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## Transition Finance: Investigating the State of Play - A Stocktake of Emerging Approaches and Financial Instruments

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By Aayush Tandon (1)

(1) OECD Environment Directorate

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# Abstract

With only a decade left to reduce emissions drastically, the scale, pace and extent of global transformation needed is truly demanding. Long-term emission goals and the nature of the low-emission transition in each country will be a function of its unique socio-economic priorities, capabilities, resource endowment, vision for post 2050 economic structure, and social and political acceptability of what constitutes a just transition. As we enter the “decade for delivery”, a whole of economy approach is needed to realise the low-emission transition. This includes focusing not only on upscaling zero and near-zero emitting technologies and businesses but also supporting, to the extent possible, the progressive lowering of emissions in high emitting and hard to abate sectors. In this context, “transition finance” is gaining traction among governments and market participants. To identify the core features of transition finance, this paper reviews 12 transition relevant taxonomies, guidance and principles by public (Japan, Singapore, Malaysia, Russia, European Union, EBRD) and private actors (Climate Bonds Initiative, International Capital Markets Association, Research Institute for Environmental Finance Japan, AXA Investment Managers and DBS), as well as 39 transition relevant financial instruments (vanilla transition bonds, key performance indicator-linked fixed income securities). This paper does not aim to define transition finance, but rather to review emerging approaches and instruments to highlight commonalities, divergences as well as issues to consider for coherent market development and progress towards global environmental objectives. Based on the review, this paper puts forth two preliminary views. First, that the essence of transition finance is triggering entity-wide change to reduce exposure to transition risk; second, that transition finance may be better understood as capital market instruments with a set of core functions/attributes rather than a specific format or label.

**Keywords:** Finance, Low-Carbon Transition, Taxonomy, Sustainable Debt, Transition Risk

**JEL codes:** D5, E4, Q01

# Résumé

Alors qu'il ne reste qu'une décennie pour réduire radicalement les émissions, l'ampleur, le rythme et l'étendue de la transformation mondiale nécessaire sont réellement exigeants. Les objectifs d'émissions à long terme et la nature de la transition bas carbone dans chaque pays seront fonction de ses priorités socio-économiques, de ses capacités, de sa dotation en ressources, de sa vision de la structure économique de l'après 2050 et de l'acceptabilité sociale et politique de ce qui constitue une transition juste. Alors que nous entrons dans la "decade for delivery", une approche globale de l'économie est nécessaire pour réaliser la transition vers une économie bas carbone. Il s'agit non seulement de se concentrer sur le développement des technologies et des entreprises à émissions nulles ou quasi nulles, mais aussi de soutenir, dans la mesure du possible, la réduction progressive des émissions dans les secteurs à fortes émissions et difficiles à réduire. Dans ce contexte, le "transition finance" gagne du terrain auprès des gouvernements et des acteurs du marché. Afin d'identifier les caractéristiques essentielles du "transition finance", ce document passe en revue 12 taxonomies, guidances et principes relatifs à la transition élaborés par des acteurs publics (Japon, Singapour, Malaisie, Russie, Union Européenne, BERD) et privés (Climate Bonds Initiative, International Capital Markets Association, Research Institute for Environmental Finance Japan, AXA Investment Managers et DBS), ainsi que 39 instruments financiers relatifs à la transition (obligations de transition vanille, titres à revenu fixe liés à des indicateurs de performance clés). Ce document ne vise pas à définir le financement de la transition, mais plutôt à passer en revue les approches et les instruments émergents afin de mettre en évidence les points communs, les divergences ainsi que les questions à prendre en compte pour un développement cohérent du marché et des progrès vers les objectifs environnementaux mondiaux. Sur la base de cet examen, ce document présente deux points de vue préliminaires. Premièrement, l'essence du "transition finance" est de déclencher un changement à l'échelle de l'entité afin de réduire l'exposition au risque de transition ; deuxièmement, le "transition finance" peut être mieux compris comme des instruments du marché des capitaux avec un ensemble de fonctions/attributs essentiels plutôt qu'un format ou une étiquette spécifique.

**Mots-clés** : Finance, Transition Bas-Carbone, Taxonomie, Dette Durable, Risque de Transition

**Codes JEL** : D5, E4, Q01

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# Glossary

Explanations of the terms enlisted below are for the sole purpose of aiding the reader and must not be construed as the official view of the OECD. Sources used include, inter- alia, International Capital Markets Association (ICMA), Duke University's Hypertextual finance Glossary; Brealey, Myers and Allen (2014) and Investopedia.com.

