JC3 SUSTAINABLE AND TRANSITION FINANCE GUIDELINES (STFG)

STRICTLY FOR PUBLIC CONSULTATION

TABLE OF CONTENTS

35 ABBREVIATIONS

ACMF TFG	ASEAN Capital Markets Forum Transition Finance Guidance	**ICMA**	International Capital Market Association
APLMA	Asia Pacific Loan Market Association	**IEA**	International Energy Agency
ASEAN	Association of Southeast Asian Nations	**IPCC**	Intergovernmental Panel on Climate Change
ATFG	Asia Transition Finance Guidance	**JC3**	Joint Committee on Climate Change
BF/BOF	Blast Furnace/Basic Oxygen Furnace	**KPIs**	Key Performance Indicator
BNM	Bank Negara Malaysia	**KYC**	Know your Customer
CAPEX	Capital expenditure	**LMA**	Loan Market Association
CBI	Climate Bonds Initiative	**LSTA**	Loan Syndications and Trading Association
CCGT	Combined-cycle gas turbine	**LT-LEDS**	Long-term Low Emission Development Strategies
CCPT	Climate Change and Principle-based Taxonomy	**NDC**	Nationally Determined Contribution
CCUS	Carbon Capture, Utilisation and Storage	**NETR**	National Energy Transition Roadmap
CDP	Carbon Disclosure Project	**NGFS**	Network for Greening the Financial System
CFPP	Coal Fired Power Plants	**NGO**	Non-governmental organization
CMP3	Capital Market Masterplan 3	**NZBA**	*Net-Zero Banking Alliance*
CO_2	Carbon dioxide	**OECD**	Organisation for Economic Co-operation and Development
DNSH	Do No Significant Harm	**OECD TFG**	Organisation for Economic Co-operation and Development Guidance on Transition Finance
E&E	Electrical and electronics	**OPEX**	Operational Expenditure
ERIA	Economic Research Institute for ASEAN and East Asia	**RM**	Relationship Manager
ESG	Environmental, Social and Governance	**SLB**	Sustainability-linked Bond
ETI	Energy Transition Index	**SLF**	Sustainability-Linked Financing
EU	European Union	**SLLs**	Sustainability-Linked Loans
EV	Electric Vehicle	**SME**	Small and Medium-sized Enterprise
FI	Financial institution	**SPO**	Second-Party Opinion
GBI	Green Building Index	**SPT**	Sustainability Performance Target
GDP	Gross Domestic Product	**TPES**	The Total Primary Energy Supply
GFANZ	*Glasgow Financial Alliance for Net Zero*	**TSC**	Technical Screening Criteria
GHG	Greenhouse Gas	**UNFCCC**	United Nations Framework Convention on Climate Change
GLP	Green Loan Principles	**UOP**	Use of Proceeds

1.0 INTRODUCTION

1.1 Preamble

Earth's warming climate is amplifying the severity of violent weather events and eroding the long-term security of future generation. 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. Thus, navigating the measures required to mitigate and remediate global warming must be considered in tandem 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 a 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 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 by 0.2% annually 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 five 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 September 2021, the Securities Commission Malaysia (SC) launched the Capital Market Masterplan 3 (CMP3) which serves as a strategic framework for the capital market to continue to support the economy as we transition into an inclusive and sustainable country. In early 2022, Bank Negara Malaysia (BNM) launched the Financial Sector Blueprint 2022-2026 with the primary objective of facilitating an orderly transition of the banking system into a greener economy. This outlines the country's commitment to invest towards 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 which served as a platform for 25 financial industry practitioners and regulators to collaborate towards inculcating the capacity and capability to spur climate resilience within the Malaysian financial sector. To deepen the understanding and provide further guidance amongst industry practitioners, the JC3 embarks on developing 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 Transition and Sustainable Financing by industry practitioners. The guidance attempts to contribute to the depth of existing publications via surfacing the findings observed from 22 banks in Malaysia via a survey launched in March 2025. The aim is to understand and assess the current state of transition finance and readiness within the financial sector. It focuses on key aspects of transition finance journey to ascertain the banks' maturity,

[1] NASA Global Temperature Latest Annual Average Anomaly: 2024
[2] NETR

challenges, capacity and capability in order postulate recommendations for areas deemed as a high priority by practitioners.

This guide attempts to narrow the gaps raised in the survey by contributing towards the available literature and references on operationalising sustainable and transition finance throughout the proceeding sections. Whilst going a step further to provide high level summaries, review, mapping, and differences amongst other frameworks and taxonomies in an effort towards building alignment and standardization.

1.2 Executive Summary

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1.3 Current State of Affairs in Malaysia

Malaysia's GDP is predominantly contributed by the Manufacturing and Services sector. These sectors collectively contribute approximately 82.6% to Malaysia's GDP.[3] Manufacturing accounts for 40% of Malaysia's GDP, most notability the electrical and electronics (E&E) industry.[4] While the services sector recorded a growth rate of 5.4% in early 2025.[5]

Retrospectively, Malaysia's topmost emission intensive sectors are the Energy and Manufacturing Sectors whereby 79% of Malaysia's emissions were attributed to the energy production and transportation.[6] This is followed by the manufacturing sector which accounts for approximately 10% of total emissions. It is worth noting, in terms of Energy Transition Index (ETI) published annually by World Economic Forum, Malaysia ranked 3rd after China and Vietnam, amongst emerging and developing Asian economies with an ETI score of 60.1, above the Global average (120 countries) of 56.5. This highlights the country's progress in terms of navigating a transition that is secure, equitable, and sustainable.[7]

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 70% renewables in the power mix, concurrently phasing out high emission sources such as coal by 2050. [8] Natural gas is expected to be the primary fuel source, accounting for 56% of the Total Primary Energy Supply (TPES) by 2050, while renewables will increase to 23%.

1.4 Malaysia's Journey to Net Zero

Malaysia's Nationally Determined Contribution (NDC) and action plans were introduced as a metric of success to guide its net zero journey.[9] To ensure an inclusive sustainable economic transition, Malaysia announced two targets which serves as a 'Northern Star' to guide its broad national transition:

[3] Malaysian Investment Development Authority
[4] Malaysia GDP From Manufacturing
[5] Malaysia observes positive economic growth in Jan 2025
[6] National Climate Change Policy 2.0
[7] Fostering Effective Energy Transition 2024 Report, WEF
[8] National Energy Transition Roadmap, MOF
[9] Fostering Effective Energy Transition 2024 Report, WEF

1) To achieve 45% unconditional reduction in carbon intensity by the year 2030 and;
2) Achieve Net Zero Emissions by 2050.[10]

The targets take into consideration a broad number of factors such as the current economy-wide carbon intensity, resource requirements to mobilize change, workforce talent development, and impact to households and businesses, amongst others.

In line with its ambitious aspirations, Malaysia unveiled the National Energy Transition Roadmap (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.[11]

The NDC outlines that Malaysia aims to achieve net zero emissions by 2050, leveraging on harnessing its strategic location, vast amounts of natural resources, potential renewable energy and a growing pool of talents who are appreciative of a green economy. In the medium term, Malaysia's aspires to reduce carbon intensity against GDP by 45% by 2030 compared to 2005 levels, unconditionally. This represents an improvement from its previous commitment of 35% unconditional commitment and 10% conditional commitment that relies on external support on climate finance, technology transfer and capacity-building to be provided by developed countries.[12]

One of the key opportunities for decarbonisation is through scaling up renewable power and 'sector coupling' via electrifying buildings, transport and industry. Policies are also required to tackle waste emissions, particularly from palm oil mill producers, which is in line with the NETR's strategic pathway.

The NETR Framework[13] outlines 50 initiatives under six energy transition levers and five enablers, in addition to the 10 flagship projects and initiatives which was announced in July 2023. The energy transition financing will be undertaken 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 provided to the strategic areas of the economy to navigate the transition. It is anticipated that the successful implementation of NETR will uplift GDP value from RM25 billion in 2023 to RM220 billion and generate 310,000 jobs in 2050.

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.[14] This is attributed to hydrogen's inherent properties that make it ideal in the Circular Economy Model. 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 the 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.

