Not yet published	Sunset	Sunset

If a bank is planning to finance the construction of a new gas fired power plant (within an ASEAN country) in 2025 that will be ready in 2028, the bank should evaluate the lifecycle emissions arising from the power plant in 2028 to ensure that it minimally does not exceed 510 gCO_2e/kWh (Amber Tier 3 threshold). In order to qualify for transition finance however, it is critical that the asset continues to "transition over time", and a point-in time assessment of the 2028 lifecycle emissions alone will not suffice. In the absence of any retrofitting or abatement technologies, a new gas plant that is currently Amber Tier 3 will remain emissions intensive over its lifespan by which it will no longer be transition-aligned.

Banks should therefore ensure that the asset owner has plans in place to ensure that the power plant will continue to meet the ratchet down emissions threshold over time across the operating lifespan of the asset. Such plans can include options to retrofit the power plant and its surrounding infrastructure (e.g. natural gas pipeline) to enable co-firing, plans to procure low carbon fuel (e.g. green hydrogen) or retrofitting the plant with CCUS, amongst others. Once plans are in place, banks should also attempt to project the emission intensity reductions that will arise from these efforts and ensure they progressively result in emissions intensity reduction over time. It remains that if no plans are in place, the power plant will likely remain fossil-based for its entire operating lifespan and present significant carbon-lock in risk. Under such circumstances, the asset should not qualify as transition finance.

[66] ASEAN Taxonomy Version 4, 2025

Other additional safeguards that can be considered to assess the risk of carbon lock-in:

Taking the case study above, some additional safeguards that can be put in place to prevent carbon lock-in includes:

- Checking if the asset is built to be low-carbon fuel ready (e.g. hydrogen-ready CCGTs). If the asset is built to be low-carbon fuel ready, then banks should asses if the asset owner has plans to materialise the "low carbon ready" state of the asset. This includes plans to procure the low-carbon fuel, plans to retrofit ancillary equipment's (e.g. pipelines) to transport the low-carbon fuel, clarity on cost and time of retrofit that will be needed to accommodate for increasing blend of the low carbon fuel.
- Assessing the gas supply agreement that the asset owner has signed. If the gas supply agreement is long-term with no flexibility to reduce the supply of natural gas in the future to make way for low-carbon fuel co-firing, then the risk of carbon-lock in is high.
- Assess entity-level net-zero transition plans to ensure that the project is aligned to the entity's broader decarbonisation objective.

e. Do No Significant Harm & Social Impact

The inclusion of Do No Significant Harm (DNSH) and Social Impact perspectives especially social safeguards are crucial to facilitating a just transition where the world, especially emerging economies, can work towards achieving net-zero taking into account the cost to society and other environmental objectives.

The objective of DNSH is to ensure that an activity, despite making a substantial contribution to emissions reduction, does not have unintended adverse effects on other environmental objectives such as climate change adaptation or protection of healthy ecosystems and biodiversity. In recognition of this, DNSH is prescribed as a key element of many sustainable finance taxonomies. While the fulfilment of DNSH may appear secondary in many sustainable taxonomies, it is a fundamental requirement of any transition finance transaction. A transition activity that brings significant harm is not a credible transition at all.

In addition to DNSH, a transition finance activity must also take into account the possible social impact of a transaction to the extent where feasible. Social impact assessments are key to ensure that any transition finance transaction does not leave negative impacts towards its employees, suppliers or the surrounding communities. Social impact considerations could include protecting human rights, prevention of forced and child labour, job creation, human capital development and poverty reduction.

Evaluating for DNSH and Social Impact is rarely straightforward. Often times, potential environmental harms and negative social impact may require deeper analysis as they may not be immediately apparent - resulting in the need to apply some degree of subjective judgement. Nevertheless, assessing adherence against these guiding principles is key to a credible transition finance transaction.

Toolbox: Tools and Approaches to evaluating DNSH & Social Impact

Environmental Impact Assessment (EIA)

- In many countries, transactions are required by law to produce an Environmental Impact Assessment ("EIA"), Environmental Management Plan ("EMP") and/or Social Impact Assessment ("SIA") or equivalent to identify, predict, evaluate and communicate, both the beneficial and adverse impacts, of a proposed development activity.
- EIAs involve a baseline study of the proposed development and location (i.e., physical, environmental, biological, socio-economic and cultural/heritage) followed by an estimate of the impact of the activity on these different areas and a proposed action plan to mitigate any adverse impact previously identified.
- EIAs are therefore useful to determine whether the proposed transition finance transaction will significantly cause harm to the environment, while SIAs will provide transparency of potential impact to surrounding communities.

Bank Negara Malaysia's Climate Change and Principle-based Taxonomy (CCPT)

- Specific to evaluating DNSH, the third principle of BNM's CCPT, "GP3: No significant harm to the environment", highlights that while an economic activity may contribute to climate mitigation and/or adaptation, it may bring unintended harm to the broader environment.
- The document also prescribes a number of assessment criteria to apprise these broader objectives into more specific categories, as following:

Environmental objectives	Examples of assessment criteria
Prevent, reduce and control pollution (air, water and land)	• Prevent pollution of air, water and land where the economic activity takes place, including appropriate use of products, equipment and techniques. For example, proper use of fertilisers, pesticides and herbicides taking into account the appropriate dosage, avoidance of harmful materials/substances such as asbestos in buildings/constructions. • Undertake cleaning measures immediately when there is a pollution. • Proper waste management practices. • Ensure no potential contaminants on land prior to or during use.
Protect healthy ecosystems and biodiversity	• Implement necessary measures to protect ecosystems and biodiversity. • Prevent soil erosion and run-off into watercourses. • Avoid land/site use on protected natural areas. • Adopt sustainable logging practices and ensure timber products are sourced from sustainably managed forests.
Sustainable and efficient use of energy, water, and other natural resources	• Identify and manage risks related to water quality/energy/natural resources and/or water/energy/natural resources loss through leakage and/or improper management of infrastructure. • Implement water use/conservation management plans. • Ensure water/energy/natural resources appliances fulfil the requirements of relevant national legislations.

Sustainable Finance Taxonomies

- Many sustainable finance taxonomies provide some provision for assessing against DNSH and Social Impact. For example:
  - **ASEAN Taxonomy v4**: Provides extensive guidance on DNSH (page 447-484) and social impact (page 57-59). Both assessments are taken into consideration for each of the 4 thematic environmental objectives listed under the taxonomy, where each activity must fulfil minimum requirements of the 3 essential criteria of the ASEAN Taxonomy, 2 of which are DNSH (EC1) and Social Aspect (EC3)

Table 19: Guiding questions through the decision tree for the EC3 Assessment

S/N	Guiding questions - Essential Criteria 3 (Social Aspects)
4A **4B**	Does the Company meet minimum national standards relating to human rights, labour rights and worker protection and impact on people living close to investments? In the absence of minimum standards established through national regulations or legislations, the following guiding questions will be used: **1. Promotion and protection of human rights** a. Does the Company have policies or guidelines that uphold an individual's right to enjoy just, decent and favourable working conditions? b. Does the Company have a clear and transparent policy that sets out measures to create a positive environment in overcoming discrimination? c. Does the Company have a policy that provides decent wages to all workers, taking into account adequate standards of living? **2. Labour rights and worker protection** a. Does the Company employ occupational health and safety practices? b. Does the Company have a clear and transparent policy that sets out measures taken to prevent and eliminate all forms of exploitation, trafficking, violence and abuse in its entire supply chain? c. Does the Company have a clear and transparent policy that prohibits child labour and ensures compliance with minimum age requirements for employment in its operations and supply chain, in line with international standards? d. Do all workers have the right to enter into, and leave, employment voluntarily and freely? e. If the Company employs migrant workers, are the migrant workers treated fairly? f. Does the Company ensure all its workers free access to their documentation? g. If the Company employs private employment agencies, do they conduct measures to ensure that such agencies are not involved in any form of exploitation, trafficking, violence and abuse? h. Does the Company conduct assessments to understand the risks and vulnerabilities faced by informal workers and their communities, and implement measures to address them? i. Are there efforts to involve local communities or informal worker groups in creating solutions for better working conditions or social protections? j. Does the Company raise awareness among informal workers about their rights, available resources, or risks, and provide platforms (e.g., collectives or associations) to empower them to meet their basic needs? **3. Impact on people living close to investments** a. Does the Company conduct risk and vulnerability assessments to ensure targeted response measures that would contribute to the progressive implementation, effective monitoring and evaluation, as well as optimum impact of social protection? b. Does the Company engage and strengthen the capacity of the community for better responsiveness, coordination and effectiveness of risk reduction and management policies? c. Does the Company promote public awareness of their exposure and vulnerability and ablish platforms to empower people to meet their basic needs?

- **Singapore Asia Taxonomy**: Provides extensive guidance on DNSH (page 138 – 209) and recommends OECD's Due Diligence Guidance for Responsible Business Conduct[67] as reference for social impact assessment
- **Indonesia Sustainable Finance Taxonomy**: Covers DNSH (page 133-144) and Social Impact aspect (page 147-152) to form part of the Essential Criteria which must be assessed and addressed
- **EU Taxonomy Technical Guidance**: Provides a simplified checklist[68] for DNSH assessment with examples of scenarios as well as an extensive activity-specific criteria[69] to address DNSH. For addressing social impact, the EU taxonomy also established Minimum Safeguards as part of Article 18 of the Taxonomy Regulation.

[67] OECD's Due Diligence Guidance for Responsible Business Conduct, 2018

[68] EU Technical guidance on the application of 'do no significant harm' under the Recovery and Resilience Facility Regulation, 2023

[69] EU Taxonomy Regulation Delegated Act 2021-2800, Annex 1, 2021

IFC Performance Standards on Environmental and Social Sustainability

- Provides a comprehensive set of standards for identifying, mitigating, and managing environmental and social risks in development finance such as labour, biodiversity, cultural heritage, and human rights impacts and more. Given the large number of modules, banks can choose to prioritise modules that assess for the greatest risk arising from the transaction (which can be identified through the EIA or other means (e.g. public grievance reports), etc.)
- Coverage:
  - **DNSH:** Covered extensively
  - **Social Impact:** Covered extensively

DNSH Handbook (by Maples Group, ELS Europe & Frankfurt School)

- Explains how financial market participants can apply the EU Taxonomy's DNSH principle using a 5-step process covering environmental objectives, technical screening criteria, and minimum social safeguards.
- Coverage:
  - **DNSH:** Covered extensively
  - **Social Impact:** Limited Coverage

UNDP Social and Environmental Standards (pg 27-33)

- Outline principles and project-level standards to integrate human rights, equity, resilience, and environmental sustainability into projects. This document offers a framework to evaluate social inclusiveness and environmental soundness for projects.
- Coverage:
  - **DNSH:** Covered extensively
  - **Social Impact:** Covered extensively

Discussion Zone

Given the differing jurisdictional laws and regulations and taxonomies, which regulation and taxonomy should a company adhere to when mobilising transition finance?

As a general rule of thumb, the applicability of laws and regulation as well as taxonomy will be based on the location of transition asset. Transition planning assessment however, can be done based on country of borrower.

Case Study 1

Consider the case of a Malaysian bank financing the construction of a new natural gas power plant in Singapore by an Indonesian-based company (the borrower). Considering that the developer is based in Indonesia, and the asset is based in Singapore, the transaction warrants the following consideration:

- **Singapore Asia Taxonomy vs Indonesia Taxonomy**

  Given that the asset will be developed in Singapore and will contribute to Singapore's ability to achieve net-zero, the Singapore Asia Taxonomy should be the primary reference for qualifying the transaction as transition finance. The developer and lender should ensure that the asset minimally meets the requirements listed under the taxonomy in order to qualify as transition finance. Alternatively, ensuring that the asset is aligned to a 1.5℃ emission pathway, could also suffice given that science-based pathways are globally accepted.

  In addition, the lender should also assess adherence of the asset to all other asset-level guiding principles listed.

- **Laws and Regulations**

  The Singapore vs Indonesian regulations involved in the construction and operation of the plant including relevant labour and safety laws as well as environmental standards will need to be considered. Given that the asset resides in Singapore, Singaporean laws will primarily inform the DNSH and Social Impact evaluation for the project.

- **Transition Plans**

  The transition plans of the developer will also need to be considered. Given that the developer is based in Indonesia, the transition plans of the developer, including its net-zero targets, action plans, expenditure plans, and governance etc. will need to be evaluated, taking into consideration Indonesia's NDCs and broader national priorities with climate science in mind.

Case Study 2

Assuming the same scenario above, how would the entity-level assessment considerations differ if the asset developed by the Indonesian-company now also has Japanese stakeholders? Given that the Japanese Ministry of Economy, Trade and Industry ("METI") developed a roadmap to provide a concrete direction for transition toward achieving carbon neutrality in 2050 for GHG-intensive industries[70] - including natural gas sector, and that such roadmaps are developed to assist financial institutions in determining whether a company's strategies and initiatives toward decarbonisation qualify for transition finance, what additional considerations need to be made when assessing transition finance qualifications?

Case Study 3

Assuming the same scenario as Case Study 1 above, how would the entity-level assessment considerations differ if the borrower was a Special Purpose Vehicle or locally incorporated subsidiary of a foreign company established for the project?