**Convertible Bond:** Fixed-income security that yields interest payments, but can be converted into a predetermined number of common stock or equity shares.

**Cost of Capital:** The cost of funds used for financing a business. Cost of capital depends on the mode of financing used – it refers to the cost of equity if the business is financed solely through equity or to the cost of debt if it is financed solely through debt. Many companies use a combination of debt and equity to finance their businesses, and for such companies, their overall cost of capital is derived from a weighted average of all capital sources, widely known as the weighted average cost of capital (WACC). Since the cost of capital represents a hurdle rate that a company must overcome before it can generate value, it is extensively used in the capital budgeting process to determine whether the company should proceed with a project.

**Revolving Credit Facility (RCF):** A revolving loan facility is a form of credit issued by a financial institution that provides the borrower with the ability to draw down or withdraw, repay, and withdraw again.

**Second Party Opinion (SPO):** An independent verification of the sustainability credentials and characteristics of a sustainable fixed-income product or issuance framework, including sustainability/ESG targets and KPIs, by a third party (typically specialised SPO service providers).

**Spread:** Difference between yields on differing debt instruments of varying maturities, credit ratings, issuer, or risk level, calculated by deducting the yield of one instrument from the other. This difference is most often expressed in basis points (bps) or percentage points.

**Sukuk:** Shariah compliant fixed-income instrument.

**Sustainability-Linked Bond (SLB):** Bond for which the financial and/or structural characteristics can vary depending on whether the issuer achieves predefined sustainability or ESG objectives.

**Sustainability-Linked Convertible Bond:** Convertible bond for which the financial and/or structural characteristics can vary depending on whether the issuer achieves predefined sustainability or ESG objectives.

**Sustainability-Linked Loan (SLL):** Loan instrument for which the financial and/or structural characteristics can vary depending on whether the issuer achieves predefined sustainability or ESG objectives.

**Sustainability-Linked Loan Revolving Credit Facility (SLL RCF):** A revolving loan facility where the financial and/or structural characteristics of the loan can vary depending on whether the issuer achieves predefined sustainability or ESG objectives.

**Sustainability-Linked Sukuk:** Shariah compliant fixed-income instrument for which the financial and/or structural characteristics can vary depending on whether the issuer achieves predefined sustainability or ESG objectives.

**Taxonomy:** Definitions of sustainable finance that aim to be a comprehensive classification system.



# Executive Summary

Successfully delivering the Paris Agreement requires a plurality of pathways to decarbonisation. According to the Intergovernmental Panel on Climate Change (IPCC), global carbon dioxide (CO<sub>2</sub>) emissions in net terms must reduce by 45% (compared to 2010 levels) by 2030, and reach net zero globally by around 2050, to achieve a 1.5 degrees temperature goal with no or limited overshoot. Deep reductions in non-CO<sub>2</sub> emissions (such as methane) will also be required. Even staying below 2 degrees will be challenging; global CO<sub>2</sub> emissions would need to reach net zero by around 2075 in most pathways considered by the IPCC and non-CO<sub>2</sub> emission reductions are of a similar scale to those in pathways achieving a 1.5 degrees goal. In either case, the pace, scale and extent of global transformation is extremely demanding as we enter this “decade for delivery”.

Transforming economies with differing endowments and structures to meet this global net-zero requirement is a complex undertaking, in which countries are acting on different timescales. Differing socio-economic circumstances, resource endowment, priorities, visions for post 2050 economic structures, and social and political acceptability, particularly in terms of what constitutes a just transition will all influence long-term goals and the nature of the transition in different countries. A particular challenge is that some economic activities and technologies that are currently highly CO<sub>2</sub>-emitting are likely to continue in certain jurisdictions while being phased out or stranded in others. There is therefore, an urgent need to not only scale up zero or near-zero-emitting technologies and businesses, but also to create feasible emission reduction pathways (including sequestration options) for high-emitting and hard-to-abate sectors that are consistent with a global net zero CO<sub>2</sub> emissions target corresponding to the long-term temperature goal of the Paris Agreement.

The increasing ambition of national and international climate targets, including in response to the already severe impacts of climate change in many regions, has helped drive sustainable finance taxonomies and standards in anticipation of future policy or regulatory changes. With respect to these standards, many governments and market participants have cautioned against focusing exclusively on demonstrably low-emissions activities (e.g. renewable energy) and excluding many others (e.g. heavy industry) that, though currently emissions-intensive, are key components of future economic development. Increasing attention is focusing on the need to provide greater capital to enable such high-emitting activities progressively shift or transition to lower emissions while avoiding locking-in technologies and emissions.