[10] Targets: Can Malaysia reach net zero?
[11] National Energy Transition Roadmap, MOF
[12] 1.5C national pathway explorer.
[13] National Energy Transition Roadmap, MOF
[14] Hydrogen Economy Technology Roadmap, MOSTI

2.0 SUSTAINABLE FINANCE GUIDING PRINCIPLES AND 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: I**ssues of inequality, inclusiveness, affordability labour relations, investment in people and their skills and communities, homes as well as human rights issues

Sustainable finance includes not only lending and capital raising but also deposits, insurance, investments, asset management, 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 guideline 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, SMEs to retail consumers (collectively known as borrowers). Additionally, sustainable financing encompasses both conventional and Islamic instruments. This section does not make a distinction between the two. Principles, guidelines and taxonomies discussed in 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[15], Social Loan Principles[16], and Sustainability-Linked Loan Principles[17] (collective referred to as “Principles”) by Asia Pacific Loan Market Association (“APLMA”), Loan Market Association (“LMA”) and Loan Syndications and Training 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 these the transparency of these Principles, banks can then label eligible financing that align to these Principles as sustainable finance and ensuring market credibility.

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

[15] LMA/APLMA/LSTA Green Loan Principles
[16] LMA/APLMA/LSTA Social Loan Principles
[17] LMA/APLMA/LSTA Sustainability Linked Loan Principles

- **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 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. Pure-Play companies 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.

Beyond direct lending, banks can support real economy companies in raising capital from the debt capital market through instruments such as green, social, or sustainability bonds or Sukuk. These instruments follow widely accepted references such as the ICMA Green Bond Principles[18], ICMA Social Bond Principles[19], ICMA Sustainability Bond Guidelines[20], the ASEAN Sustainability Bond Standards[21] and Securities Commission Malaysia's Sustainable and Responsible Investment Sukuk Framework[22]. 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 elements of the Green[15] and Social[16] Loan Principles, by specifying clear use of proceeds, to enhance both credibility and consistency.

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

[18] ICMA Green Bond Principles
[19] ICMA Social Bond Principles
[20] ICMA Sustainability Bond Guidelines
[21] ASEAN Sustainability Bond Standards
[22] Securities Commission Malaysia's Sustainable and Responsible Investment Sukuk Framework

Environmental Objectives

As it currently stands, all 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 jurisdictional context, they are broadly consistent with the six 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 put more focus on climate change adaptation and mitigation due to the pressing need to mitigate climate change and mobilise more private capital for investments in this area. 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 (DNSH) have also been established.

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

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

Sustainability-Linked Financing

Sustainability-Linked Financing 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 UOPs.

To initiate a credible SLF 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 minimially 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 SLF can be found in the Sustainability-Linked Principles by LMA/APLMA/LSTA[23] and Sustainability-Linked Bond Principles by ICMA[24].

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;
- Where feasible, 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, build stakeholder trust, and align financial incentives with meaningful long-term sustainability outcomes.

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,**
- ☐ **ICMA's 2025 Guidance Handbook** ; and
- ☐ **LSTA's 2025 Guidance on Sustainability-Linked Loan Principles**

Pure-play Sustainable Financing

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 sustainable activities. A common working definition considers a company to be pure-play if more than 90% of the company's revenue is derived from sustainable (green or social) activities.

However, if the financing activity is already known upfront and is non-sustainable in nature (e.g. a green pure-play requires funding for a new non-green business), this financing should no longer be considered as a pure-play for sustainable financing. 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.

238 **FEEDBACK FOR PUBLIC CONSULTATION**

- How clear are you on the Definition and Scope of Sustainable Finance from this section? Should this section be expanded further? If yes, please explain more

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

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 guiding principles when mobilising green financing. Per the GLP, all green financing should adhere to the following core components:

- **Use of Proceeds (UOP)**
- **Process for Project Evaluation and Selection**
- **Management of Proceeds**
- **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. However, the use of proceeds is applied to finance social projects benefiting specific target populations. These social projects seek to directly address or mitigate social matters.

This guideline has been developed with reference to a suite of industry-accepted principles, guidelines and taxonomies. The primary references referred can be categorised into three broad types:

Primary Reference	Description	Reference
Principles	Voluntary market standards that set out high-level eligibility criteria, disclosure expectations and best practices.	• Green Loan Principles. • Social Loan Principles
Guidelines	Various guidelines set out by the industry that clarifies key aspects of sustainable finance	• ICMA's Green Enabling Projects guidance • ICMA Handbook – Harmonised Framework for Impact Reporting • Equator Principles
Taxonomies	Classification systems that define which activities qualify as green or social financing	• Bank Negara Malaysia Climate Change and Principle-based Taxonomy • EU Taxonomy for Sustainable Activities • ASEAN Taxonomy for Sustainable Finance • Climate Bonds Taxonomy

FEEDBACK FOR PUBLIC CONSULTATION

- Are there other References, e.g. Principles, Guidelines or Taxonomies that should be referenced here?
- How clear are you on the Green and Social Loan Principles? Should this section be expanded further? If yes, please explain more

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 overall credibility. This means ensuring that the financing extended adheres to the four main components:

i. Use of Proceeds

ii. Project Evaluation & Selection

iii. Management of Proceeds

iv. Reporting

Across these components, the GLP and SLP outlines both mandatory and recommended actions that should be implemented at transaction level. Banks can then institutionalize 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 (UOP)

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.

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 which projects 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:

- **Utilisation of proceeds (UOP) towards Green Projects shall be described in relevant financial documents, and where applicable, within marketing materials and/or a green loan framework.**
  - At a transaction level, banks should ensure that the UOP for a particular transaction is documented formally. In most cases, this is documented in 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 make reference 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 and social activities/projects should be detailed within a bank's sustainable finance framework or other relevant internal policies/documentation.

- **Green projects[25] 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. regulation, national policies, targets, nationally determined contributions (NDCs) etc.
    - Alignment to green activities within global, regional or national taxonomies
  - In order to systematically assess the environmental benefits of such projects, banks can develop an eligible UOP list. The 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)
  - To develop a credible UOP list, banks can benchmark against various guidelines including relevant taxonomies and peers to align with market practices and promote interoperability. These guidelines are typically aligned to Science-Based Targets that would lead to emission reductions at a pace that is aligned to climate science. A Second Party Opinion on the UOP list by a qualified provider may also help to provide an independent assessment of the eligible activities. This is further highlighted in the toolbox below.

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 recognizes 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

[25] 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

- 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[15] 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 their own local context. 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 or principle-based requirements The table below shows that while the taxonomies below share some common environmental objectives, they operationalize 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. Only the EU Taxonomy covers all the environmental objectives stated.

Environmental Objectives	EU Taxonomy	BNM CCPT	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**. Science-Based Targets refer to 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 1.5°C above pre-industrial levels. In practice, this means that activities classified as "green" for climate change mitigation should be demonstrably consistent with climate science and contribute to achieving the Paris-aligned emissions trajectory.

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 in order to qualify as green financing. These thresholds are so that that green activity has substantial contribution to an environmental initiative.

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 guide, 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 and environmental objectives. 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 opinions 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. Whereas high-level principles and taxonomies define the "what" and the "why," peer frameworks show the "how" in operational terms: the exact activity descriptions, selection of sectors/industry for UOP and TSC, the governance and assurance arrangements they adopt, 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 includes:

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

- **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 taxonomies that currently 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 bank to tailor the UOP to be applicable for the local context.

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;
- Women and/or sexual and gender minorities;
- 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[16] 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. Sometimes this may be due the bank's mandate or background as a cooperative or development bank with a focus on vulnerable populations. Examples of Social Finance Frameworks that can be reference includes:

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

- 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

- **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 not sufficient 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.

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 financing 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 sustainable 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 ensures that proper due diligence is conducted prior to the mobilisation of funds.

Guiding Principles:

➢ **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 deal 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), third party assessments and others.

- **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 FI'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 FI is typically already met.

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 also strongly 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 can be approved as a sustainable financing.

A typical Green/Social Project evaluation process within banks:

1. **Nomination of Projects** – Relationship Managers within the bank will nominate eligible green/social financing 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** – A 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) – 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 setup 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. This ensures risk and sustainability aspect of projects are assessed and reviewed. 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 financing for external disclosure and internal tracking purposes.