The case studies above highlight how transition finance transactions often present additional complexity when multiple stakeholders—such as borrowers, lenders, project sponsors, and regulators—are involved across different jurisdictions. As a result, banks must exercise a high degree of diligence, vigilance, and prudence in their transition finance assessments. Banks advising on a transition or providing transition finance will need to consider the varying degree of stringency between taxonomies, roadmaps and regulatory requirements as well as the requirements of internally developed transition finance guidance/frameworks. Banks must ensure that financing is provided in the most credible way possible, without causing carbon lock-in and significant environmental or social harm. As a general guiding principle, banks may wish to adopt the most stringent applicable standard amongst all stakeholders, and build in flexibility where appropriate to accommodate differing frameworks and evolving requirements. Such flexibilities must be supported with robust justifications.

[70] Ministry of Economy, Trade and Industry (METI), Japan – Transition Finance, 2024

ii. Entity Level Guiding Principles

Entity level transition finance involves the mobilisation of general purpose finance to real economy companies that have ambitious, robust and credible transition plans that are aligned or aligning to the temperature outcome of the Paris Agreement. The term "ambitious" pertains to the alignment of the transition plan to a 1.5°C or well-below 2°C pathway, "robust" signifies the presence of established and enforceable mechanisms that demonstrate the company's capacity to deliver on its plan; while "credible" denotes a transition plan that is underpinned by clear and transparent disclosures and corroborative evidence.

It is universally acknowledged that an ambitious, credible and robust transition plan is a central prerequisite to all transition finance issuances, regardless of the use of proceeds. Given that transition finance involves the systemic transformation of an entity's business model from being carbon intensive towards becoming low emissions, mobilisers of transition finance (i.e. banks) should be well positioned to assess and verify the credibility and robustness of the transformation. The best way for real economy companies to articulate their transformation is through a climate transition plan.

Defining a Transition Plan[71]

"A corporate transition plan is generally understood as a time-bound, crosscutting action plan that clearly sets out how a company intends to achieve its transition strategy (including targets, actions, progress and accountability mechanisms) and reach its goal to transform its business model, operations, assets and relationships towards low-emission, climate-resilient pathways that are aligned with the goals of the Paris Agreement"

Mobilising finance towards companies that have credible and ambitious transition plans is a powerful lever by which finance can accelerate the whole-of-economy decarbonisation while providing assurance to stakeholders that the entity is on a credible path to net-zero, thereby minimising greenwashing risks. The entity level guiding principles under this section therefore outlines the core components that make up an ambitious, robust and credible transition plan.

Across some transition finance Guidelines, a real economy company that is able to demonstrate the presence of an ambitious, robust and credible transition plan can qualify for general purpose transition finance. The underlying notion is that to drive whole-of-economy decarbonisation, it might be beneficial to provide transition finance to transform a real economy company's entity-wide business model and strategy if the aggregate impact of the entity's full range of economic activity is material to climate mitigation[72]. Market reviews and surveys have indicated that transition finance is currently more focused on activity-level financing, with an ambition to increasingly incorporate more entity-level financing that supports the delivery of credible transition plans. This is because in many jurisdictions, transition planning disclosures are still based on voluntary adoption, creating inconsistencies (in robustness of disclosures), making it difficult for banks to evaluate. Additionally, market infrastructure surrounding the assessment of credible transition plans is in development, which limits the ability for banks to support entity-level transition finance in isolation[73].

This therefore presents the alternate view that transition finance should be limited to financing specific assets or activities, and complemented with assessments of broader transition plans. The pros and cons of this approach is discussed under the "Singular vs Dual-lens assessment to Transition Finance" further above.

The section below **provides clarity on the foundational entity level guiding principles crucial to demonstrate an ambitious, robust and credible transition plan that banks should minimally assess for when mobilising transition finance to real economy companies**. The guiding principles draws on various existing transition finance and transition planning Guidelines that have been published. While there is general consensus on the need for a robust transition plan and the general components that make up a transition plan, the market remains divided on the degree of stringency and granularity needed for a transition plan to be deemed as credible. This is further evidenced in the list of tools recommended below. Banks are strongly encouraged to assess adherence to all guiding principles listed below at minimum. However, given the transition planning nascence in emerging markets, a "comply or justify" approach can be considered where clear justification and time-bound commitments are provided in cases of deviations or omissions.

[71] OECD Guidance on Transition Finance, 2022
[72] NZBA Transition Finance Guide, 2022
[73] UNEP FI: Transition Finance Emerging Practices, 2025

a. Net-Zero Commitment, Targets and Pathway

A credible transition plan begins with the setting of a strong climate ambition which involves the establishment of a net-zero commitment and pathway that is aligned to the temperature outcome of the Paris Agreement, supported by interim targets. This is a crucial component of a credible transition plan as it provides a clear insights into the real economy company's transition journey and end state, which reflect the entity's overall ambition. A net-zero commitment can also indirectly deter real economy companies from undertaking new investments in fossil-intensive assets given the carbon offset obligations that will arise from the development of such assets.

Net-zero commitments must be supplemented with science-based transition pathways that are aligned to the temperature outcome of the Paris Agreement. A science-based pathway provides a clear view on the on pace and scale of decarbonisation that an entity will undertake to transition from a high emitting to a low-carbon business model. As transition pathways will likely differ between real economy companies, it is important for banks to understand the underlying assumptions and methodologies used in developing the pathway.

Factbox

Factors that can influence the development of a transition pathway:

Pathway Source – While pathways should be developed under a science-based model that ensures the net outcome is aligned with the collective goal set by the Paris Agreement, there are various organisations that provide Paris Agreement aligned science-based pathways, each with a differing set of underlying assumption.

Geographical Augmentation - Entities may prefer more specific reference pathways that reflect their geography to account for localised starting points, technological readiness and regulatory headwinds or tailwinds. As such, some entities may choose to augment their transition pathways.

Scope of Emissions – While pathways should encompass all material sources of emissions (Scopes 1, 2 as well as Scope 3 where material), some entities may choose to exclude scope 3 emissions for the time being pending further validation.

Emissions Metric – Entities can choose to set pathways based on various different metrics (e.g., absolute emissions, physical emission intensity).

Temperature Outcome – Some entities may choose pathways that are aligned to a 1.5℃ scenario, while others may choose to align their pathway to a well Below 2℃ scenario.

Net-zero commitments and pathways must also be supported with interim targets. Interim net-zero targets that are quantifiable and time-bound provide clarity on the key milestones and progress of an entity's transition. Given that 2050 is a distant future, breaking down high level commitments into shorter term targets provides investors and financiers with a clear means to assess progress over time. Interim targets should span across short (1-2 years), medium (3-5 years) and long term (>5 years), with greater granularity over short term and medium term targets given the higher degree of visibility during this time period, while remaining aligned to a science-based pathway. Longer term targets can be set every 5-10 years, and should be revisited periodically as economies and technologies mature.

Banks should minimally assess the short and medium term targets set by real economy companies to ensure that they address core and material emissions involving the company and that the targets require a beyond business-as-usual approach and effort. Targets that do not address emissions that are material and core to the entity's business and are not aligned to science-based pathways or that only bring about marginal decarbonisation should be scrutinised and challenged. Net-zero commitments without interim targets merely amounts to aspiration, which fall short of the threshold for a credible transition plan.

Discussion Zone

Should entities be allowed to align their decarbonisation pathways to NDCs knowing that the NDC is not aligned to temperature goals of the Paris Agreement?

While all transition finance Guidelines recognise that transition finance is jurisdictionally specific and that socioeconomic complexities, regulatory headwinds/tailwinds, alternative energy priorities will dictate the pace and pressure to decarbonise, extending transition finance to entities that are aligned to NDCs instead of science-based pathways remains a grey area with diverging perspectives. This divergence across existing transition finance Guidelines is reflected below:

CBI[74]	"Pathways that align with NDCs cannot automatically be taken to represent credible transitions to 1.5°C goals, at least at this time. In theory, it makes sense to align transition pathways with NDCs, since the Paris Agreement allows flexibility for nations to determine their own contributions, and to determine how emissions reductions will be shared across the economy. However, at this time, in aggregate, NDCs do not equal even a 2°C world (rather 3-4°C). An individual NDC may be sufficiently ambitious to align with 1.5°C goals, but this would need investigation and cannot be assumed" "Transition pathways should not be determined by individual institutions on a case-by-case basis. Rather, pathways should be harmonised globally, e.g. through regulatory approaches such as the roll out of regulated taxonomies like the EU's. That would significantly increase the chance of global emissions reductions reaching the scale needed, and boost comparability. There may, of course, be other considerations at play affecting the relative ease or difficulty of meeting common GHG thresholds in different contexts or locations, while balancing other development needs (e.g. degree of economic development or maintaining resource security). For this reason, there may be some flexibility in applying the climate science in different regions and contexts. But in navigating this, we must again be led by the scientific community"
ASEAN TFG version 2 (2024)[75]	"This also accounts for a rapidly growing segment of real economy issuers that have aligned with climate ambitions with the trajectory of the jurisdictions they operate in and/or a common industry commitment. This represents a grey area in existing guidance; these pathways are internationally recognised as credible where they incorporate inputs from science-based models. However, in absence of that, there is no consensus on whether these pathways can be meaningfully considered as having the sufficient ambition required. To illustrate, scientists agree that globally, Nationally Determined Contributions (NDC) lack sufficient ambition to achieve objectives consistent with the Paris Agreement; one publicly available resource that evaluates the temperature outcome of NDCs is the Climate Action Tracker. However, pathways published by countries and industry bodies can vary significantly, and where they are of sufficient ambition may be acceptable by investors as adequately credible."
ASEAN TFG version 1 (2023)[76]	"Countries or industry bodies have also developed alternative pathways that best reflect unique constraints and priorities. While these transition pathways are often adopted by many real economy companies as a more realistic guidepost, these only consider feasibility within a specific scope and do not effectively account for global decarbonisation needs and other interdependencies. Therefore, such pathways may be acceptable as transitional in enabling greater climate change mitigation but may not be as credible as pathways from science-based models."
ATFG[77]	"In deciding whether to treat a fundraiser's proposed corporate-purposes financing as transition finance, FIs are encouraged to evaluate the fundraiser's long-term, medium-term, and short-term emissions reduction plans against the pathway to climate (carbon) neutral/net-zero (could be NDCs or other decarbonization targets) of the country where the fundraiser has its headquarters or operations"

[74] Climate Bonds Initiative: Financing Credible Transitions, 2020
[75] ASEAN Transition Finance Guidance, 2024
[76] ASEAN Transition Finance Guidance, 2023
[77] Asia Transition Finance Guidelines, 2022

This divergence means that banks will need to decide for themselves based on their interpretation of transition finance if they believe that alignment to NDCs can qualify for transition finance, especially for cases where the NDCs extend beyond 2050 and may not be aligned to climate science. While there is an obvious benefit to asking entities to outperform the NDCs of the country they operate in or the country in which the asset is being developed, such a task may be administratively and financially unpopular. Conversely, providing countries with some degree of flexibility to develop their own pathway may be acceptable, but too much flexibility can be a slippery slope.

Banks should constantly engage their real economy companies and encourage the adoption of science-based pathways that are aligned to the temperature outcome of the Paris Agreement, in view that these pathways take into consideration the global carbon budget and other interdependencies. This is especially important for entities whose transition pathways are developed in reference to NDCs that are not aligned to the temperature outcome of the Paris Agreement. In view that capital is finite, banks can consider prioritising entities with net-zero transition pathways are aligned to a 1.5℃ or well below 2℃ scenario, while continuing to engage entities that whose pathways are not aligned.

Factbox

Accounting for Scope 3 as part of Transition Plan to Net-Zero:

Various transition finance Guidelines prescribe the need for Scope 3 accountability as part of entity's broader transition plan to net-zero. Where an entity has yet to account for Scope 3 emissions, it is expected that the real economy company commit to a timeline.

ICMA[78]: "*Where Scope 3 emissions are expected to be material but are not yet identified or measured, a timeline for reporting should be disclosed.*"

ASEAN TFG[79]: "*Where entities may lack in the comprehensiveness of their current state assessment (e.g., Scope 3 emissions not assessed, measurement of only CO_2 but not the other greenhouse gases), entities should commit to a clear action plan and time frame in the near term by which they aim to build their capabilities to do so.*"

OECD TFG[80]: "*A credible transition plan will, as a rule, contain scope 3 emissions as part of metrics, targets, and related reporting. However, it is understood that while the inclusion of scope 3 emissions will likely always be relevant for some companies, such as those involved in the extraction, processing, sale or distribution of fossil fuels, they may not always be relevant for all companies in all sectors, such as information technology or communication services*"

CBI[81]: "*Transition pathways should take into account scope 1 and 2 and upstream scope 3 emissions as under the control of the transitioning entity, but not downstream scope 3 emissions. Upstream scope 3 emissions are the emissions related to purchased goods and services (i.e. within their supply chain). While these are not directly controlled by an entity, they are indirectly controlled by their purchasing decisions. By including upstream Scope 3 emissions, the transition principles are reinforced along supply chains*"

Reporting of scope 3 emissions can avoid shifting the carbon emissions of a business onto its supply chain, accurately capture the climate-related impacts of a business and highlight where the greatest opportunities for emission reductions lie. However, measuring scope 3 emissions can be challenging due to various sources of uncertainty, such as on the calculation methodologies used, the availability of data (and subsequent use of estimates), and limited ability to influence action up- and downstream[82]. Below are some documents that may be useful to assist with the assessment and calculation of scope 3 emissions:

- GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard
- GHG Protocol Technical Guidance for Calculating Scope 3 Emissions

[78] ICMA Climate Transition Finance Handbook, 2025
[79] ibid
[80] OECD Guidance on Transition Finance, 2022
[81] Climate Bonds Initiative: Financing Credible Transitions, 2020
[82] OECD Guidance on Transition Finance, 2022

b. Timebound Action Plan

While net-zero commitments and interim targets are fundamental, they merely constitute the "what" component of a transition plan. A credible transition plan must be supplemented with the "how" – i.e. the timebound action plan which outlines the implementation strategy and measurable actions that the entity plans to take over the years to realise its net-zero commitments and targets. Well-developed action plans clarify how and for which technologies future operating and capital expenditures (including research, development and innovation expenditures) will be used, in order to achieve targets. They also help provide some degree of distinction between business-as-usual activities (that may only being about marginal improvements) and transitional activities.