In this context, transition finance is a topic of rapidly growing interest. To identify core features of transition finance as understood today, this paper reviews 12 sustainable finance taxonomies, guidance and principles developed by both the public and private sectors (hereafter ‘normative approaches’), as well as 39 financial instruments (primarily fixed-income). This stocktake does not aim to define transition finance, but rather to review emerging approaches and instruments

to highlight commonalities, divergences as well as issues to consider for coherent market development and progress towards global environmental objectives. Findings and analysis presented in this stocktake will inform future efforts of the OECD to engage relevant stakeholders and drive consensus.

## Synthesis of findings

In normative approaches reviewed, transition finance is intended for economic activities that are emissions-intensive, do not currently have a viable green substitute (technologically, economically or both), but are important for socio-economic development. Some approaches stipulate social safeguards, explicitly requiring the financed project/activity to prevent any negative social consequences.

Most approaches studied do not delineate specific technologies or sectors as eligible for transition finance. While some use examples to illustrate the concept, most do not articulate a list of 'transition' technologies and sectors or technical criteria.

This review shows that transition finance may finance a particular asset or the operating and capital expenditures of the issuer/borrower. Three core eligibility criteria to borrow transition finance can be distilled from existing approaches: (i) substitutability (absence of a zero or near-zero alternative); (ii) a commitment by the borrower/issuer to a low-emissions transition trajectory; and (iii) avoiding lock-in, i.e. investments that prevent the implementation of green alternatives available in the future.

This paper covers financial instruments that are explicitly labelled, marketed or, based on literature review, generally believed to provide transition financing. The stocktake shows that, transition finance is currently extended mainly through fixed-income instruments. Transition instruments observed to date are structured either as vanilla bonds or as key performance indicator-linked debt securities (bonds and loans). Among all approaches and instruments reviewed, there is no consensus on whether a separate "transition" label is needed.

Regardless of the format and label of the transition instrument, two core features are observed:

- At issuance, transition (bond) instruments are priced higher (lower yields) than comparable bonds by the same issuer. Initial analysis and literature review suggests that the price differential stems from oversubscription rather than a systematic assessment of transition risk as part of credit risk. Initial analysis also suggests this price differential shrinks (yields rise) in secondary markets, indicating at least a partial correction in original credit risk pricing. This trend is consistent with that observed in the green bond market and points to the need for further work to encourage even pricing of transition risk across assets to prevent mispricing and arbitrage.
- Penalty mechanisms (in KPI-linked bonds and loans) are embedded in the instruments to incentivise compliance with the issuer's transition strategy and targets. Three types of penalty mechanisms are observed. These include (i) coupon step-up, (ii) a premium payment, and

(iii) an obligation to purchase offsets. In case of KPI-linked loans, the interest ratchets up if targets are missed. It is important to note that in certain cases, coupon/interest rate step-ups could trigger solvency issues and may compromise the financial health of the borrower/issuer. While a penalty mechanism may be essential to incentivise compliance and ensure progress, the structure and form of such clauses must factor in potential implications for financial stability, transition objectives as well as the well-being of workers. Such considerations merit further investigation and analysis in parallel with innovation in transition instruments.

Based on the review of approaches and instruments, this study indicates that committing to a low-emissions trajectory is central to borrowing transition financing. Approaches and instruments require that this be clearly demonstrable and verifiable, and typically define the commitment in terms of alignment with the temperature goal of the Paris Agreement. However, there is little guidance and precision regarding the specifics of such a trajectory in most approaches. There also is divergence around the extent to which alignment with Nationally Determined Contributions (NDCs) is deemed sufficient to exhibit alignment with the Paris Agreement. In this context, the following issues merit further consideration by stakeholders:

- Which trajectories/pathways provide an appropriate benchmark against which transition activities and plans could (should) be measured?
- How do macro-level transition pathways translate to credible trajectories at the issuer level, particularly for those operating in several jurisdictions that may be subject to different climate commitments?
- Which types of investments and expenses (for instance, working capital, forms of capital expenditure, acquisition, decommissioning, R&D, divestment, purchasing offsets, refinancing) are acceptable to comply with the issuer's transition trajectory?