- **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, actual or potential environmental and social risks associated with the relevant project(s). Banks should also conduct their own due diligence on the project to verify potential environmental and social risks, which may cause significant harm to the environment and/or society. This guiding principle is known as Do No Significant Harm, which states that while projects may benefit a particular environmental or social objective, it should not result in harm to any other environmental or social objectives. 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 in the financing agreement.

  - This due diligence typically takes the form of a checklist that the financing needs to fulfil. 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.

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
- 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

433

434

435 **Toolbox: Resources to Guide Environmental and Social Risk Assessment**

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

☐ **Bank Negara Malaysia Climate Change & Principled Based Taxonomy (CCPT) – GP3 & GP4 Due Diligence Questions**

- 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 outlines that activities financed are not illegal and do not breach environmental laws.

- 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 Due Diligence Questions (DDQ) at a project / economic activity level.

- Per GP3, projects should meet the following environmental objectives, including:
  - Prevent, reduce and control pollution (air, water and land)
  - Protect healthy ecosystems and biodiversity; and
  - Use energy, water and other natural resources in a sustainable and efficient manner

- Per GP4, remedial measures should have been planned at minimum if yet to commence, 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. These are:
  - **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, prevention of forced labour and protection of children's rights, and impact on people living close to the investments.

☐ **EU Taxonomy Compass**

- The EU Taxonomy has outlined that projects must not cause significant harm to other environmental objectives and must also comply with minimum social safeguards. These specific requirements are outlined explicitly, and can be accessed via resources such as the EU taxonomy compass.

☐ **Equator Principles**

- The Equator Principles are a set of standards that are voluntarily adopted by banks to assess and manage environmental and social risks in project finance. The Equator Principles is sector agnostic criteria and outlines 10 principles that banks should assess against to ensure that the projects financed are developed in a socially responsible manner and reflect sound environmental management practices.
- While banks that demonstrate full alignment can become signatories, other banks can also apply the concepts here in their own assessments.

iii. Management of Proceeds

The GLP & 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:

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

Guiding Principle:

➢ **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 funds 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 ringfencing clauses, reporting 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.
- 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. Such an allocation should be made known to the banks. It is critical that the funds are not allocated to projects that does not meet the UOP or governance requirements.

iv. Reporting

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

Why this is 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 to their respective 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:

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

- Banks should ensure that they are provided with an up-to-date allocation report of the green/social loan disbursed. An allocation report typically includes a list of green or social projects to which the sustainable financing proceeds has been allocated, descriptions of the projects and the amounts allocated and remaining unallocated. Banks should be provided with this information annually until the entire amount disbursed has been fully allocated.

- It is critical that the RMs and bank can assess that the financing has been fully allocated by the borrower to the agreed UOP. After the financing has been fully allocated, such allocation reports are no longer necessary unless material changes have occurred.

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

- In addition to obtaining an allocation report, banks should also request for an impact report from borrowers. An impact report generally covers the expected or actual environmental or social impacts of the green or social projects that has 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 collected.

- While impact measurements is a recommended best practice, it can provide valuable insights to support the sustainable finance objectives for both the borrower and the bank.

- 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.

Toolbox: Guidelines 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**

- This guidance covers 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 so on provide a useful guide on recommended impact indicators that a project could measure.

☐ **ICMA Handbook – Harmonised Framework for Impact Reporting for Social Bonds**

- This guidance covers 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

- Considering the confidentiality, competitive considerations and practicality in preparing certain impact related information, banks can opt to be provided with impact information in generic terms or on an aggregated portfolio basis. The information above is typically provided in the form of an attestation from the borrower. This attestation can be private between the borrower and the bank, or may also be published in public disclosures such as a sustainability report.

- Banks should ensure that the deal approval and post-deal monitoring by RMs incorporate processes to capture the allocation and impacts of the project. To ease this process, banks may prepare standardised templates or incorporate this into the annual credit review or KYC processes.

Example of 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 tCO2 of avoided emissions annually • 200 GBI Certified (Gold Rating) houses completed, with an average 10% of estimated energy efficiency 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	

535

Example of Impact Metrics

Typically, banks would develop their own impact matrix to align impact reporting across different green/social projects across the organisation.

Green Projects

Project Category	Impact Metric	Unit of Measurement
Renewable Energy	Installed Capacity	MW
	Annual RE generation	MWh
	GHG Emissions Avoided	tCO2e
Energy Efficiency	Energy Savings	MWh
	GHG Emissions Avoided	tCO2e
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.

536
537
538

539 **FEEDBACK FOR PUBLIC CONSULTATION**

- How clear are you on the Sustainable Finance Principles? Should any of these GP be expanded further? If yes, please explain more.
  a) Yes, clear enough
  b) Yes, clear enough but can be expanded. Please explain: _____
  c) No, not clear enough. Please explain: _____

- Are there additional examples that you would like to see included/expanded on under the SF principles? If yes, please state the SF principle and the example you would like to see included/expanded on?

- Are the any additional tools you would like to recommend for inclusion under any of the SF principles? If yes, please state the SF principle(s), and the name of the tool.

- Do you need further clarity on identifying eligible use of proceeds for Sustainable Finance (Green or Social) for your financing transactions?

  a) No, we are clear on how to use available resources to do this
  b) No, we already have an existing list of sustainable finance activities to serve as reference for classifying transactions
  c) Yes, further guidance is required. Please explain: _____

- How would you rate the relevance of each Sustainable Finance Principle in helping you structure sustainable finance transactions?

	(1) Not relevant	(2) Slightly Relevant	(3) Moderately Relevant	(4) Relevant	(5) Very Relevant
Use of Proceeds					
Project Evaluation & Selection					
Management of Proceeds					
Reporting					

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 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. When the framework is published internally, its primary audience are relationship managers, 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, such as policies, industry expectations, technology etc. continues to evolve and the Sustainable Finance Framework will need to be continuously updated to meet latest requirements.

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 recognized market standards and principles. A 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.

iv. Governance Process

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

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

- **Executive-Level Oversight -** An Executive Sustainability Council (comprising senior management across Business, Risk, Finance, Sustainability, Compliance and Marketing) reviews framework performance, approve new product lines, and address 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.
- **Board-Level Endorsement –** The relevant Board Committee formally approves the Sustainable Finance Framework, including any material updates.

- **Internal or External Audit -** The Audit function conducts an annual review of framework adherence, including transaction audits and verifying overall governance of the sustainable finance framework

FEEDBACK FOR PUBLIC CONSULTATION

> ➢ How clear are you on the Best Practices for Governance of Sustainable Finance Transactions? Should this section be expanded further? If yes, please explain more

3.0 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 maximize interoperability, elements within this section borrow from existing international and regional transition finance frameworks, guidelines and handbooks (collectively referred to as "guidelines") issued by various organisations and industry bodies and has been adapted to take into consideration an ASEAN lens.

While most transition finance guidelines provide guidance and recommendation for entity-level assessments, this section aims to provide broad guiding principles at both asset and entity level. Seeing as to how most transition finance definitions and guidelines are broadly aligned and lay down similar key broad expectations, this section provides high level guidance on the recommended transition finance principles that banks should adhere to and assess against when extending transition finance to real economy companies, by simplifying and synthesising key guiding principles from various transition finance guidelines. To avoid proliferation of transition finance approaches, each recommended transition finance principle is then supplemented with existing market-accepted practical tools that banks can use to assess adherence against the recommended principles. Banks can exercise their own discretion to choose their preferred approach based on:

- **Geographic Specificity:** 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 weigh in 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 background of investors, given that some investors may require a higher attention to detail.

- **Level of Granularity**: Some tools are developed to be more exhaustive and all encompassing, suggesting that it is better used for entities with a more matured transition plan or activities that are more well-defined. Other tools apply a more basic consideration, are open-ended or are less detailed in their assessment requirement.

To drive meaningful progress, banks are encouraged to evaluate the pros and cons of the tools against each transition finance transaction and instead of opting for the 'path of least resistance'.

Additionally, this section **does not define specific sectors, activities or technologies that are eligible for transition finance** given the unique starting position of each country, their net zero priorities (reflected through varying Nationally Determined Contributions and Long Term-Low Emission Development Strategy), policy environment and socioeconomic considerations which differ from one another, warranting some degree of localised considerations. 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 be counterproductive to the overall objective of this document.