Action plans that are developed to demonstrate transition to net-zero while the entity continues to expand investments in fossil fuel exploration, sale, and distribution are deemed to not be compatible with the temperature goal of the Paris Agreement and lead to significant carbon lock-in. Such transition plans can invite greenwashing allegations.

As a basic rule of thumb, action plans should prioritise an entity's material and core emission reductions, and be detailed minimally across short and medium timeframes (in line with the net-zero targets) to provide clarity and transparency on the decarbonisation levers and their expected timing of execution. Where possible, entities should also transparently disclose key assumptions and dependencies underpinning the successful delivery of their transition plan to avoid speculation or greenwashing allegations – e.g. dependency on carbon removal technologies, assumption on carbon tax implementation, assumption on availability and cost of select technologies. This is especially important for longer term actions plans given the uncertainty of climate and technological development over the long run. On a best effort basis – these action plans should be supplemented with the expected benefit or impact to emission reduction.

Banks can also use this action plan to identify future potential transition finance opportunities. In evaluating the robustness and credibility of a real economy company's action plan, banks can reference national or regional sectoral pathways, taxonomies, technological roadmaps, technological lists or the entity's climate scenario analysis. It is important to ensure that an entity's action plans does not deviate significantly from national, regional or technology roadmaps, and in cases where they do, they supported by strong rationale, implementation strategies and capital availability.

Working Example

Case Studies on Evaluating Action Plans

Case Study 1

A domestic entity operating in the power sector has developed its transition pathway with detailed action plans. Some of the entity's action plans include:

- developing new CCGT with no co-firing ability; and
- retrofitting existing CCGTs with CCUS by 2027

In evaluating the feasibility and credibility of the entity's transition plan, banks can leverage on national or regional sectoral pathways, taxonomies, technological roadmaps, technological lists.

If a national roadmap aims to increase the hydrogen co-firing of ratio of all CCGTs to 30% by 2035, then the entity's plans to develop new CCGTs with no co-firing capabilities may be deemed transition misaligned. Similarly, such a development may also be misaligned with national or regional taxonomies that have set emission-based sunset dates for power assets.

Similarly, if technology roadmap indicates that CCUS will only be commercially viable after 2030 for the power sector, then the entity's action plan could be deemed highly ambitious.

Given the case above, a bank should engage the entity to better understand the rationale behind developing CCGTs with no-firing abilities, as well as the significantly early investment in CCUS. For the retrofitting with CCUS, it is important to verify that such a plan is backed by capital availability and actual efforts (e.g. engagements with technology suppliers).

Case Study 2

Assuming a similar case above, but that entity discloses that it plans to co-fire all its CCGTs with 60% hydrogen by 2035, (an ambition that is far higher than the national roadmap), then a bank should engage the entity to understand the underlying assumptions and approach the entity plans to take. Where possible, banks should also verify that such a plan is backed by capital availability and actual efforts (e.g. engagements or contract negotiations with hydrogen suppliers).

Case Study 3

Consider a large regional airline operator that has established its net-zero pathway and set a series of action plans to help it get to net-zero. Some of these action plans include:

- Replacing old, inefficient aircraft with efficient new ones
- Retrofitting existing aircrafts to be more energy efficient
- Increasing the blending ratio of sustainable aviation fuel ("SAF") in all aircrafts to be 50% by 2030
- Purchasing new medium-range aircrafts with powered by hydrogen in 2031

Evaluating such a transaction can be complicated for banks. On one hand, the entity is making conscious effort to improve its energy efficiency and emission reduction. On the other, such an action could be considered business-as-usual. Airlines have prioritised energy efficiency long before they set climate targets because efficiency improvements pay for themselves via lower fuel expenses (fuel costs can be 30%-40% of operating expenditure). It could be unclear whether acquisition financing for new aircraft can be labeled as transition finance or whether this activity should be seen as BAU. Additionally, by retrofitting its old aircrafts to improve energy efficiency, the airline may appear to have improved its overall fleet efficiency, but such an effort could be marginal and insufficient to align the entity to its decarbonisation pathway. In dealing with the marginal improvement brought about by retrofits and purchase of new airlines, banks may choose to finance the entity via a transition-linked loan tied to the airline's overall Scope 1 GHG emissions decreasing ~20% by 2030 from a 2020 baseline, in line with aviation sector transition pathways.

In assessing the other two action plans, the bank realises that according to the aviation sector roadmap, increasing blending ratio of SAF in all aircrafts to be 50% by 2030 and purchasing new medium range hydrogen powered aircrafts by 2031 might be a plan that is overly ambitious.

The bank should therefore engage the entity to understand how the entity aims to achieve these plans. If such plans are backed by strong ongoing implementation strategies, capital availability and stakeholder discussions, they can be deemed as credible.

Note: Case Study 3 has been adapted and inspired by a publication by the Rocky Mountain Institute.[83]

While there is an endless list of action plans that real economy companies can take to transition towards net-zero, these action plans can generally be broken down into operational and institutional action plans per the examples below:

Operational Action Plans: Actions plans that are outward facing involving the entity's assets, business model, products and services

- Improving energy efficiency and decarbonising existing carbon intensive assets through co-firing, electrification and technological retrofits, etc.
- Investment into new low-carbon technologies (e.g., carbon capture, hydrogen, advanced biofuels, or renewable energy integration).
- Research and Development to develop new or alternative low carbon solutions
- Integrating climate resilience and adaptation measures into asset design and operations.
- Establishing new green/low carbon business, products or services either organically or through mergers and acquisitions
- Phasing out or decommissioning of emission intensive assets.
- Committing to no new developments of fossil based assets
- Divesting away from emission intensive businesses

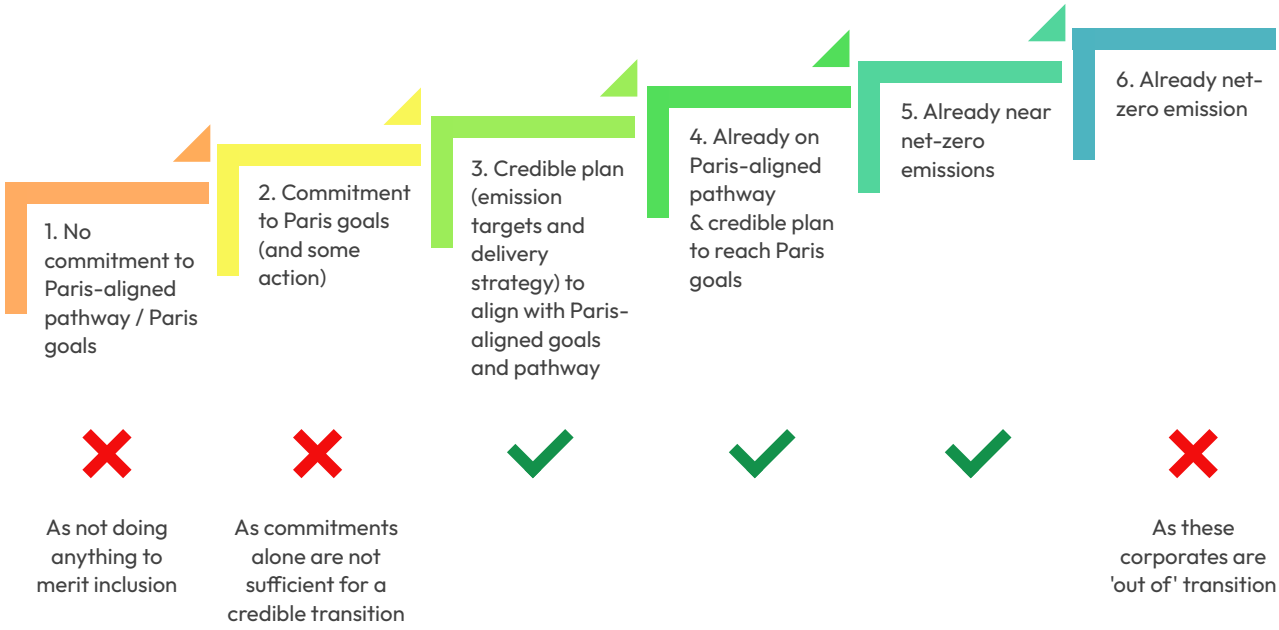
[83] Rocky Mountain Institute: How Transition Planning Can Support Credible Transition Finance, 2025

Institutional Action Plans: Action plans that are more inward looking and relating to the entity's policies and engagements

- Enhancing or developing new frameworks, policies or procedures to integrate net-zero transition
- Engaging upstream and downstream value chain suppliers to inspire and drive broader decarbonisation efforts
- Establishing dedicated climate and transition teams to accelerate decarbonisation efforts
- Conducting training and upskilling for employees and ensuring sufficiency of transition-ready talent
- Establishing an internal cost of carbon
- Marketing and sales plan to educate existing customer on the transition to net-zero and the new low carbon products established and how it can benefit them

While it is generally understood that action plans will vary in terms of robustness and granularity, it is key to remember that a net-zero commitment that merely constitutes broad-level commitments do not count as credible transition planning. net-zero commitments without action plans or strategy are merely aspirations. This is reflected in the diagram below:

Boundary of a credible transition portfolio



Source: Climate Bonds Initiative

In assessing the action plans of a real economy company, banks should:

- Assess the feasibility and sufficiency of the action plans in driving meaningful emission reduction. This can be done by ensuring that the action plans address material emissions sources within the entity's business operation and there is sufficient operational and institutional action plans in outlined.
- Assess the proposed timing of action plans against taxonomies, technological roadmaps, technological lists, etc. to ensure that there is no significant lag or inconsistency in operationalising of these plans compared to their availability and viability.
- Verify that such plans (especially immediate short and medium term plans) are backed by strong ongoing implementation strategies, capital availability and ongoing stakeholder discussions.

The above is highly crucial to identify any possibility of an entity backloading its transition plans and emissions reduction efforts. When dealing with entities that provide limited justifications for their backloading of investment in green or transition asset or activities, banks should err on the side of caution.

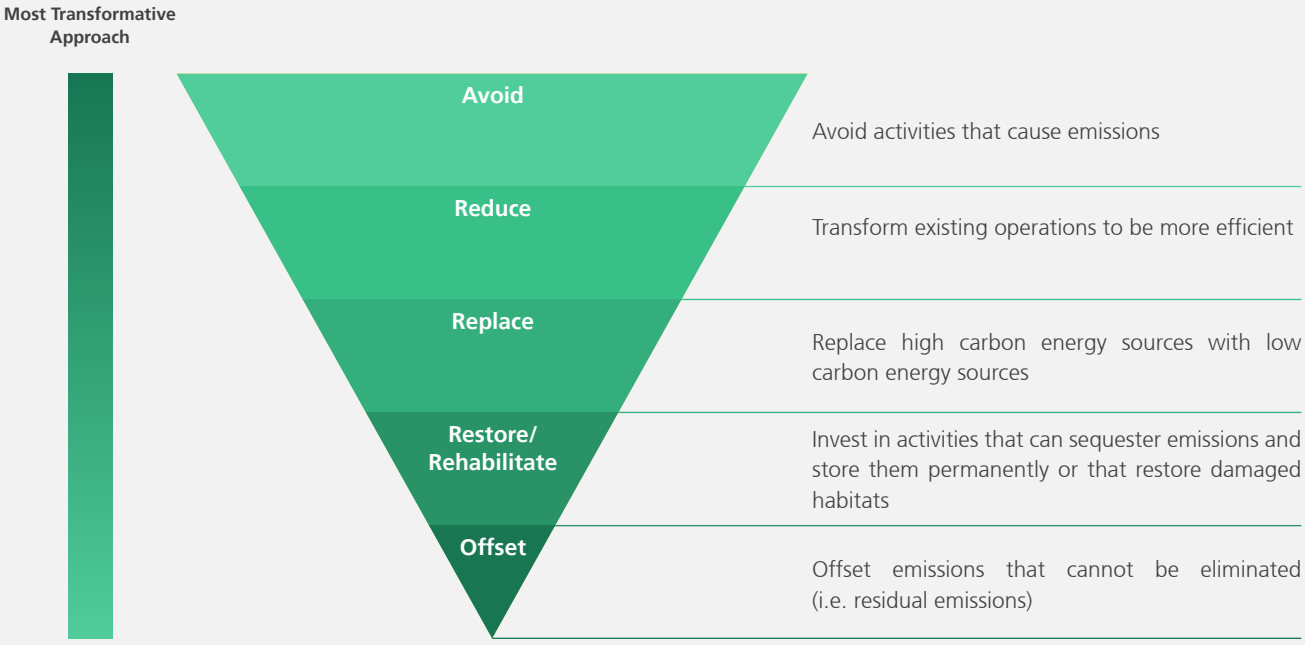
Factbox

Treatment of Carbon Credits in Transition Plans

How carbon credits are used in a transition plan can make the difference between credible climate action and actions that lack environmental integrity, especially for entities in high-emitting sectors. This is because offsetting can reduce the transparency of an entity's decarbonisation efforts and divert attention away from reducing inherent emissions. Heavy reliance on carbon credits to counterbalance emissions can create disincentives to reduce own emissions. This risk materialises particularly when the cost of procuring carbon credits is lower than the operational cost required to reduce emissions internally.