Based on the stocktake, this paper reaches a preliminary view that the essence of transition finance is triggering entity-wide change to reduce exposure to transition risk and preserve competitiveness in a low-carbon economy (even with weak or no current domestic climate policies in place). In theory, issuers actively reducing their emissions progressively would reduce their transition risk, improve their credit profile and (everything else being constant) would in turn lower their cost of debt. These developments likely depend on, and would be reinforced by the perception that policymakers will in the future implement more ambitious climate policies and climate-related financial regulation. Entities preparing for this eventuality through transition finance are likely to improve their resilience to such future policy changes.

Another preliminary view put forward in this paper is that transition finance may not necessarily be limited to a particular financial product or structure. Transition finance can be understood more generically as a risk management tool that may also improve market pricing of transition risk(s). Whether an instrument extends transition finance, in this view, should be determined by whether or not it incentivises and facilitates emission reduction and reduces exposure to transition risk.

# 1. Understanding transition finance

## Context

Successfully delivering the Paris Agreement requires a plurality of approaches to decarbonisation. According to the Intergovernmental Panel on Climate Change (IPCC), global carbon dioxide (CO<sub>2</sub>) emissions in net terms must reduce by 45% (compared to 2010 levels) by 2030, and reach net zero globally by around 2050, to achieve a 1.5 degrees temperature goal with no or limited overshoot (IPCC, 2018<sup>[1]</sup>). Deep reductions in non-CO<sub>2</sub> emissions (such as methane) will also be required. Even staying below 2 degrees will be challenging; global CO<sub>2</sub> emissions would need to reach net zero by around 2075 in most pathways considered by the IPCC and non-CO<sub>2</sub> emission reductions are of a similar scale to those in pathways achieving a 1.5 degrees goal. In either case, the pace, scale and extent of global transformation is extremely demanding as we enter the “decade for delivery”.

There is an urgent need to not only scale up the dissemination and deployment of zero or near-zero-emitting technologies and businesses, but also to support emission reduction and sequestration efforts in high-emitting and hard-to-abate sectors (Hervé P. Duteil, 2019<sup>[2]</sup>). While much attention has been paid to channelling greater capital towards technologies and economic activities that are demonstrably low-carbon, the bulk of economic activity across the globe today is high-carbon.

Transforming economies with differing endowments and structures to meet this global net-zero requirement is a complex undertaking, in which countries are acting on different timescales. In each country, the transition must occur in the real economy (at country, sectoral and corporate level) as well as the financial system (from central banks to investors, commercial banks and retail investors). The low-carbon transition in each country however, will be a function of its unique domestic context, priorities and capabilities (METI, 2020<sup>[3]</sup>; Green Finance Industry Taskforce, 2021<sup>[4]</sup>). Differing socio-economic circumstances, resource endowment, priorities, visions for post 2050 economic structure, social and political acceptability, particularly in terms of what constitutes a just transition, will all influence long-term goals and the nature of the transition in different countries. These differences concretely translate to some economic activities and technologies being further deployed or retained in certain jurisdictions while being phased out or stranded in others.

As momentum behind sustainable finance taxonomies increases in anticipation of future policy or regulatory changes, many governments and market participants have cautioned against

focusing exclusively on demonstrably low-emission activities (e.g. renewables) and excluding others (e.g. heavy industry) that though emissions-intensive, are key components of future economic development plans in certain countries and regions (METI, 2020<sup>[3]</sup>). Increasing attention is focusing on the need to provide greater capital to enable such high-emitting activities progressively shift or transition to lower emissions. With the urgency of progressing towards a green economy becoming clearer, some argue that an understanding of sustainable finance that qualifies only zero or near zero emission technologies and businesses could preclude large swaths of the current economy from capital markets.

There are a number of economic activities that although currently high-emission, are nevertheless needed for future development. For instance, activities such as chemicals, cement and steel manufacturing will continue to be critical inputs for economic development. While R&D efforts are underway to develop low-carbon alternatives to incumbent high-carbon processes, such technologies are currently not viable for large-scale deployment (Financial Times, 2021<sup>[5]</sup>). Nonetheless, for countries to successfully decarbonise and deliver the Paris Agreement, it is crucial for such high-emitting sectors to reduce emissions to the best extent possible. In approaches proposed to date, transition finance is intended to provide the capital needed to facilitate progressive emission reduction by corporates in high-emitting sectors to align them better with climate objectives.