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

Similarly, cognizant that structuring credible transition finance can be complicated and time-consuming given the various challenges and distinctive nuances (covered in later sections) that needs to be considered at both asset and entity level, this section does not aim 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 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 this guideline seeks to provide steps towards a common approach for assessing when financing an activity or entity credibly amounts to transition finance. Banks can then form their own judgements as to what falls within their understanding of transition finance. Where relevant, case studies are also provided to better guide banks in their approach.

3.1 PURPOSE OF THIS SECTION

Taking into consideration the challenges that banks in Malaysia face when it comes to transition finance, this section aims to:[26]

- Provide guidance on the recommended transition finance principles that banks should adhere to and assess against at asset and entity level when extending transition finance to real economy companies.
- Supplement banks with existing practical tools that can be used to assess alignment against the recommended transition finance principles to facilitate their evaluation of whether financing an activity or entity can amount to 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 transition finance transactions.
- To prevent any inconsistent incentives towards poorly transitioning activities, assets or entities thereby minimising greenwashing risk.

Creating a set of 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 is terms of transactional value still lags where it needs to be. Notwithstanding that jurisdictional considerations of transition finance, capital and capital market participants are global, further emphasizing 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 transition finance in the eyes of financial institutions; AND
ii. Policymakers in developing an enabling environment and robust frameworks to bridge existing transition finance challenges

FEEDBACK FOR PUBLIC CONSULTATION

> ➢ How clear are you on the Purpose of this Section on Transition Finance?
>
> a) Quite Clear
> b) Somewhat Clear
> c) Unclear
> d) Other (please specify)

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

3.2 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 transition finance 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 meaningful 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 definition **this guide 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 involves the mobilisation of finance towards activities or entities that:

- Are hard-to-abate, emission intensive or carbon intensive[27] whose services are crucial and needed up to or beyond 2050;
- May not currently have a native low or zero-emission alternative that is technologically available, or commercially viable; AND
- Ensures material emission reduction with alignment over time towards net zero via science-based pathway(s) that are aligned to the temperature outcome of the Paris Agreement.

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 but are not fully green or a long term climate solutions.

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[28]:

	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 aren't 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 nascency of commercially viable technologies	Varying Difficult. Not all high emitting sectors face technological and economical challenges for decarbonisation.

[27] 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 guide, they may be used interchangeably

[28] Author

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), Cement, Chemicals, Aviation	Power (coal fired power plants), Steel, 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.

709

710

Knowing the Difference: Sustainable Finance vs Transition Finance[29]

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

	Sustainable Finance (Green Finance)	Transition Finance
Broadbased 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 critical in a post-2050 economy, but whose current ability to decarbonise is hampered by commercial viability and technological readiness, with the intention of having them aligned/aligning 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 have intention to be aligned/are in the midst of aligning to a science based pathway
Asset Level Requirements	• Green assets must have natively low-to-zero emissions • Asset must be assessed to ensure it does not do significant harm to the broader environment or society	• Transition assets are typically assessed for their emissions alignment to a science-based pathway over time[30] • 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[31] or SLLs/SLBs[32]	• General purpose financing may be recognised as transition finance when mobilised to pure-play entities[33] or SLLs/SLBs[32]. • General purpose financing may be recognised as transition finance when moblised to credibly transitioning entities[34]

[29] Author
[30] 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.
[31] Entities that derive >90% of their revenue from qualifying green activities
[32] 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.
[33] 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
[34] Entities that demonstrate the presence of a robust, credible and ambitious transition plan that is aligned to the temperature outcome of the Paris Agreement. Note that many transition finance guidelines adopt to a singular-lens assessment approach, allowing either the asset or entity to be 'transitionary', in order for financing to be labelled as transition finance. A few transition finance guidelines subscribe to the view that transition finance requires a dual-lens assessment approach, whereby both the asset and entity will need to be transitionary in nature. One without the other, may give rise to emission leakage and moral hazard amongst other risks.

Client Level Assessment	The client's nature of business or transition plans are not relevant and not 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 transition finance 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.

3.3 THE IMPORTANCE OF TRANSITION FINANCE IN A NET ZERO ECONOMY

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 phased out.

In today's economy, hard-to-abate and carbon intensive sectors in developing markets are often 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-2050 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 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[35]. This transition also necessitates the full phase-out of unabated coal and oil-fired power plants within the same timeframe. Similarly, while steel is a key sector beyond 2050, steel production via blast-oxygen furnace is not sustainable in a low carbon future.

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[36] highlights a critical gap between high-level emissions reduction targets and tangible transition plans required to achieve these 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.

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

[35] IEA – Net Zero by 2050: A Roadmap for the Global Energy Sector
[36] OECD Guidance on Transition Finance, 2022

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 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 achieve 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.

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 stablise 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[37], '*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[38].
- 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.

Countries will therefore need to keep in mind that even if we succeed in limiting the global average temperature rise to 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 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 can truly begin to ease.

3.4 CHALLENGES OF TRANSITION FINANCE

This section outlines the most common challenges faced by banks and real economy companies when it comes to mobilising or seeking transition finance.

[37] IPCC Special Report 15
[38] The Conversation: What happens after net zero? The impacts will play out for decades, with poorest countries still feeling the heat

1. Diverse Definitions with Varying Standards and Requirements

A quick scan of the landscape reveals that there is a wide array of publicly available transition finance frameworks, guidelines, taxonomies, handbooks or equivalent documents for market participants to refer to. Each of these documents define transition finance slightly different from one another and prescribe differing approaches and requirements to suit their broader publication objective. As a result, banks and real economy companies may find it challenging and time consuming to navigate the plethora of documents available and synthesize the broad principles and key requirements before being able to further their transition finance journey.

While most of these guidelines have overlapping commonalities amongst them (as highlighted in the previous section) and to a certain extent may complement each other, they primarily differ in the level of stringency required from the end user and how their recommendations are phrased owing to differing perspectives, stakeholder priority or institutional mandates.

As an example:

- NZBA's[39] 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[40], CBI[41] 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 degree trajectory, while other guidance allow for alignment of up to a 'well-below 2 degree' trajectory especially for developing markets.
- While NZBA and OECD allow financing of best available technologies ("BAT") to qualify as transition finance subject to additional considerations, CBI opines that best available technologies cannot themselves represent credible transition to 1.5 degree 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 across the ACMF TFG[42], ATG[43], NZBA[39] and OECD TFG[44].

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

[39] NZBA Transition Finance Guide
[40] ICMA Climate Transition Finance handbook
[41] Climate Bonds Initiative White Paper – Financing Credible Transitions
[42] ASEAN Capital Markets Forum Transition Finance Guidance
[43] Asia Transition Finance Guidelines
[44] OECD Guidance on Transition Finance

2. Assessment Complexity

The bar for a transaction to qualify as transition finance is significantly higher than green or other forms of sustainable financing. Amongst others, it requires 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. These additional requirements over traditional sustainable financing adds a layer of administrative burden and costs to both banks and real economy companies and increases the average turnaround time for a transition finance transaction. The lack of globally or regionally accepted standardised approach 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** - All hard-to-abate 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.

- **Client Nuances** - Clients across hard-to-abate sectors have different starting positions and are at different stages of transition readiness[45]. 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”.

3. 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 multiples 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. 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

[45] CFA Institute: Navigating Transition Finance: An Action List

sectors 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 the assets or entities operating 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'[46]. 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[47].

- **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.

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.