Per guidance from OECD and SBTi, credible net-zero plans should prioritise avoiding and reducing emissions followed by scaling removals within value chains. Thereafter, should an entity opt to use carbon credits to offset residual emissions, they should observe the following:

- Cut emissions, ensure environmental integrity of credits used, and regularly revise offsetting strategy as best practices evolve
- Publicly disclose carbon credits which are sourced from outside the company's value chain (i.e., offset credits) separately from their reported GHG inventory and ensure that they are not counted towards the progress of their GHG targets
- Opt for removals with durable storage (low risk of reversal) taking into account various factors such as the basis of their carbon removal (nature or technology based) and the applicable verification scheme



Source: Author, 2025

Companies should refrain from using carbon credits to compensate for emissions that can be feasibly reduced through available abatement measures or operational changes. Where such use nonetheless occurs, it must be accompanied by clear, transparent disclosures that articulate the rationale, volume, and limitations of the use. Principally, carbon credits should not be viewed as a substitute for the required emissions reductions within the value chain.

c. Governance & Accountability

The presence of strong whole-of-entity governance and accountability mechanisms underpins a robust transition plan. It outlines how a company is structured to provide oversight, incentivise, and support the implementation of the transition plan from top management all the way to working level executives. Governance structures are key mechanisms for enabling the implementation of the plan and holding companies accountable for progress toward their climate objectives and targets[84].

Banks should assess the governance and accountability mechanisms that real economy companies have put in place to drive their net-zero transition. Amongst others, this could include as assessment of:

- The responsibilities and oversight capacity of board and senior executives in the design, implementation and approval of its transition plan. This includes the due process undertaken and governing body that approves requests for deviation from the net-zero transition plan. The higher the governing body, the higher the level of accountability within the organisation, which could translate to lower risk of deviation
- The processes and structures put in place to drive implementation and execution of the transition plan at management and working level. The more integrated and robust the mechanisms put in place, and the clearer the roles and responsibilities of every employee, the higher the likelihood of success
- The degree to which the incentives and remuneration of board, senior executives and management are tied to the achievement of net-zero targets. The greater the percentage of workforce that carries net-zero commitments as part of their remuneration, the stronger the sense of accountability and likelihood of achievement

A strong governance process provides greater comfort on the entity's ability to follow-through on its commitments, over the long run. This is especially more important for entities that have plans to undertake large-scale business model transformations or significant investments in new, unproven low carbon solutions.

A successful transition will require an organisation-wide reorientation and culture change. Because transition is ultimately delivered by employees, a crucial secondary dimension of governance also includes culture, upskilling and change management. This dimension is a reflection of the entity's efforts to develop and nurture its workforce to be transition-ready with the ability to continue steering the organisation towards its net-zero commitment over the long run. Effective transition happens when employees are bought-into the vision and carry a sense of accountability in driving the organisation towards net-zero. Banks should therefore also consider assessing an entity's:

- Efforts in upskilling and developing its workforce (including senior management and board) with the necessary skillsets to drive forward its transition plans and net-zero commitments
- Efforts to develop a transition/net-zero oriented culture – e.g. through transparent communications, progress updates, feedback mechanisms.
- Efforts to empower and create cross-departmental teams or networks to facilitate reflection on transition plan implementation

d. Expenditure Plan

A transition specific expenditure plan outlines the amount required by an entity to execute its net-zero action plans over time. It provides investors and shareholders visibility over the entity's financial commitment to net-zero as well as impact to the entity's bottom line, thereby managing expectations on profitability. While expenditure plans are inherently a cost, they can also be perceived as an investment into future proofing a business. Given that the transition to net-zero will involve technological retrofits and investments in low carbon solutions, a credible transition plan is one where an entity is able to demonstrate the presence of a dedicated climate/net-zero financial budget over the short and medium term, while maintaining profitability.

Banks can then compare the allocated budget over time to assess the alignment of the expenditure to the entity's timebound action plan. If the entity's timebound action plan discloses multiple new investments expected in the short-to-medium term, but is not supported by financial allocations under its budget, there is a risk that the investments will not materialise and the transition will be delayed.

Where available, banks should also assess the high-level breakdown of the financial budget by its components – i.e. capital expenditure, operational expenditure, research and development, mergers and acquisitions, training or other expenses. These disclosures may not be publicly available, and may warrant banks requesting for them privately. Understanding

[84] GFANZ Expectations for Real Economy Transition Plans, 2022

how an entity plans to fund its dedicated budget (i.e. internal funds or external debt) may also provide banks with transition finance opportunities.

Many transition finance Guidelines also prescribe the need for entities to disclose the cost and expected financial impact from the phasing out/decommissioning of carbon-intensive assets (if any) as well as the internal carbon price adopted when making investment decisions. While this information is more valuable to shareholders and investors, it could also be relevant to banks. If the primary focus is to assess the future financial commitment of an entity towards net-zero, then understanding how an entity's cash flow and revenue will be affected could provide clarity on an entity's ability to finance its net-zero commitment.

e. Monitoring

Given the dynamic nature of transition finance, transition planning cannot be viewed as a one-off exercise. As technologies evolve, new low-carbon solutions emerge or become commercially viable, and science-based pathways improve to take into account local context, transition strategies and action plans may need to adapt, while remaining aligned to temperature outcome of the Paris Agreement. As such, it is not uncommon for real economy companies to amend their transition plans over time. What matters under such circumstances is that the entity has robust mechanisms in place to monitor progress of their net-zero commitments, targets, and associated action plans.

Real economy companies are encouraged to develop and embed a systematic monitoring process into their organisational system and processes as well as on an individual activity level to measure progress towards their end goal. This could include establishing Key Risk Indicators ("KRI") or net-zero KPIs on key transition metrics (e.g. % of revenue derived from fossil fuel products/ services, % of emission reduction, ratio of investments in transition assets vs traditional fossil assets) which are then reported regularly to key stakeholders. KRIs or KPIs should be accompanied with suggested remedial measures or correction actions in the event of deviation or underperformance. Beyond this, entities should also establish a systematic process for the recalibration of targets as per ongoing monitoring outcomes[85].

In assessing the credibility and robustness of a transition plan, banks should understand the net-zero KRIs or KPIs that have been established by the entity. Best practise also calls for banks to monitor the progress of the entity towards achieving its net-zero targets, preferably on an annual basis. When dealing with entities that are more transparent, banks can also consider assessing the entity's systematic monitoring and reporting process as well as the remedial safeguards put are in place to address deviation from its net-zero path.

f. Just Transition

As with any transition, a shift in business model or whole-of-operations transformation of an entity will likely be accompanied by unintended impacts, not only to other environmental objectives, but mainly to surrounding societies, employees and suppliers, the extent of which varies depending on the nature of the transition. Pursuing a just transition maximises positive economic, social and decent work gains and minimises and mitigates negative impacts" and ensures that "processes and outcomes are inclusive and fair[86].

Most Guidelines on transition planning will implore banks to ensure just transition considerations are incorporated into entity-level transition strategies, ensuring safeguards are in place to minimise any possible harm to other environmental and social objectives.

One way to do this is to account for all UN SDGs, not just SDG 13 (Climate Action) when undertaking any form of transition[87]. For instance, a power utility phasing out coal-fired plants under its transition plan might use transition financing not only to invest in solar or wind infrastructure, but also to retrain its workforce for clean energy jobs, support early retirement schemes, and invest in economic diversification programs for affected communities. Thus, in pursuit of an SDG 13 goal, SDG 1 (No Poverty), SDG 8 (Decent Work and Economic Growth), and SDG 10 (Reduced Inequalities), and more are accounted for to achieve a just and equitable net-zero transition.

However, banks must keep in mind that achieving a just transition is inherently context-specific, as different regions, countries, and communities face unique priorities and constraints. As such, a standardised or uniform approach is not feasible. In ensuring that an entity's plan to transition is just, banks can assess the presence of sufficient plans and safeguards in place with committed timelines to ensure that relevant stakeholders are regularly and continuously engaged throughout the transition process – including stakeholders, shareholders, clients, suppliers, employees, affected communities, union representatives etc. Banks can also assess if there related human resources strategy ensuring decent work, adequate capacity and skills, with a plan for retaining, retraining, reskilling, and education opportunities.

[85] ASEAN Transition Finance Guidance, 2024

[86] International Labour Organisation - Finance for a Just Transition and the Role of Transition Finance, 2022

[87] NZBA Transition Finance Guide, 2022

Toolbox: Tools and Approaches to evaluating entity-level Just Transition considerations

GFANZ Expectations for Real Economy Transition Plans:

Companies should clearly and transparently articulate how they intend to account for just transition considerations. List of recommended considerations and actions can be found in page 65, some of which include disclosure of:

- The company's overall strategy to ensure a just transition
- How the company is managing the phase-out of high-carbon assets with respect to affected communities and workforces
- How the company is supporting its suppliers' just transition and number of dialogue sessions being held with communities within the year
- Current and planned engagement with industry associations on the topic of the just transition

Component	Disclose The Company's
Objectives and priorities	Overall strategy to ensure a just transition
Activities and decision-making	• How the company is managing the phaseout of high-carbon assets with respect to affected communities and workforces • How the company is incorporating the just transition into capital allocation decisions • The sensitivity of the just transition to different assumptions
Products and services	• The accessibility of new products and services offered by the transition to customers, especially vulnerable customers
Value chain	• How the company is supporting its suppliers' just transition • How the company is supporting customers that are affected by the transition plan, especially vulnerable customers
Industry	• Current and planned engagement with industry associations on the topic of the just transition
Government and public sector	• Current and planned engagement with the public sector to drive just transition policies • Current and planned engagement with communities, including decision-making influenced by consultation
Metrics and targets	• Targets for impact metrics and the rational for selecting such metrics • Percentage of workers or workers' representatives participating in dialogue

Climate Finance Asia Just Transition Guidelines and Assessment Toolkit

The toolkit sets a practical, measurable framework at the facility or entity level to help banks assess, support, and oversee just-transition-aligned financing so that financial flows contribute to both low-carbon and socially equitable outcomes.

ASEAN Taxonomy

Leveraging on the ASEAN Taxonomy's DNSH and Social Aspect guidance, at the entity level, which encourages banks to evaluate:

- The credibility and ambition of an entity's transition plan
- How well the entity integrates environmental and social risks
- Whether transition finance is enabling systemic, long-term change—not just short-term green activity

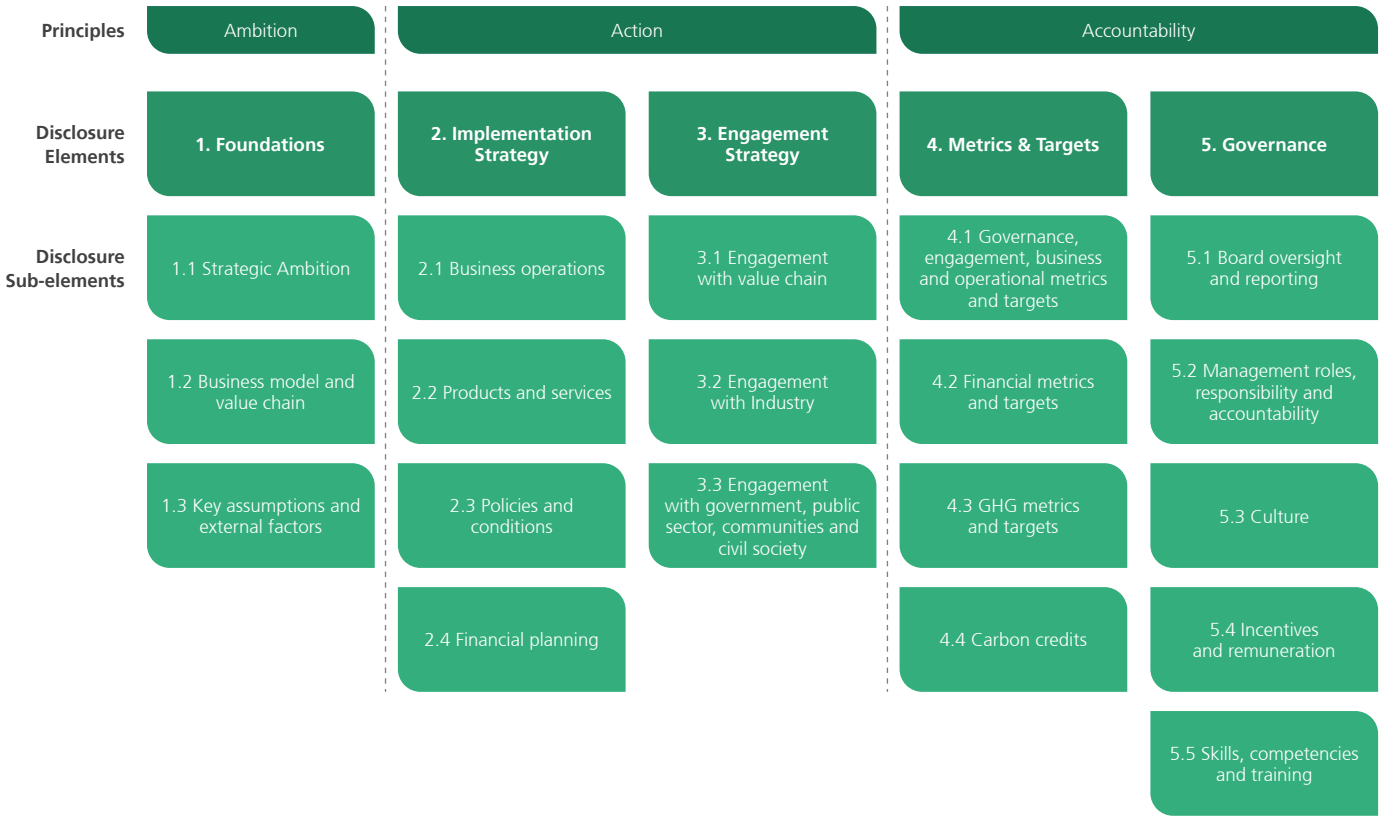
g. Transparency & Disclosure

The credibility of an entity's transition plan is closely linked to the quality and comprehensiveness of its disclosures. Transparency and, where feasible, external verification are also essential for establishing credibility, enabling meaningful comparability across peers, regions, and potentially sectors. For banks, robust disclosure of transition plans provides a clear reference point for understanding how allocated—or potentially allocable—capital is being deployed to support the entity's transition and, more broadly, facilitate a market-wide shift with integrity. Entities should also transparently disclosure their transition plans, including interim targets, to internal and external stakeholders and periodically disclose progress against these plans and targets.

Banks should ensure that the real economy company they provide transition finance to are committed to transparently disclosing the information above at both entity and asset level. Not only would such transparency reinforce accountability, it also ensures that the entity continue to take efforts to remain transition aligned over the long run and beyond the term of financing. Where the entity plans to deviate, it would then be required to publicly rationalise its deviation. This minimises the risk of net-zero backsliding.

The Transition Plan Taskforce ("TPT") Disclosure Framework[88], building on GFANZ's "Five Key Elements of a Good Practice Transition Plan," outlines 19 sub-elements across the five pillars, each accompanied by targeted Disclosure Recommendations.

Importantly, the framework does not require the disclosure of commercially sensitive information, and materiality thresholds should be applied where necessary to ensure relevance and proportionality.



[88] Transition Plan Taskforce Disclosure Framework, 2023

Working Example

Example of a "Foundations" disclosure aligned with the UK TPT Disclosure Framework, written for an energy sector player

- **Strategic Ambition**

Our company's strategic ambition is to achieve net-zero greenhouse gas (GHG) emissions across our operations and energy portfolio by 2045, consistent with a 1.5°C pathway. We aim to lead the region's energy transition by transforming from a predominantly fossil-based generation mix to a diversified portfolio of renewable and low-carbon energy solutions. In doing so, we will balance energy security, affordability, and environmental integrity, while ensuring a just transition for our employees, suppliers, and the communities we serve.

- **Objectives and Priorities**

To deliver this ambition, we have set four strategic priorities:

1. **Decarbonise our generation mix** by retiring coal assets by 2035 and increasing renewable capacity to 70% of total generation by 2040
2. **Invest in low-carbon and enabling technologies**, including green hydrogen, battery storage, and carbon capture, utilisation and storage (CCUS).
3. **Support a just transition**, ensuring workforce reskilling and socio-economic support in communities affected by asset closures.

These priorities are embedded in our corporate strategy and capital expenditure roadmap.

- **Business Model and Value Chain Implications**

The transition will significantly reshape our business model, with capital expenditure shifting from thermal power generation to renewables and grid modernisation. It will also affect our fuel supply chains, requiring closer collaboration with low-carbon technology providers and renewable developers. Over the next decade, we expect declining revenues from fossil-based operations to be offset by growth in renewable energy and distributed generation.

- **Key Assumptions and External Dependencies**

Achieving our targets depend on stable policy environments, access to green finance, and customer adoption of cleaner energy solutions. We will update these assumptions regularly as new policy and market information emerges.

Toolbox: Key Reference Framework to guide Disclosure Best Practices

Foundational Disclosure Frameworks

- IFRS S2 Climate-related Disclosures and SASB Standards
  - Serves as the global reporting anchor as most guidance align with IFRS S2's architecture
- TCFD Recommendations
  - Lays the foundation for transition plan disclosure under the "Strategy" and "Metrics & Targets" pillars.

Transition-specific Frameworks

- UK Transition Plan Taskforce (TPT) Framework & Sector Guidance (2023–2024)
  - Sets out detailed, sector-specific guidance for credible, comparable transition plan disclosures aligned with IFRS S2 and GFANZ.
- GFANZ Framework for Transition Planning (2023)
  - Defines the core components of financial-sector transition plans, linking strategy, metrics, governance, and client engagement to disclosure expectations

GRI 102: Climate Change

- GRI 102 emphasises that achieving substantial reductions in GHG emissions is the primary mitigation step organizations can take. It sets reporting expectations based on science-based targets and global climate goals – while incorporating 'just transition' metrics covering impacts on workers, local communities and Indigenous Peoples. GRI 102 is a useful reference for banks to assess the net-zero commitments and action plans of real economy companies.

GRI 103: Energy

- GRI 103 comprehensively addresses an organisation's energy-related impacts and activities. With disclosures on decarbonisation efforts, renewable and non-renewable energy use, as well as where and how energy reductions occur, it positions responsible energy use as a central component of a company's approach to climate change mitigation. Banks can use GRI 103 to evaluate the real economy company's energy related policies, consumption and commitments, including short, medium and long term targets. This could be useful to also evaluate if the entity is increasing its consumption and dependency on fossil fuel or vice versa.

Discussion Zone

Should banks report their transition finance mobilisation as part of their sustainable finance achievements?

Peer research shows that most banks count eligible transition finance activities towards their overall sustainable finance target[89]. However, it is recommended that banks provide a breakdown of their transition finance mobilisation compared to sustainable finance. This transparency provides stakeholders with credible information on how effectively the bank is allocating capital to support credible transition pathways alongside other sustainability priorities.

[89] UNEP FI: Transition Finance Emerging Practices, 2025

Toolbox: Guiding Questions to assess robustness of Transition Plans

The Toolbox below provides notable checklists or questionnaires that banks can use to assess the strength of an entity's transition plan

Capital Markets Malaysia x Climate Bonds Initiative Transition Strategy Toolkit

- Provides a comprehensive online toolkit to guide ASEAN corporates on the underlying principles and elements to be incorporated when developing climate transition plans. While the toolkit was primarily developed to guide the development of transition plans, banks can use it to assess whether the entity seeking transition finance has all the necessary components that made up a credible transition plan.
- Developed in reference to Climate Bond Initiative's 5 Principles for an ambitious transition (Performance targets, robust plans, action, governance, disclosure).

ASEAN Transition Finance Guidance (version 2) – pages 42-51 & 85-87

- Developed by ASEAN Capital Markets Forum to establish a common set of principles that makes up a credible transition that will provide ASEAN companies with clarity on how to chart a robust market-accepted decarbonisation trajectory.
- Contains a summary checklist of key entity-level criteria that real economy companies should meet (or justify) in order to qualify for transition finance.
- Developed by distilling the commonalities and synthesizes key entity-level principles from robust existing guidelines to provide interoperable and consistent guidance for ASEAN companies.

ICMA Climate Transition Finance Handbook:

- Seeks to provide clear guidance and common expectations on the practices, actions and disclosures to be made available by issuers when raising funds for their climate transition strategy.
- Clarifies the issuer-level practices, actions and disclosures which are recommended to credibly position the issuance of use of proceeds or sustainability-linked instruments to finance the transition, particularly of hard-to-abate sectors.
- Developed in reference to ICMA's 4 elements of entity-level transition (Issuer's climate transition strategy and governance, business model environmental materiality, climate transition strategy and targets to be science-based, implementation transparency)

Climate Bonds Initiative – Checklist for Entity Certification

- Provides a robust and exhaustive checklist that to verify that a company or group of companies aligns with the Climate Bonds Sector Criteria and meets the Transition Plan and disclosure requirements outlined in the Climate Bonds Standard.
- Suitable to assess entities that are, that are already aligned with 1.5℃ pathways or Entities (or companies) whose transition plans predict that they will be aligned with 1.5℃ pathways by 2030.

4

Challenges of Sustainable & Transition Finance

This section outlines some of the common challenges faced by banks and real economy companies when it comes to mobilising and seeking sustainable and transition finance and how governments and organisations across different jurisdictions are addressing them.

Challenges	Description	Efforts taken to address the challenge
Diverse Definitions with Varying Standards and Requirements	A wide variety of Guidelines define sustainable and transition finance differently, making it challenging for banks and companies to navigate consistently.	Development of national and regional taxonomies that are interoperable
Varying National Priorities and Geographical Considerations	Transition approaches vary globally due to differing NDCs, environmental conditions, regulatory headwinds and political will, socioeconomic factors, and alternative development priorities.	
Assessment Complexity	Complexity in SF and TF transactions, which require science-based alignment, social impact assessment as well as consideration for sectoral nuances and client-specific considerations.	Collaborative upskilling and capacity building platforms
Lack of Localised References & Data Limitations	Credible sustainable and transition finance requires reliable date and localised science-based pathways that are limited in ASEAN.	Development of national and regional taxonomies that are interoperable Development of national technological and transition roadmaps
Transition Planning Nascence	Transition plans in ASEAN remain at a nascent stage, with most entities still developing the frameworks, data, and capabilities needed. Transition planning mandates are relatively nascent and fragmented.	Development and issuance of transition planning guidelines and mandates Harmonisation of transition planning requirements and standards at macro-industry level
Technological Viability and Availability	Technology needed to deliver deep decarbonisation are either new, nascent, or at early stages of adoption and have yet to reach commercial viability and scalability High upfront cost required to finance these transactions with limited understanding of the potential future risks, creating uncertain risk-return profiles.	Grants, government guarantees, tax exemptions and other financial incentives by governments and regulators.
Literacy, Labelling & Talent Gap	Poor sustainable and transition finance literacy and limited pool of technical experts	Collaborative upskilling and capacity building platforms
Policy and Institutional Support	Absence of strong regulatory mechanisms (e.g. carbon credits) and enabling policies	Introduction of Carbon tax Grants, government guarantees, tax exemptions and other financial incentives by governments and regulators.

i. Diverse Definitions with Varying Standards and Requirements

A quick scan of the landscape reveals that there is a wide array of publicly available sustainable and transition finance frameworks, guidelines, taxonomies, handbooks or equivalent documents (collectively referred to as "Guidelines") for market participants to refer. Some of these Guidelines define sustainable and transition finance slightly different from one another and prescribe differing approaches and requirements to suit their broader publication objective. Overall, while most Guidelines acknowledge transition finance as a subset of sustainable finance, the definitions of both differ in terms of the applicability, qualifying activities and operational requirements. As a result, banks and real economy companies may find it challenging and time consuming to navigate the plethora of documents available and synthesise the broad principles and key requirements before being able to further their sustainability journey.

Taking transition finance as an example, where the variations between definitions are more pronounced:

- NZBA's[90] definition of transition finance takes a whole of economy approach and includes "Climate Solutions" which involves the financing of low-to-zero emission activities, while other organisation such as ICMA[91] and CBI[92] appear to prioritise or limit the applicability of transition finance to hard-to-abate or high emitting sectors.
- CBI maintains that transition finance requires alignment to a 1.5℃ trajectory, while other Guidelines allow for alignment of up to a 'well-below 2℃' trajectory especially for developing markets.
- While NZBA and OECD recommends financing of Best Available Technologies ("BAT") to qualify as transition finance subject to additional considerations, CBI opines that BAT cannot themselves represent credible transition to 1.5℃ goals and should only be used as a starting point.
- When comparing the transition criteria for natural gas, the Thailand Taxonomy excludes new natural gas-based power plants with construction permits after 31 December 2023—from being classified as either sustainable or transitional, irrespective of their lifecycle emissions or technological design, whereas the Singapore Asia Taxonomy allows for construction of new natural gas power plants subject to the plants being able to accommodate a certain degree of hydrogen blending. This is in contrast to the ASEAN and Indonesia Taxonomies that adopt a broader approach, focusing on overall emissions intensity across the asset's full operational lifespan.
- The components that are deemed necessary to make up a robust entity-level transition plan differ between different institutions such as ASEAN TFG[93], ATFG[94], NZBA and OECD TFG[95].

In the absence of a single clearly defined and market agreed upon definition and approach to assessing sustainable and transition finance, banks and real economy companies will either need to self-synthesise the common underlying principles and recommendations across all the Guidelines or elect one Guideline to align with, both of which present differing risks.