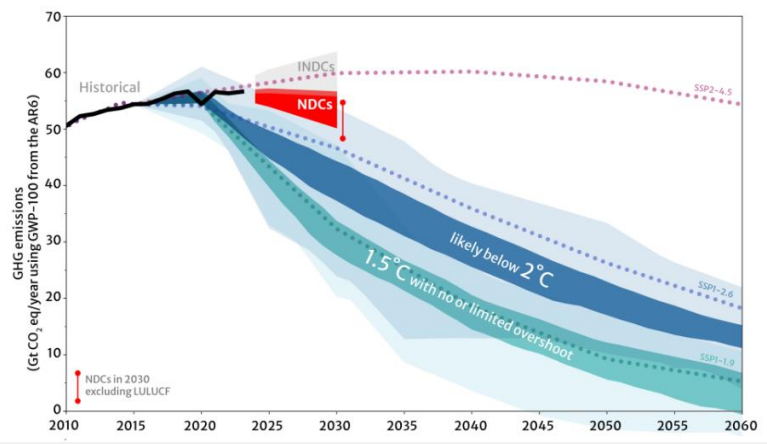
While the Paris Agreement requires all countries to submit NDCs and update them every five years, countries have the flexibility of dictating their own emissions reductions and commitments. Countries also have the flexibility of committing to 'conditional' or 'unconditional NDCs'[48]. A review of the NDCs of various countries[49] 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[50] showed that the aggregate of all NDCs will put the world on track to

[46] The History and Politics of Energy Transitions: Comparing Contested Views and Finding Common Ground
[47] The political economy of sustainable energy transitions: A literature review and a research agenda
[48] 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
[49] Climate Action Tracker
[50] UNFCCC: 2024 NDC Synthesis Report

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℃[51].



Historical and Projected total global emissions according to NDCs

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 remains a grey area with diverging perspectives. This divergence across existing transition finance guidelines is reflected below:

CBI	"*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"*
AMCF version 2 (2024)	*"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."*

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

ACMF version 1 (2023)	"*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	"*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"*

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.

4. Lack of Localised References

Transition finance is governed by the need for science based alignment over time. This means a real economy company that seeks to raise transition finance, will need to ensure that the activity or asset has lifecycle emission thresholds and targets that are aligned to a science-based pathway.

Most science-based pathways today originate from global and regional organisations, and do not take into consideration local 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[53]. 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[53]. To resolve this, an increasing number of countries are beginning to or have developed their own national taxonomies, that are science-based, with a dedicated list of "transition" activities (in addition to green activities) that address unique national considerations.

5. Transition Planning Nascence

The presence of a credible and ambitious net-zero aligned transition plan is unanimously recognised as a key prerequisite to any transition finance transaction, albeit to differing levels of stringency across the various transition finance guidelines. 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 decarbonization targets to justify their increase in financed emissions (as a result of providing finance to a carbon intensive asset/entity) and consistency of their capital allocation[52].
- Serve as a tool for stakeholders to monitor and track the progress of the corporation's efforts52.
- 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[53].

Today, transition plans increasingly being recognised by banks and policymakers as a critical tool for internal change management as well as to demonstrate environmental credentials[54]. The challenge however is that 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.

6. Technological Dependency

To a large extent, transition finance will involve the financing of new, unconventional and innovative technologies[55]. 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 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 financing. In short, the challenge is that transition technologies are inherently risky, and the cost of financing is high and capital mobilization towards these technologies are either too expensive, short-dated, or not flowing sufficiently[56].

7. Transition Finance Literacy & Labelling

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

Climate change literacy 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.

[52] CFA Institute: Navigating Transition Finance: An Action List
[53] OECD Guidance on Transition Finance (2022)
[54] International Transition Plan Network: The Opportunity of Global Consistency on Transition Plans
[55] The role of coal in a sustainable energy mix for India: a wide-angle view (2024). Pg 299–310.
[56] World Economic Forum (2020) - Financing the Transition to a Net-Zero Future

However, transition finance is far more complicated than simple emission reductions. Amongst others, it requires the reduction of emissions to take place in a downward trajectory at the speed and scale that is aligned to the temperature goals of the Paris Agreement, while considering DNSH and carbon-lock in. This need for science-based reduction is often beyond the comprehension of the average real economy company. This challenge is further exacerbated by the lack of localised science-based references and pathways and other assessment complexities (as shared above). Additionally, the high upfront investment cost of investment with benefits only materializing in the long-term may be an additional deterrent for many real economy companies.

Moreover, the current emphasis on labeling transactions as 'transition 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, prioritizing financing options that offer the most favorable terms—typically those with lower costs and fewer conditions.

8. Policy and Institutional Support

To a large extent, some of the highlighted above can be resolved with policy and institutional support that is specifically channeled towards transition finance. 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 emissions. Efforts to strategically transition towards energy efficient practices and procure low carbon technologies will also be deprioritized in the absence of such carbon pricing measures.

Similarly, transition financing has always been presumed to have higher risk than conventional financing, given that 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 neither nascent, new or innovative with little commercial viability or track record and an emission 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

The result of the challenges 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 transition finance as the overall emissions from an economy/sector/client perspective remains the same, if not increases. 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. This risk is brought about by the absence of mandatory transition planning disclosures and heightened when transition finance definitions and approaches are not standardised or when regulatory headwinds 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.

ii. Poor Supply of Transition Finance

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 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.

Other banks may deter from providing transition finance due to the complexity of assessment methodology which may be administratively more costly and require the procurement of technical expertise.

iii. Poor Demand for 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 subsequents 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.

iv. Misguided Incentives

In the absence of a local pathways and standardised list of transition activities, transition finance is left to the interpretation of financial market participants, some of whom may choose to take the path of least resistance. This, combined with the lack of mandatory climate transition planning disclosures could result in fiscal incentives being channelled to less credible transition finance transactions.

v. Greenwashing Allegations

Greenwashing allegations in transition finance can arise due to various reasons, but are more likely to occur when[53]:

- 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;
- investing into efficiency or other types of improvements as part of existing polluting assets and delaying the transformation or replacement of those assets;
- a transaction results in the investment into assets that are proclaimed to be near or net-zero ready without certainty that the asset will ever become low carbon;
- the co-firing of a fossil intensive asset with low carbon fuel 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 transition finance[57];

vi. Compromised Net Zero Goals

Where transition finance is poorly defined without a standardised approach and assessment methodologies are highly complicated, some banks may see themselves shying away from providing transition finance. Misguided incentives towards poorly structured transition finance transactions, could result in banks financing projects and assets that do not result in meaningful emission reductions over time, jeopardising global net zero goals.

The absence of policy and institutional support could also bring about underinvestment in key nascent and innovative technologies needed to drive transition finance, further jeopardizing global net zero goals.

FEEDBACK FOR PUBLIC CONSULTATION

> ➢ Are there any other challenges that you experience when mobilising transition finance that is not covered under this section?

[57] Rocky Mountain Institute: How Transition Planning Can Support Credible Transition Finance

3.5 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 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 companies or for sustainability 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[58]:** 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 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 adopt a single-lens approach—allowing either the asset or the entity to demonstrate transition alignment for the financing to be considered 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. This dual-lens assessment is typically applied to Use of Proceeds (UoP) structures, where the financing is earmarked for a specific project, asset or activity. One without the other, may give rise to emission leakage and moral hazard amongst other risks.

In contrast, for general corporate purpose financing—where funds are not tied to a specific asset—only entity-level transition alignment is typically required.

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 is the most credible approach when mobilising transition finance (i.e. transition finance should primarily be extended for use of proceeds financing), 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 and if use of proceeds transition finance transactions should be supported with credible transition plans.

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

Understanding the nascence of transition planning assessments and disclosures amongst corporates in ASEAN, a dual-lens assessment may be perceived as challenging. Banks are therefore highly encouraged to minimally engage the real world economy companies seeking for transition finance to understand their net zero/transition strategy, action plans, governance, capital allocation plans and disclosure commitments and the extent to which these are presently available.

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 alignment to a credible 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 a credible and robust 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 entity's that are capable of demonstrating credible and robust 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	• 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 progress of the entity against its transition plan.	• 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)	• 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 channeled towards an asset/activity that will contribute to advance

	• May reduce eligible universe or assets or clients, especially in emerging markets		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 standardization across jurisdictions. • May unintentionally reward firms for having a plan rather than executing the plan through capital deployment

1090

1091 **FEEDBACK FOR PUBLIC CONSULTATION**

- As a bank, when mobilising Transition Finance towards a specific Use of Proceed/Activity/Asset, do you currently adopt a Dual-lens Assessment or Singular-lens Assessment?
  [Note: If you have not mobilised transition finance but transition finance is a strategic priority, please choose either a) or b) based on the assessment you are most likely to adopt]

  a) Dual Lens Assessment (i.e. the asset/activity is assessed for transition alignment **AND** the entity seeking finance is assessed to demonstrate alignment to a credible transition plan)
  b) Singular Lens Assessment (i.e. Only Asset/Activity is assessed for transition alignment)
  c) N/A – Transition finance is not a strategic priority/Not pursuing transition finance

- As a bank, do you currently allow for mobilisation of transition finance if the use of proceeds is for general corporate purposes – i.e. Singular-lens assessment (Entity only)
  a) Yes, we do allow for such mobilisation subject to the company demonstrating the presence of a credible and robust transition plan
  b) No. We currently only allow for mobilisation of transition finance towards a dedicated asset/activity

c) N/A – Transition finance is not a strategic priority/Not pursuing transition finance
d) Other: _____ (please specify)

3.5.1 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.

i. Alignment to Science Based targets & Net Zero bound

While it 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[59].

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. 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 greenhouse gas 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[60].

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.

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 goals of the Paris Agreement alive.

[59] Climate Bonds Initiative: Financing Credible Transitions
[60] Carbon Trust

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.

To adhere to this principle, banks should first to identify the right science-based pathway to use. 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[61].

Toolbox: Sources of Science Based Pathways (Non-exhaustive)

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 provides a consolidated list of science based pathways.

☐ ***ACMF 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 Handboook – 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 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***

[61] ASEAN Transition Finance Guidance

- Technology roadmaps outline the technologies that will be necessary to get specific industry sectors aligned with the Paris Agreement, while showing which technology should be ready for use in what year.
- 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.

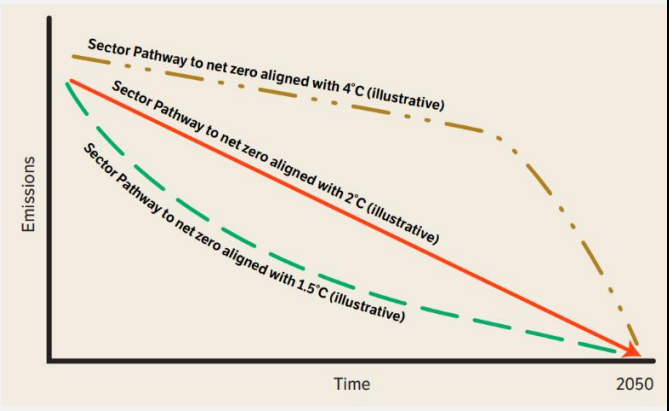
☐ ***Technology List***

- 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.
- Technology lists can serve as a useful reference point for banks to identify eligible transition technologies for transition finance until technology roadmaps or taxonomies with thresholds and eligible activity lists are developed.
- 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 six framework dimensions - Emissions impact, Affordability, Reliability/ maturity, Lock-in prevention considerations, DNSH considerations, Social considerations which is useful to address some of the asset-level guiding principles prescribed under this guide.

Fact Check:

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℃.



In other words, the end points is not as important as the rate of change[62].

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 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.

[62] Singapore Asia Taxonomy

ii. 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 significant emissions reduction of an existing high emitting asset until it becomes low emitting, successful transition finance is achieved when an asset successfully reaches its low emission state within the predefined net zero timeframe or facilitates significant emission reduction in the short run.

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:

- 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 but are not fully green or a long term climate solution.

For this reason, most 'transition activities' within 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 assets emissions and forward-looking assessment of an asset's downward emission trajectory. This is in contrast to green finance that typically involves the financing of low-to-zero emissions assets, therefore only requiring a point-in-time assessment of emissions.

Real economy companies seeking asset-specific transitioning 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.

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 tCO2e/t of steel in 2027, below 1.16 tCO2e/t of steel in 2031 and below 0.64 in 2040 tCO2e/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 threshold required.

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.

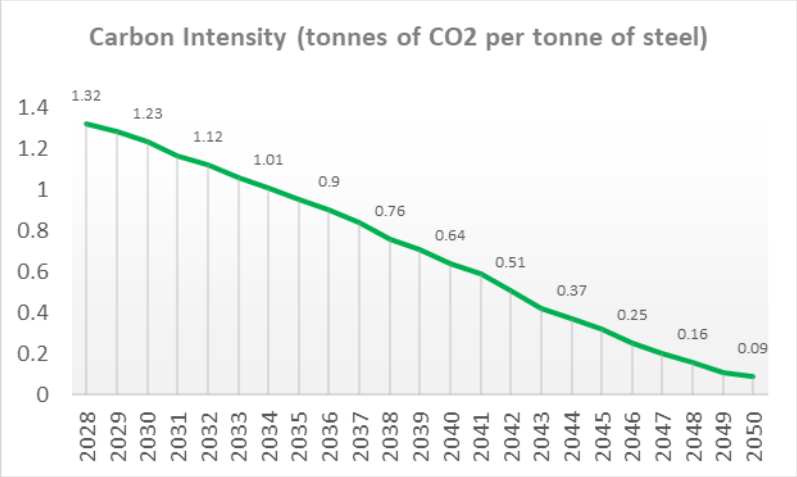
In many cases, a single retrofit alone may be insufficient to bring an asset's emissions down to net zero. However, it is still crucial that the retrofit facilitates significant emissions reduction that is beyond a business-as-usual trajectory.

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:

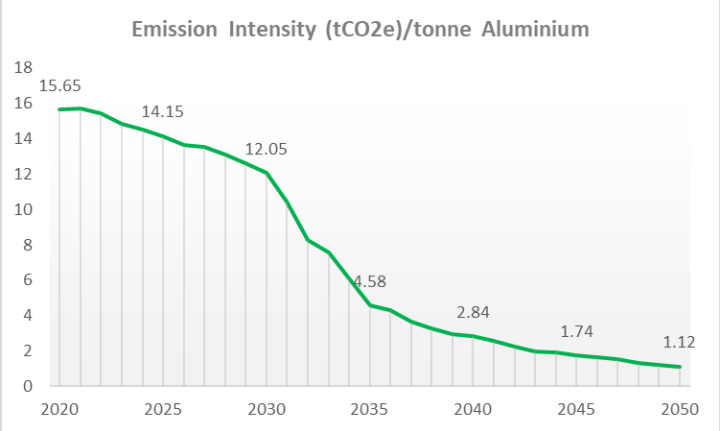
i. Ensuring that the production facility continuously aligns itself to the emission thresholds (per the graph above) through to net zero; OR
ii. Ensuring that the average emissions intensity over the entire lifetime of the facility is below the prescribed threshold at the halfway point of lifetime the 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 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 aluminum 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.



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 aluminum 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 decabonising levers such as inert-anode electrolysis modules, grid connection to renewables, and effective energy efficiency designs such as smart heat recovery and digitized efficiency systems. 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.

1179

Understanding Direct Emissions vs Lifecycle Emissions

When assessing the emissions arising from a transition asset, it is important to take note that the there are two 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 CO2. 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[63]. 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 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 utilize 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, analyzing 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.

☐ **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 credit 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 evaluation 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 incentivize clients to transition the asset.

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

iii. 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 main drivers of an entities current and future environmental impact[40]. 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 jet fuel	• 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, 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 Scope 3: Use in End Products (heating, cooking, feedstock and refining)	• Retrofitting existing pipelines to reduce methane leakage • Development of new pipelines that are capable of transporting low-carbon fuel with methane leakage detections • Retrofitting natural gas turbines to allow increasing blend of low carbon fuels • Installation of CCUS

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

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.

<u>Accounting for Scope 3 as part of Transition Plan to Net Zero:</u>

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 a timeline be committed to.

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

ACMF: "*Where entities may lack in the comprehensiveness of their current state assessment (e.g., Scope 3 emissions not assessed, measurement of only CO2 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: "*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"*

Toolbox: Resources to Identify Material Emissions by Sector

☐ ***ACMF 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.

iv. 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 many of these guidelines. This risk primarily stems from the fact that many fossil infrastructures have an average operating lifespan of between 25 to 45 years[64]. This means any new fossil based infrastructures built today 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

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

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[64].

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.