Efforts taken to address this

Some ASEAN countries have developed localised and somewhat interoperable sustainable and transition finance taxonomies to provide a clear definition and classification of assets as sustainable and transition finance based on green and amber thresholds. The amber thresholds across these taxonomies typically differ from one another to take into account localised starting points of the sectors covered. Examples of taxonomies that have been developed include the Singapore Asia Taxonomy, Thailand Taxonomy, and Indonesia Taxonomy for Sustainable Finance. For Malaysia, Bank Negara Malaysia had developed a principles-based taxonomy (i.e. Climate Change and Principle-based taxonomy) and is in the midst of developing a taxonomy with technical screening criteria.

[90] NZBA Transition Finance Guide, 2022
[91] ICMA Climate Transition Finance Handbook, 2025
[92] Climate Bonds Initiative: Financing Credible Transitions, 2020
[93] ASEAN Transition Finance Guidance, 2024
[94] Asia Transition Finance Guidelines, 2022
[95] OECD Guidance on Transition Finance, 2022

ii. Varying National Priorities and Geographical Considerations

It is globally recognised that speed, scale and timing of transition will differ across different parts of the world. No two countries are also likely to take the same approach in their transition towards net-zero. This is because transition is highly context specific and market perspectives can differ on what this means for the required or expected speed of decarbonisation across different regions.

Taking ASEAN as an example, while all ASEAN countries have pledged to achieve net-zero, regional banks operating across multiple countries that want to mobilise transition finance will need to keep the following considerations in mind:

- **Varying Nationally Determined Contributions ("NDCs")** – while some ASEAN nations have pledged to achieve net-zero by 2050, others have pledged to do so by 2060 and 2065. The varying timelines influence the Long-term Low Emission Development Strategies (LT-LEDS) of each nation that will in turn dictate the speed of decarbonisation across hard-to-abate and carbon intensive sectors.
- **Diverse Environmental Conditions** – Countries like Singapore are unlikely to be able to generate renewable energy on its own given its limited land capacity which may then cause it to focus on transitioning the power sector through other means (e.g. prioritising hydrogen to decarbonise the power sector) and accelerating transition in other sectors. By contrast, countries like Vietnam and Malaysia that have higher potential for renewable energy will likely prioritise the transition of certain sectors at the start over the rest. Similarly, countries like Indonesia and the Philippines that are made up of thousands of islands and have fragmented electricity grids due to their geography, may see an infrastructure obstacle that complicates grid integration, or production and distribution of low carbon fuels and limitation to economies of scale. The diverse environmental conditions and unique starting points will dictate each country's net-zero priority and approach.
- **Regulatory Headwinds and Political Will** – Countries that are heavily reliant on fossil fuel subsidies or have protectionism policies in favour of hard-to-abate and carbon intensive sectors are likely to face greater systemic challenges in their pursuit of net-zero transition, elevating just transition considerations. Similarly, transition is likely to be more challenging when assets or entities operating within these hard-to-abate or carbon intensive sectors are owned by political leaders or senior policymakers.

In such cases, desirable transitions are more difficult to achieve because of the momentum, path dependency, or obduracy of the existing system exerts on actors. In the case of national energy systems, such large sums of labour, capital, and effort are 'sunk' into them that they create their own 'inertia'[96]. Other publications have also shared case studies that point to the fact that traditional fossil fuel regimes due to their long presence and dominance tend to enjoy the backing of powerful groups and political networks, and over time form institutional structures that entrench and perpetuate their survival[97].

- **Socioeconomic Considerations** – In many developing countries, hard to abate and carbon intensive sectors are not just major employers of labours and primary drivers of GDP, but have also created a deeply rooted dependent supply chain and communities. They also provide fundamental products and services needed globally even beyond 2050. Transitioning these sectors towards net-zero will therefore require delicately balancing all these factors.
- **Alternative Priorities** – Developing countries may choose to prioritise economic growth and industrialisation over energy transition to further improve standards of living which may come at the cost of intensified usage of fossil fuel for power generation.

Efforts taken to address this

In ASEAN, the ASEAN Taxonomy addresses the region's diverse national and geographical circumstances by creating a multi-tiered framework that aims to be science-based and inclusive to cater to the different development stages (i.e. different starting points, policy priorities, and levels of economic development) of ASEAN Member States. It provides a common language for sustainable and transition finance while allowing flexibility through its multi-tiered structure — particularly the Foundation Framework and Plus Standard. This approach enables countries and financial institutions to classify activities based on their own transition pathways and capacities, ensuring consistency and comparability across ASEAN without imposing uniform standards that may disadvantage less developed economies.

[96] The History and Politics of Energy Transitions: Comparing Contested Views and Finding Common Ground, 2017

[97] The political economy of sustainable energy transitions: A literature review and a research agenda, 2023

Factbox

Do all countries have NDCs that are aligned to the temperature outcome of the Paris Agreement?

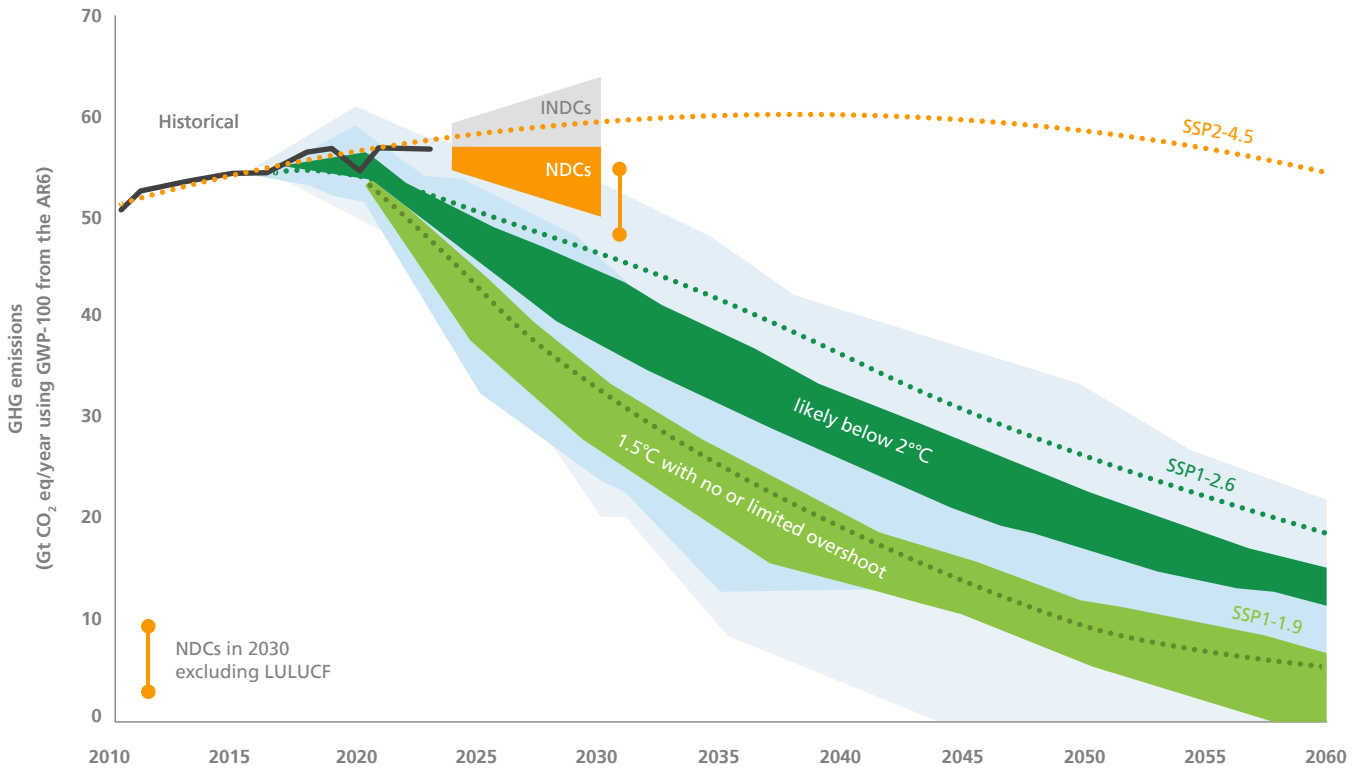
The Paris Agreement prescribes a broad goal of limiting the increase in the global average temperature to well below 2°C above pre-industrial levels, while pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

While the Paris Agreement requires all countries to submit NDCs and update them every 5 years, countries have the flexibility of dictating their own emissions reductions and commitments. Countries also have the flexibility of committing to 'conditional' or 'unconditional NDCs'[98]. A review of the NDCs of various countries[99] show that many are not currently aligned to the goals of the Paris Agreement.

Does the aggregate NDCs of all countries put us on track to achieving the temperature outcome of the Paris Agreement?

While most countries have ratified the Paris Agreement and consequently disclosed their NDCs, a recent report by the UNFCCC[100] showed that the aggregate of all NDCs will put the world on track to achieve a peak temperature between 2.1℃ – 2.8℃ by 2100 (subject to various assumptions), thereby putting the goals of the Paris Agreement at risk. If current policies were to continue as is, temperature rises could rise up to a catastrophic 3.1℃[101].

Historical and Projected total global emissions according to NDCs



Source: UNFCCC

[98] Conditional targets are targets that are dependent on external technological or financial support. Unconditional targets are targets a country can achieve with domestic resources, without any external support

[99] Climate Action Tracker, 2025

[100] UNFCCC: 2024 NDC Synthesis Report

[101] UNEP: Nations must close huge emissions gap in new climate pledges and deliver immediate action, or 1.5°C lost, 2024

iii. Assessment Complexity

Assessing transition and sustainable finance transactions can certainly be more complex than regular credit transactions. Amongst others, additional considerations include alignment of emission thresholds to a science-based pathway, evaluation of social impact and significant harm as well as certainty over absence of carbon-lock in, in addition to the presence of a transition plan (in the case of transition finance transactions).

These additional requirements add a layer of administrative burden and cost to both banks and real economy companies, consequently increasing the average turnaround time. The lack of globally or regionally accepted standardised approach (as highlighted under Challenge (i)) also means that banks will need to grapple with the practical problem of having to choose the approach they deem most suitable and defensible in light of increasing greenwashing allegations. Similarly, where the technology or approach employed by the real economy company is new or innovative, banks may face difficulties and lack sufficient capabilities or capacities to assess the technology roadmaps, technology list and pathways claimed by clients.

To add to the complexity, banks are also need to keep in mind the following considerations:

- **Sectoral Nuances** - Most sectors have different science-based decarbonisation pathways depending on the current and forward-looking scale and commercial viability of technological advancements within the sector. In some cases, the technologies needed to deliver the deep decarbonisation and align these sectors to a Paris aligned pathway are either in nascent stages, proof of concept stages or have yet to reach commercial viability and scalability.
- **Baseline Nuances** - Clients across hard-to-abate sectors have different starting positions and are at different stages of transition readiness[102]. Getting some clients aligned to a 1.5°C or well below 2°C pathway may be more challenging than others, especially given that there is still limited understanding of what constitutes as "science-based".
- **Client Nuance** – Transition finance is likely to be pursued by large corporations, as opposed to mid-sized companies and SMEs, at least in the short-to-medium term, given the operational complexities and other challenges surrounding transition finance. When dealing with SMEs, banks are better off encouraging the increased adoption of sustainable finance in the short-to-medium term.

[102] CFA Institute: Navigating Transition Finance: An Action List, 2024

iv. Lack of Localised References & Data Limitations

The credible mobilisation of sustainable and transition finance undeniably depends on the availability and integrity of the underlying data used to substantiate the impact of the financing provided. However, this data may not necessarily be readily available for assets and entities within the ASEAN region.

For example, while transition finance relies on science-based pathways to validate the emission trajectory of an asset and entity towards net-zero, sustainable finance uses science-based data to confirm that the asset is already low-to-zero emission at the point of financing. Obtaining granular data on current and projected lifecycle emissions over the useful life of the asset can pose a challenge if such a requirement is not mandated.

Most science-based pathways today originate from global and regional organisations, and do not take into consideration localised starting points, socioeconomic conditions, net-zero priorities or NDCs. Even in jurisdictions where net-zero targets have been adopted, determination of a national emission budget and its disaggregation by sector and translation into sectoral plans and implementation roadmaps has in most cases not been definitively undertaken or attempted[103]. As a result, real economy companies may be forced to rely on existing global pathways and face steeper than usual decarbonisation trajectories. Clear national sectoral targets and pathways, in line with the temperature goal of the Paris Agreement, are necessary to guide corporate transition planning and investor decision-making in a manner that accounts for the local context and conditions[104].

Efforts taken to address this

In addition to developing national taxonomies with green and amber thresholds that correspond to localised starting points, a growing number of countries are beginning to develop national and local technological roadmaps to encourage greater decarbonisation and transition. These roadmaps provide a clear indication to real economy companies and global investors on the country's transition efforts and priorities, potentially attracting greater supply of investments and minimising climate anxiety.

Malaysia: National Energy Transition Roadmap and Hydrogen Economy and Technology Roadmap to accelerate energy transition efforts and provide a clear deployment pathway to scale up hydrogen economy and technology.

Japan: Transition Finance Roadmaps for various carbon intensive sectors to provide a concrete direction for transition toward achieving carbon neutrality in 2050.

Singapore: National Hydrogen Strategy to accelerate transition to net-zero emissions and strengthen energy security.

Laos: Energy Sector Roadmap to Net-zero Emissions (designed ASEAN Centre for Energy) to support Lao PDR in its ambitious pursuit of net-zero emissions, while strengthening its long-term planning, driving essential policy reforms, and addressing critical gaps in institutional capacity and financial resources.