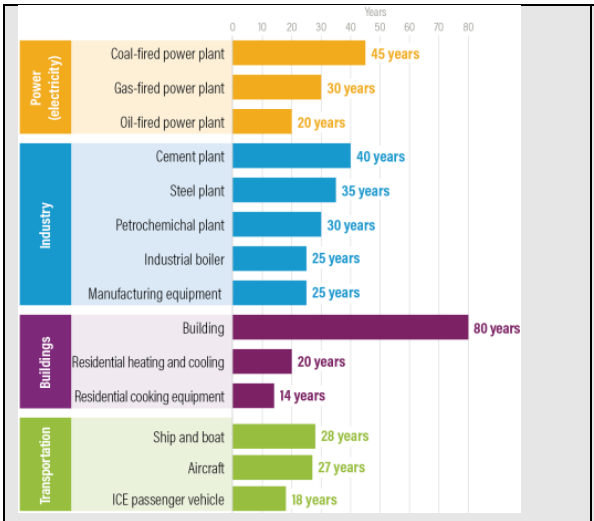
The importance of assessing carbon lock-in risk is also evident in sustainable finance taxonomies. Because transition finance can involve the financing of new assets or existing assets (via retrofits etc.), the risk of carbon lock-in is deemed greater for the former. As a result, some sustainable finance 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 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[65].

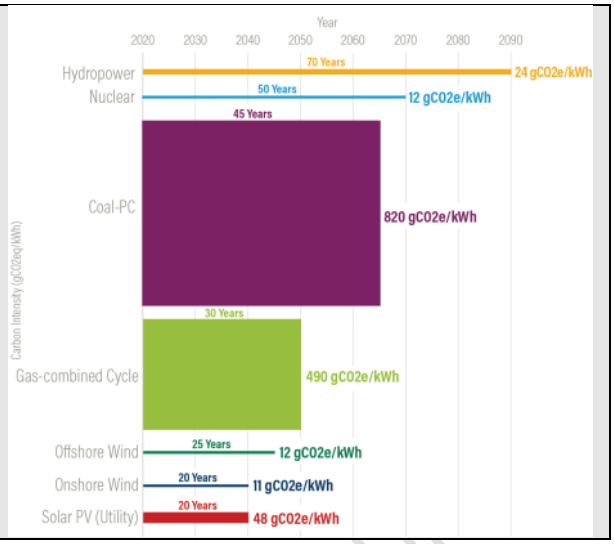
As the ASEAN region undergoes rapid urbanisation and economic development, it is expected to depend on fossil fuels at least in the medium term, thereby increasing the likelihood that new fossil based assets will be built. At the same time, as the 2050 net-zero milestone approaches, fossil fuel-based 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 needed 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 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.

Illustration	
Typical lifespan of infrastructures and equipment[64]	***Lifecycle emissions and typical lifetime of infrastructure and equipment***

[65] Singapore Asia Taxonomy





1253

1254

Types of Carbon Lock-In

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 decarbonization interact to create an inertia that favors the development or retention of fossil fuel assets. Carbon lock-in can therefore be broken down into 3 types:

- Infrastructural/Technological Lock-In
- Institutional Lock-in
- Cultural or Behavioural Lock-in

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.
- These fossil and extractive based sectors and activities which began as an essential need to fuel the global move towards industrialization 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 artifacts 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 gain 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, and 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 stabilize a new, more favorable, status quo.

- 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 the 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 shortsighted 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 behaviors, 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 behaviors that are extremely resistant to change, limited cognition about the problem, worldviews that preclude pro-environmental behaviors, undervaluing risk, distrust toward experts and authorities, and a sense of lack of control over being able to make a difference. Additionally, changing behaviors 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, behavioral) 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 characterized 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.**

Sources:
Annual Review of Environment and Resources: Carbon Lock-In: Types, Causes, and Policy Implications
Stockholm Environment Institute: Q&A: What is carbon lock-in? SEI scientists give a primer
Science Direct - Understanding carbon lock-in

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

While most transition finance guide 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, 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.
- 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:
  - Presence of a net zero commitment/target that aligns to the temperature outcome of the Paris Agreement with interim targets.
  - Presence of action plans to achieve the net zero commitment/target (with greater degree of granularity for short and medium term plans).
  - Robust governance and accountability mechanisms with net zero KPIs tied to remunerations

- 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)
- 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*.

1257

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

Case Study: Financing of new gas fired power plant

The ASEAN taxonomy 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, Amber Tier 3) from 2024 to 2045. This is reflected in the table below:

Year	Green	Amber Tier 1	Amber Tier 2
2024 - 2030	Lifecycle GHG emissions from the generation of electricity by the entire facility <100 gCO2e/kWh	Lifecycle GHG emissions from the generation of electricity by the entire facility: ≥100 and <425 gCO2e/kWh	Lifecycle GHG emissions from the generation of electricity by the entire facility: ≥425 and <510 gCO2e/kWh
2031 - 2035	Lifecycle GHG emissions from the generation of electricity by the entire facility <100 gCO2e/kWh	Lifecycle GHG emissions from the generation of electricity by the entire facility: ≥100 and <285 gCO2e/kWh	Sunset
2036 - 2040	Lifecycle GHG emissions from the generation of electricity by the entire facility <100 gCO2e/kWh	Lifecycle GHG emissions from the generation of electricity by the entire facility: ≥100 and <185 gCO2e/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 gCO2e/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 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.

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 materialize 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.

v. 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 a prescribed as 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 isn't a 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.

1281 **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 v3****:* Provides extensive guidance on DNSH (page 236 – 260) and social impact (page 63-67). Both assessments are taken into consideration for each of the four thematic environmental objectives listed under the taxonomy, where each activity must fulfil minimum requirements of the three

essential criteria of the ASEAN Taxonomy, two of which are DNSH (EC1) and Social Aspect (EC3)

Table 21: 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, forced labour, child labour 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. Prevention of forced labour and protection of children's rights** 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. Do all workers have the right to enter into, and leave, employment voluntarily and freely? d. If the Company employs migrant workers, are the migrant workers treated fairly? e. Does the Company ensure all its workers free access to their documentation? f. 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? **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 the better responsiveness, coordination and effectiveness of risk reduction and management policies? c. Does the Company promote public awareness of their exposure and vulnerability and establish 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[66] 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[67] for DNSH assessment with examples of scenarios as well as an extensive activity-specific criteria[68] to address DNSH. For addressing social impact, the EU taxonomy also established Minimum Safeguards as part of Article 18 of the Taxonomy Regulation.

☐ **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 labor, 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 five-step process covering environmental objectives, technical screening criteria, and minimum social safeguards.
- Coverage:
  - **DNSH:** Covered extensively

[66] OECD's Due Diligence Guidance for Responsible Business Conduct
[67] EU Technical guidance on the application of 'do no significant harm' under the Recovery and Resilience Facility Regulation
[68] EU Taxonomy Regulation Delegated Act 2021-2800, Annex 1

- **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

1282

1283

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:
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 in 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 labor 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.

Food for thought?
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[69] - including natural gas sector, and that such roadmaps are developed to assist financial institutions in determining whether a company's strategies and initiatives toward decarbonization qualify for transition finance, what additional considerations need to be made when assessing transition finance qualifications?

Case Study 3:
Assuming the same scenario above, how would the entity-level assessment considerations differ if the borrower was a Special Purpose Vehicle established for the project?

1284

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

1285 **FEEDBACK FOR PUBLIC CONSULTATION**

- Are the Asset Level GPs clear enough? Should any of these GP be expanded further? If yes, please explain.
  a) Yes, clear enough
  b) Yes, clear enough but can be expanded. Please explain: _____
  c) No, not clear enough. Please explain: _____

- Are there any other Asset Level GP(s) that you believe should be included?
  a) Yes. Please explain: _____
  b) No, existing GPs are clear and sufficient

- Are there additional examples that you would like to see included/expanded on under this Asset Level GPs? If Yes, please state the GP and the example you would like to see included/expanded on

- Are the any additional tools you would like to recommend for inclusion under any of the Asset Level GPs? If Yes, please state the GP, and the name of the tool.

- Specific to the Asset Level GP's, how would you rate the relevance of each component in assessing the credibility of a real economy company's transition plan?

	(1) Not relevant	(2) Slightly Relevant	(3) Moderately Relevant	(4) Relevant	(5) Very Relevant
Alignment to Science Based targets & Net Zero bound					
Transition over time, not at a point in time					
Material and Core Emission Reduction					
No Carbon Lock In					
Do No Significant Harm & Social Impact					

- Do you have any other feedback on how this section can be improved?