[103] OECD Guidance on Transition Finance, 2022

[104] ibid

v. Transition Planning Nascence

Transition plans in ASEAN remain at a nascent stage, with most entities still developing the frameworks, data, and capabilities needed to set credible and actionable pathways toward decarbonisation. Amongst others, transition plans are important to:

- Reflects an entity's broader intentions and efforts to transition towards net-zero and provides assurance to investors that a given transition financing will not be one-off.
- Assist banks with net-zero commitments or decarbonisation targets to justify their short-term increase in financed emissions (as a result of providing finance to a carbon intensive asset/entity) and consistency of their capital allocation[105].
- Serve as a tool for internal and external stakeholders to monitor and track the progress of the corporation's efforts[106].
- Minimise the risk of greenwashing in transition finance approaches and transactions by helping to ensure that there is a credible whole-of-entity transition strategy in place, supporting the issuance of relevant financial instruments[107].

While transition plans are increasingly being recognised by banks and policymakers as a critical tool for internal change management as well as to demonstrate environmental credentials[108], transition planning mandates remain nascent and fragmented, especially in developing countries where transition finance is needed the most. Developing and disclosing entity level transition plans are not currently mandatory, making it difficult for transition finance providers or stakeholders to assess broader climate ambitions. Ensuring that the transition plan is guided by science therefore is even more of a distant reality.

Where transition plans are clearly disclosed by an entity, banks will also face the challenge of assessing the transition plans and imposing conditions beyond the tenure of financing.

Efforts taken to address this

Regulators in certain countries have begun to issue transition planning guidelines and mandates as part of their supervisory expectation with the intention of spurring increased transition planning disclosures by real economy companies. Examples include:

- Monetary Authority of Singapore issued "Guidelines for Financial Institutions on Transition Planning for a Net-Zero Economy"[109] to ensure financial institutions have a sound transition planning process to enable effective climate change mitigation and adaptation measures by their customers and investee companies in the global transition to a net-zero economy and the expected physical effects of climate change.
- Bank Negara Malaysia issued a "Dear CEO" letter titled "Planning for climate transition and building resilience" to the CEOs for all financial institutions to provide guidance on the key principles and high-level expectations for an effective transition planning.
- The G20 Sustainable Finance Working Group introduced a set of high-level, voluntary principles for transition plans for both financial institutions and corporates[110].
- The United Kingdom's HM Treasury launched the UK Transition Plan Taskforce to develop a "gold standard" framework for climate transition plans, which ultimately led to the publication of the TPT Disclosure Framework[111]. The framework is also accompanied by a number of Sector Guidance that tailors disclosure expectations for specific industries.

Apart from regulators, industry bodies are also increasingly attempting to harmonise transition planning disclosures. The IFRS Foundation recently published its guidance "Disclosing information about an entity's climate-related transition, including information about transition plans, in accordance with IFRS S2[112]" to address the fragmentation of disclosures about transition plans and to enable entities to provide high-quality information about their climate-related transition when applying IFRS S2.

[105] CFA Institute: Navigating Transition Finance: An Action List, 2024
[106] OECD Guidance on Transition Finance, 2022
[107] ibid
[108] International Transition Plan Network: The Opportunity of Global Consistency on Transition Plans, 2025
[109] MAS Guidelines for Financial Institutions on Transition Planning for a net-zero Economy, 2023
[110] G20 Sustainable Finance Report, 2024
[111] Transition Plan Taskforce Disclosure Framework, 2023
[112] IFRS Foundation, 2025

vi. Technological Viability and Availability

To some extent, sustainable and transition finance will involve the financing of new, unconventional and innovative technologies. Especially in the case for transition finance, the technologies needed to deliver the deep decarbonisation and align these sectors to a Paris aligned pathway are either in nascent stages of development (proof of concept) or at early stages of adoption and have yet to reach commercial viability and scalability.

Many of these technologies will also require high upfront capital investment with limited understanding of the potential future risks. In evaluating the potential business case for financing these technologies, finance is technology agnostic and does not differentiate between decarbonising technologies, as long as these technologies satisfy the risk and return appetite of the financier. This therefore creates unattractive commercial terms for transition finance. In short, the challenge is that such technologies are inherently risky, the cost of financing is high and capital mobilisation towards these technologies are either too expensive, short-dated, or not flowing sufficiently[113].

In some countries, the technologies needed to deliver deep decarbonisation are also not yet presently available or still in the midst of being trialled despite already being commercially viable in other jurisdictions. Examples include hydrogen-ready combine-cycle gas fired power plants and dual-fuel ships that have been rolled out in some countries, but not in others.

Efforts taken to address this

Some governments and regulators have started providing financial incentives, grants and guarantees to accelerate the development or finance of key decarbonising technologies. For example:

- Malaysia has rolled out its Green Technology Financing Scheme 5.0 to support green technology initiatives by promoting innovation, sustainability and expanding green investments. The scheme involves a financial allocation of RM1 billion with underlying government guarantee of 60% - 80%.
- The Singapore Government awarded $55 million to support 12 research, development and demonstration projects on low-carbon energy technology solutions as part of its Low-Carbon Energy Research Funding Initiative
- Indonesia has rolled out tax holidays of up to 20 years for green energy investments, based on planned capital investment.
- The central bank of Philippines revised some rules to encourage more green financing, including an addition 15% top-up on single borrower's limit on loans, credit accommodation and guarantees for the purpose of financing eligible green or sustainable projects, including transitional activities to decarbonisation. Reserve requirements for green and sustainable bonds were also reduced from 3% to 0%.

[113] World Economic Forum - Financing the Transition to a Net-Zero Future, 2020

vii. Literacy, Labelling & Talent Gap

Beyond those working in the financial sector, consulting services and whose roles touch upon sustainability on a day-to-day basis, the importance of transitioning to net-zero are arguably not well understood, including amongst large public listed real economy companies.

Climate change literacy and sustainable finance expertise amongst many real economy companies, especially smaller and mid-capitalisation companies stops short at understanding the cause and effect of emissions on the broader climate, which translates to a basic understanding of needing to reduce emissions. The gap lies in understanding the pace and scale at which emissions must decline, with many still believing that marginal improvements are sufficient. This is exacerbated by the usually high upfront technology or operational investment cost which only materialises in the long-term, creating an additional layer of deterrent.

Developing countries are further constrained by a limited pool of technical experts which are capable of addressing the requirements of sustainable and transition finance. Talent pipeline, workforce capacity and upskilling initiatives on transition finance remain relatively underdeveloped, creating a persistent technical gap.

On top of this, the current emphasis on labelling transactions as 'transition finance' or 'sustainable finance' appears to be largely driven by financial institutions, whose motivation in some cases extend beyond purely driving climate impact. In contrast, real economy companies tend to place less importance on such labels, prioritising financing options that offer the most favourable terms—typically those with lower costs and fewer conditions.

Efforts taken to address this

Across Asia, several collaborative platforms have been established to strengthen climate and transition finance capabilities, reflecting a shared commitment to building knowledge, alignment, and practical tools for implementation. Notably:

- In Malaysia, the Joint Committee on Climate Change ("JC3") brings together regulators, banks and real economy industry players to advance climate risk management and sustainable finance practices.
- In Singapore, the Singapore Sustainable Finance Association ("SSFA") and the Sustainable Finance Institute Asia ("SFIA") play key roles in convening cross-sectoral stakeholders, promoting capacity building, and shaping policy dialogue.
- The Asia Transition Finance Working Group ("ATFWG") and the Asian Green Transition ("AGX") Consortium unite regional financial institutions to harmonise transition finance approaches and develop credible taxonomies.

viii. Policy and Institutional Support

To a large extent, some of the challenges highlighted above can be resolved with policy and institutional support. The absence of appropriate carbon pricing mechanisms will see real economy companies operating in emission intensive sectors continuing to ignore the negative externality and social cost of their operations. Efforts to strategically transition towards energy efficient practices and procure low carbon technologies will also be deprioritised in the absence of such carbon pricing measures.

Similarly, some sustainable and transition finance transactions may have higher risk than conventional financing, especially if it involves financing companies that are in the process of transitioning and decarbonising their brown assets, making it difficult to attract investors, in fear of being saddled with stranded assets. Priority is therefore often given to green assets that have proven business models and with simpler credit assessments. The low investor confidence/appetite for transitioning assets restricts capital supply and availability for these hard to abate sectors, creating market disincentives. Additionally, most technologies needed to deliver an effective transition is nascent, new or innovative with little commercial viability or track record and a credit profile that is not as competitive as their GHG-emitting counterparts.

In the absence for fiscal incentives or other de-risking measures, some of these technologies will continue to generate unfavourable risk-return profiles, and remain underbanked. Consequently, policy and institutional capacity will thus have a key role to play as an enabling factor for the scaling up of net-zero solutions, the delay of which will result in increased physical and transition risk.

Efforts taken to address this

As highlighted above, governments and industry bodies are taking various efforts to provide broad support to spur capital deployment into transition finance. The development of taxonomies, national and technology roadmaps, transition finance and transition planning guidelines are just some of the means undertaken to demonstrate broad policy support.

Countries are also increasingly either introducing carbon taxes or incentives to accelerate the transition to net-zero. For example:

- Singapore introduced a Carbon Pricing Act in 2018 that subsequently came into effect in 2024 to support its climate ambition of achieving net-zero emissions by 2050. It also created a blended finance platform called Financing Asia's Transition Partnership ("FAST-P")[114] that aims to bring together public, private and philanthropic capital to finance climate-related, marginally bankable sustainable infrastructure in Southeast and South Asia.
- Malaysia has mooted the introduction of carbon tax beginning in 2026 for the steel, iron and energy sector. The country is also set to table a Climate Change bill to Parliament to regulate, implement and enforce actions/initiatives that is aimed to lead towards a low-carbon economy.
- Australia introduced the temporary Hydrogen Production Tax Incentive ("HPTI")[115] to support the production of renewable hydrogen in Australia.
- Korea's government and banking industry has pledged $313 billion[116] to finance projects that will help to meet its ambitious GHG emission reduction targets. The government and the banking industry have also committed to investing 9 trillion won by 2030 in climate technologies, including carbon capture.

[114] Green Investments Partnership, a Blended Finance Fund under Singapore's FAST-P initiative, Achieves First Close with US$510 Million in Committed Capital, 2025

[115] Hydrogen Production Tax Incentive, 2025

[116] Gov't to allocate $313 bil. for low carbon transition in finance, 2024

4.1 Risks of Poorly Designed Sustainable and Transition Finance Transactions

The result of the challenges highlighted in the section above either in isolation or as a combination of one another, may result in the following downstream consequences:

i. Moral Hazard & Emission Leakage

Emission leakage refers to the situation where net emissions arising from a given transaction is not reduced overall but is instead shifted to other regions, sectors, or activities. This can undermine the intended impact of the financing provided as the overall emissions from an economy, sector or client perspective remains the same, if not increases. This happens when an entity receives financing for a sustainable or transition project or asset in a given sector or region, but continues to develop and build new high emitting assets elsewhere, defeating the broader objective of driving real economy decarbonisation towards net-zero. This likely to occur in the absence of mandatory transition planning disclosures and standardised definitions. Regulatory headwinds may also continue to allow for the development of new fossil-fuel assets.

On the other hand, Moral Hazard refers to the risk that companies may take advantage of financial support for transition finance without making genuine efforts to transition. It gives real economy companies the impression that they can continue to build new 'brown' emission intensive assets today, and still qualify for transition finance in the future because they are not required to have a net-zero transition plan in place or commit to phasing down/out fossil intensive infrastructures. Resolving for moral hazard will require real economy companies committing to not developing new fossil based infrastructures, amongst others.

ii. Limited Demand and Supply of Transition Finance

The administrative cost of pursuing transition finance is arguably greater than green or climate finance. This is because, amongst others, transition finance requires entities to commit to reducing the emissions of their assets and/or operations at a speed and scale that is aligned to climate science. In contractual terms, this is usually accompanied by additional condition precedents or subsequent with higher burden of proof to prove effective transition over time. In the absence of localised pathways, entities are forced to refer to regional and global pathways that may bring about steeper decarbonisation trajectories. Where the understanding of climate science is still nascent, entities will then be required to engage consultants or hire technical experts to ensure alignment to a science-based pathway which may be financially challenging for smaller and medium sized entities. Lastly, the absence of clear market mechanisms that penalises real economy companies for emitting GHG emissions, coupled with unsubsidized higher upfront capital cost associated with technologies required to deliver transition finance will act as deterrent to raising transition finance.

On the supply side, the poor risk-return profile of transition finance transactions may deter banks from participating in transition finance transactions, limiting the overall supply in the market. Similarly, the lack of consensus on a common definition and approaches to transition finance, exacerbated by the accompanied complexity of these transactions and lack of technical expertise, will lead to banks having to interpret transition finance on their own, with some taking a more liberal and flexible approach than others. This in turn leads to incongruence in transition finance efforts and discussions amongst banks, further limiting the supply of transition finance. This consequence is compounded when banks have to deal with multiple stakeholders or project sponsors from different jurisdictions. As different sponsors may have different jurisdictional requirements and stringency, it may not be acceptable for banks to cater to the lowest common denominator of transition finance standards.

iii. Misguided Incentives

In the absence of a local science-based transition pathways and standardised list of sustainable and transition activities that are aligned to climate science, transition finance is left to the interpretation of financial market participants, some of whom may inadvertently take a more liberal approach, while others may deliberately choose to take the path of least resistance. This misalignment can result in capital or financial incentives being channelled toward projects that either overstate their transition impact or fail to deliver meaningful emissions reductions.

iv. Greenwashing Allegations

Greenwashing allegations can arise due to various reasons, but are more likely to occur when:

- a transaction creates carbon-intensive lock-in when investing into technologies that present a marginal improvement but are overall still emission-intensive and long-lived[117];
- for sustainability-linked instruments, weak sustainability performance targets due to lack of accountability mechanisms;
- Investment into assets that are proclaimed to be moving towards net-zero without the asset ever becoming low carbon;
- the co-firing of a fossil intensive asset with low carbon fuel which results in higher lifecycle emissions due to the emission intensive nature of production of the low carbon fuel;
- the transaction is merely a business-as-usual activity disguised as sustainable or transition finance[118].

v. Compromised Net-Zero Goals

Where sustainable and transition finance is poorly defined without a standardised approach and assessment methodologies are highly complicated, some banks may see themselves shying away from providing such financing. Misguided incentives towards poorly structured transactions, could result in banks financing projects and assets that do not result in meaningful emission reductions over time or assets that perpetuate longer term carbon lock-in, jeopardising global net-zero goals. The absence of policy and institutional support could also bring about underinvestment in key nascent and innovative technologies, further jeopardising global net-zero goals.

[117] OECD Guidance on Transition Finance, 2022

[118] Rocky Mountain Institute: How Transition Planning Can Support Credible Transition Finance, 2025

5

Closing

The transition to a low-carbon, climate-resilient economy requires decisive action and sustained commitment across Malaysia's financial sector. Through this Guidance, banks are encouraged to adopt practices that align capital flows with national priorities such as the NETR and Malaysia's NDC commitments.

By integrating robust sustainability considerations, enhancing transparency, and supporting credible transition pathways, Malaysian banks can play a pivotal role in accelerating the country's shift towards a more inclusive, competitive and environmentally responsible economy. Effective implementation will require continuous capacity building, collaboration with industry stakeholders, and the agility to adapt to emerging risks, standards and technologies.

Ultimately, the STFG aims to enable more informed decision-making, strengthen market confidence and mobilise capital toward activities that generate long-term value for the financial system, business and society. Banks are encouraged to view the STFG as a strategic opportunity to lead, innovate and contribute meaningfully to the nation's sustainable future.

Appendix

Appendix: HC3 STFG Survey Key Findings

The JC3 STFG working group conducted a survey on 27th February 2025 to gather valuable insights from banks across the industry on the current engagement of Malaysian banks in sustainable and transition finance, identify key challenges, and explore the frameworks and tools used in financing these initiatives. A total of 22 banks responded to the survey.

Most Malaysian Banks are well underway on their Sustainability and Transition Finance Journey albeit at comparatively varied levels of maturities. The responses surface that more than three-quarter of banks are actively pursuing sustainable finance, while a sub-set are already pursuing or plans to pursue transition finance. This reflects the market's familiarity and strong appetite for green and social projects within the realm of sustainable finance.

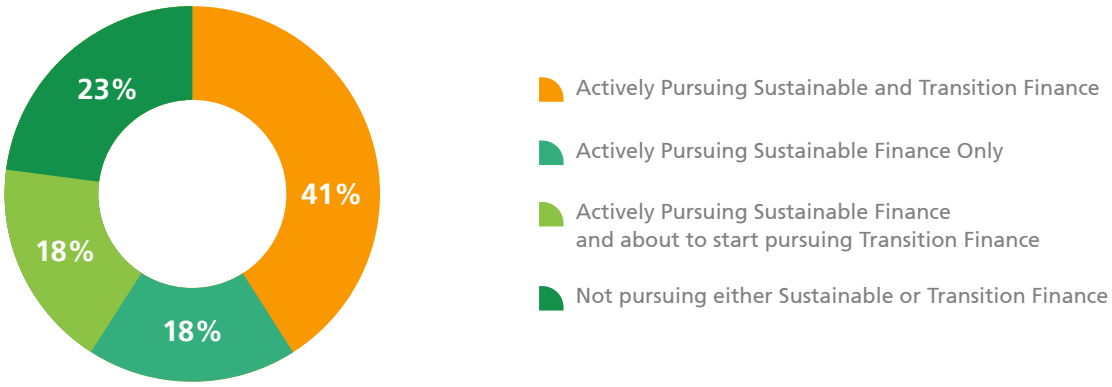
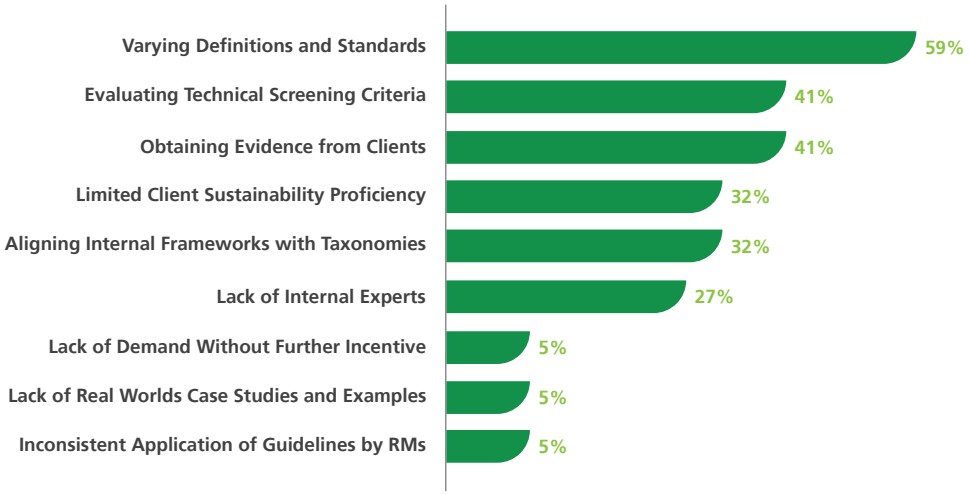


Diagram 2 below shows the challenges that banks in Malaysia face when providing sustainable finance solutions. These challenges are somewhat reflective of the broad spectrum of sustainability considerations, factors and priorities which influence the practical operations and decisions of financial industry practitioners. To promote an inclusive and cohesive sustainability and transition finance environment, it is imperative to obtain an aggregated view of the industry's challenges to develop a clear picture of priority areas that would yield the highest positive impact.

Primary barriers that appear to impede the banks in their sustainable finance journey is the lack of clarity in navigating the diverse sustainable finance definitions and technical standards are available in the market. This could debilitate the alignment process between customers and stakeholders.

A third of banks also struggle to align the different taxonomies with their internal sustainable finance frameworks. This is likely a result of the establishment of various national taxonomies in addition to the ASEAN Taxonomy. The lack of standardisation and proliferation of taxonomies likely exacerbates the challenge banks face in assessing technical screening criteria, as highlighted by 41% of respondents. This could indirectly contribute towards the complexities faced by banks in obtaining evidence of sustainable projects from real economy companies. The survey also suggests that **the absence of financial incentives has not constrained demand for sustainable finance projects.**

Diagram 2: The challenges Banks face when providing sustainable finance solutions

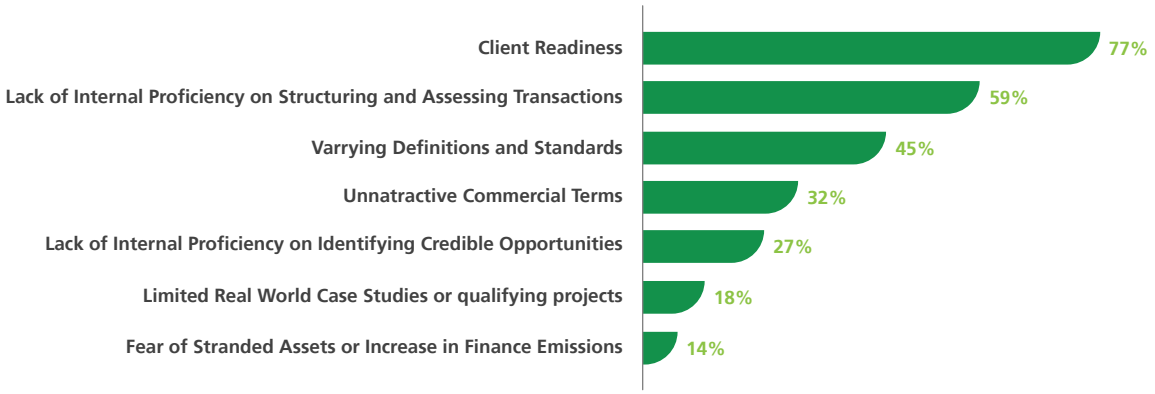


Transition Finance is understood to be relatively nascent compared to Sustainable Finance whereby financial industry frameworks appear ahead of real economy operational readiness. About two thirds of respondents view client readiness as a hurdle in providing transition finance solutions, which could include clients having yet to develop meaningful and credible transition plans to Net-Zero or clients not recognising the importance of transition finance.

Compared to sustainable finance, transition finance also appears to be considerably more constrained by a limited pool of technical experts as identified by the respondents. Talent pipeline, workforce capacity and upskilling initiatives on transition finance remain relatively underdeveloped, creating a persistent technical gap. Similar to sustainable finance, varying standards and definitions appear to be a prevalent challenge amongst half of the respondents.

When the survey results were filtered for respondents who were actively pursuing transition finance, unattractive commercial terms was identified as the second biggest challenge after client readiness. Respondents who are about to start pursuing transition finance identified lack of internal proficiency and varying definition/standards as the most common challenge.

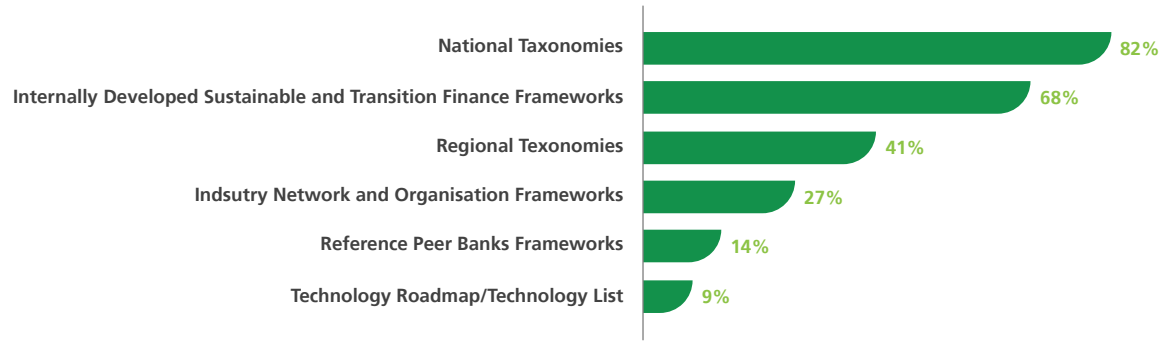
Diagram 3. The challenges Banks face when providing transition finance solutions



National taxonomies remain the most commonly referenced guide for banks, compared to regional taxonomies when classifying and structuring sustainable and transition finance. This is likely because national taxonomies allow for flexibility for recognising sustainable and transition finance taking into account local socioeconomic nuances.

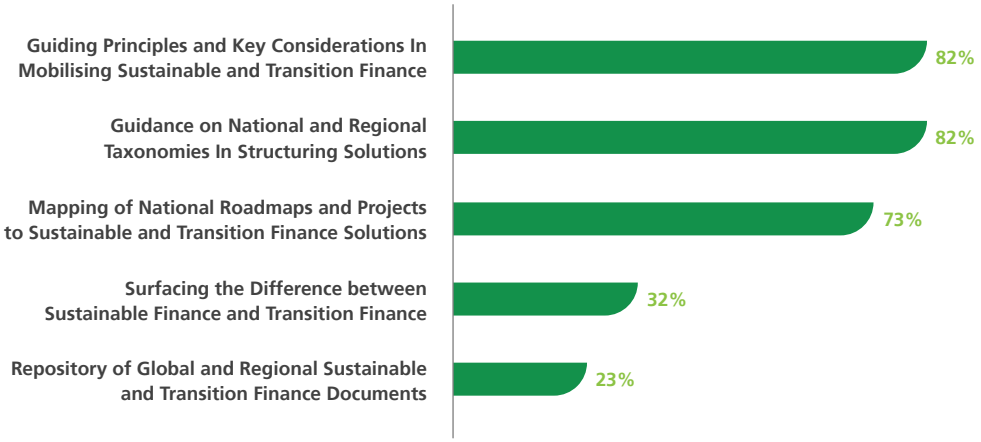
68% of respondents leverage on internally developed sustainable/ transition finance frameworks. This is presumably more common for banks operating across multiple jurisdictions and want to create a unified approach to sustainable and transition finance recognition and operationalisation.

Diagram 4. Framework and tools utilized by Banks to guide sustainable finance classification and structuring



While most Malaysian Banks (77% of survey respondents) have embarked on its Sustainable and Transition Finance journey, the progress at the industry level remains asynchronous. Banks primarily sought for guidance on key principles and considerations when mobilising sustainable and transition finance, as well as guidance on leveraging national and regional taxonomies in structuring sustainable and transition finance solutions. This request guided the approach and coverage of content included in the STFG.

Diagram 5 Guidance sought by Malaysian banks for inclusion within the STFG



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