1286

3.5.2 ENTITY LEVEL GUIDING PRINCIPLES

Entity level transition finance involves the mobilisation of 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 use of proceeds. 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. 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 promote the transformation of a real economy company's entity-wide business model and strategy, instead of a specific asset or infrastructure[39]. 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[70].

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 entity level guiding principles which outlines the core components of 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 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. However, given the transition planning nascence in emerging markets, a "comply or justify" approach can be considered where clear justification and time-bound commitment is provided where there are deviations or omissions.

[70] UNEP FI: Transition Finance Emerging Practices

i. Net Zero Commitment & Targets

A credible transition plan begins with the establishment of a net zero commitment that aligned to the temperature outcome of the Paris Agreement, supported by interim targets. Interim targets should span across short, medium and long term, 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.

A net zero commitment is a crucial component of a credible transition plan because it provides a clear end goal to the transition plan. 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.

A broad net zero commitment however is insufficient if not supported by interim targets. Interim net zero targets that are quantifiable and time-bound provide clarity on the path and pace of decarbonisation that a company is looking to undertake in its pursuit to transition. Such targets should also be accompanied by the underlying methodologies, scope and assumptions. 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.

Net-zero commitments without interim targets merely amounts to aspiration, which fall short of the threshold for a credible transition plan. Banks should therefore assess the presence of a net zero commitment that are supported by short, medium and long term targets.

ii. 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 actions plans which outline the path and roadmap that the entity plans to take over the years to realise its net zero commitments and targets. Transition plans also help provide some degree of distinction between business-as-usual activities (that may only being about marginal improvements) and transitional activities.

As a basic rule of thumb, action plans should prioritize an entity’s material and core emission reductions, and be detailed across short-, medium-, and long-term timeframes to provide clarity and transparency on the decarbonization levers and their expected timing of execution. In many cases, banks can also use this roadmap to identify future potential transition finance opportunities. Where possible, entities should also transparently disclose key assumptions and dependencies and underpin the successful delivery of their transition plan to avoid speculation or greenwashing allegations. On a best effort basis – these action plans should be supplemented with the expected benefit or impact to emission reduction.

Entities can reference national or regional sectoral pathways, taxonomies, technological roadmaps, technological lists or their climate scenario analysis when developing their action plans, so long as combined effect of these action aligns the entity to a Paris-aligned pathway. Action plans can generally be broken down into operational and institutional action plans per the examples below:

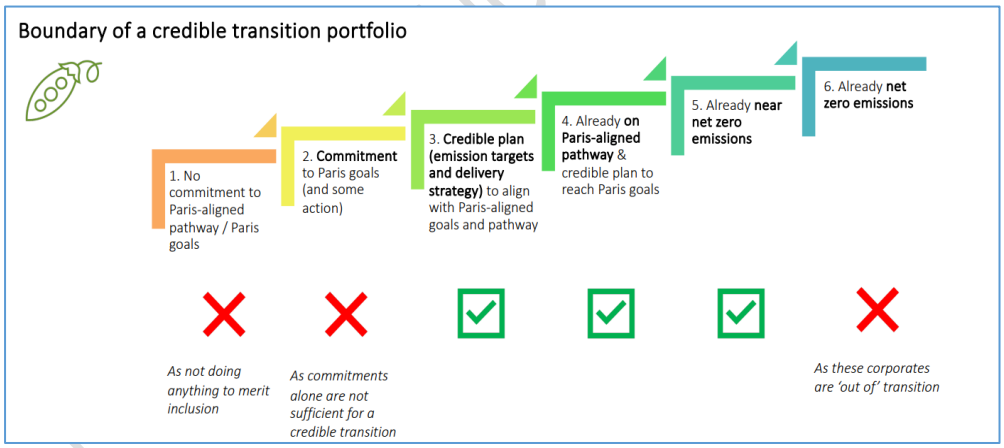
Operational Action Plans: Actions plans that are outward facing involving the entity’s assets, business model, products and services

- Investment into new low-carbon technologies
- Research and Development to develop new or alternative low carbon solutions
- Phasing out or decommissioning of emission intensive assets
- Divesting away from emission intensive businesses
- Establishing new green/low carbon business, products or services either organically or through mergers and acquisitions
- Treatment of carbon credits as part of the overall transition plan

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
- Establishing dedicated climate and transition teams to accelerate decarbonisation efforts
- Conducting training and upskilling for employees and ensuring sufficiency of transition-ready talent
- Engaging upstream and downstream value chain entities to drive broader decarbonisation efforts
- Establishing an internal cost of carbon

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



Source: Climate Bonds Initiative

In assessing the action plans of an entity, 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.
- Assess the action plans taken against leading industry peers that have established Net Zero targets and commitments.

The above is highly crucial to identify any possibility of an entity backloading its transition plans and emissions reduction efforts[42]. 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 and avoid recognising such transactions as transition finance.

iii. 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, incentivize, and support the implementation of the transition plan. Governance structures are key mechanisms for enabling the implementation of the plan and holding companies accountable for progress toward their climate objectives and targets[71].

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
- The mechanisms 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, the lower risk of deviation
- The 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 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 to investors and financial institutions 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 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 organization towards its net-zero commitment in the future. Banks should also consider assessing an entity's:

[71] GFANZ Expectations for Real Economy Transition Plans

- 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 communications, progress updates, feedback mechanisms.

iv. 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.

Banks can then compare the allocated budget over time to assess trends and alignment of the expenditure to the entity's net zero action plan. Where available, banks should also assess the breakdown of the financial budget by capital expenditure, operational expenditure, research and development, mergers and acquisitions, training or other expenses. Understanding 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 cost of carbon 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.

v. Monitoring

Given the dynamic nature of transition finance, it is not uncommon for real economy companies to amend their transition plans over time. As technologies evolve, new low-carbon solutions emerge or become commercially viable, or when 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. What matters under such circumstances is that an 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[42].

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, assess the presence of a systematic monitoring and reporting process and evaluate if sufficient remedial safeguards are in place for when an entity experiences a deviation from its net-zero path.

vi. 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 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"[72].

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[39]. 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.

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

[72] International Labour Organisation - Finance for a Just Transition and the Role of Transition Finance

- The accessibility of new products and services offered by the transition to customers, especially vulnerable customers

☐ **Climate Finance Asia Just Transition Guidelines and Assessment Toolkit**
In sum, the toolkit sets a practical, measurable framework at the facility or entity level to help banks assess, support, and oversee just-transition-aligned financing—particularly for coal phase-outs—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 financial institutions 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

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1524 The Toolbox below provides notable checklists or questionnaires that banks can use to assess the
1525 strength of an entity's transition plan

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1527 **Toolbox: Guiding Questions to assess robustness of Transition Plans**

☐ ***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)

☐ ***ACMF Transition Finance Guidance (version 2) – pages 42-51 & 85-87***

- Establishes 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 four 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.

☐ ***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 across four key elements (Issuer's climate transition strategy and governance, business model environmental materiality, climate transition strategy and targets to be science-based, implementation transparency) 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.

FEEDBACK FOR PUBLIC CONSULTATION

- Are the Entity Level GPs clear enough? Should any of these GP be expanded further? If yes, please explain
  a) Yes, clear enough
  b) Yes, clear enough but can be expanded. Please explain: _____
  c) No, not clear enough. Please explain: _____

- Are there any other Entity-Level GPs that you believe should be included?
  a) Yes. Please explain: _____
  b) No, existing GPs are clear and sufficient

- Are the any additional tools you would like to recommend for inclusion under any of the Entity Level GPs? If Yes, please state the GP, and the name of the tool

- Specific to the Entity Level GPs, how would you rate the relevance of each component in assessing the credibility of a real economy company's transition plan?

	(1) Not relevant	(2) Slightly Relevant	(3) Moderately Relevant	(4) Relevant	(5) Very Relevant
Net Zero Commitment & Targets					

Timebound Action Plan					
Governance & Accountability					
Expenditure Plan					
Monitoring					
Just Transition					

- Do you have any other feedback on how this section can be improved?

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