### Box 1. Transition finance and climate alignment of finance: intertwined concepts

The Paris Agreement has at its core the long-term goal of “holding the increase in the global average temperature to well-below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels” (Article 2.1a). It further acknowledges the dependency of this temperature goal to “Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development” (Article 2.1c), a formulation which contributed to the development of the concept of Paris Agreement alignment (or misalignment) used in the financial sector (banks, institutional investors), businesses, and public institutions (development banks, public budgets).

The notions of alignment not only relate to scaling up finance for low-GHG activities but very much as well, as discussed in the body of this paper, to financing the transition of high-GHG and hard to abate sectors towards either low GHG technologies and processes or, in case of a complete phase out, to alternative business models and economic systems. At a global level, as summarised by the IPCC, multiple GHG pathways may be consistent with the Paris Agreement temperature goal, each, however, based on a different set of underlying assumptions (with multiple possible approaches in different countries). Such assumptions notably include the respective contributions of different economic sectors and geographical areas (countries or regions) over time to the global GHG reduction effort.

For economic sectors, the availability of technical solutions is one of the critical element determining the scale and speed of the transition towards low-GHG solutions. For countries, differences in national circumstances are at the heart of the UNFCCC principle of common but differentiated responsibilities and respective capabilities. The latter implies different scale and speed of GHG reduction ambitions across jurisdictions, as illustrated by Nationally Determined Contributions (NDCs).

From both a sectoral and national perspective, the availability of finance is critical in order to invest in solutions that will enable and accelerate the transition to GHG pathways, which, when added up, are consistent and aligned with the Paris Agreement temperature goal. With this in mind, it is critical that investors and providers of financing can rely on robust definitions and methodologies to identify climate aligned, misaligned and transition activities within their existing portfolios and when assessing new transaction opportunities. In turn, accurate information produced by the financial sector itself is critical to inform aggregate assessments of the consistency or inconsistency of finance with climate policy goals at domestic and international levels, which the OECD is contributing to via work conducted under the Research Collaborative on Tracking Finance for Climate Action (see for instance (Jachnik and Dobrinevski, 2021<sup>[6]</sup>)).

Source: <https://www.ipcc.ch/sr15/chapter/spm> , <https://dx.doi.org/10.1787/8eccb72a-en>.

## Stocktaking Emerging Approaches and Instruments

The concept of transition finance is quickly gaining currency and is reflected in recent and proposed sustainable finance taxonomies, principles and guidance as well as financial instruments. Given the scale and pace of emission reduction needed to achieve global climate and environmental objectives, it is crucial to ensure that a proliferation of approaches does not result in inconsistencies and a lack of transparency and comparability. Minimising divergences and coalescing around a common understanding of the purpose and function of transition finance, from this initial stage, would help ensure that transition financing delivers the intended impact and that global efforts in this direction are optimised.

This paper is first in a series of deliverables under the OECD Project *Low-Emission Transition Finance: Emerging Approaches, Needs and Ways Forward*.<sup>1</sup> It presents results from a review of transition finance related taxonomies, guidance and principles (normative/standard-related approaches) proposed and under discussion by governments and market participants. This is complemented by a review of relevant financial products and instruments observed to date. This paper covers financial instruments that are explicitly labelled, marketed or, based on literature review, generally believed to provide transition financing (see chapter 3 for details).

The stocktake aims to understand the core characteristics and additionality of transition finance. This paper does not attempt to define transition finance, but rather review emerging approaches and instruments to highlight commonalities, divergences as well as considerations to help ensure coherent market development and progress towards global environmental objectives. Findings are contextualised, where relevant, with literature review and evidence from financial markets. Based on the findings, the paper provides initial views on the purpose and function of transition finance.

Best efforts have been made to cover all known approaches and financial instruments as of May 2021. Normative approaches currently under development but not published are excluded from this stocktake. These include, but are not limited to, proposals to develop a taxonomy in Indonesia, ASEAN and the United Kingdom, industry-led transition finance taxonomy in Canada and initiative by the Global Financial Markets Association (GFMCA).

In the approaches reviewed, transition finance is intended for economic activities that are emissions-intensive, do not have a viable green substitute but are important for socio-economic development. The industries targeted for transition financing in any country will typically be a function of their contribution to total economic activity and share of total emissions. In the case of some such industries, a green alternative is currently either unavailable or not ready for mass-market adoption. For those where a greener technological alternative is available, in certain jurisdictions technology costs and financing constraints might render domestic implementation unviable. Beyond advancing climate and environmental objectives, the question of whether the viability of a green alternative should be assessed based on cost competitiveness, technological feasibility or a balance between the two, merits active consideration.

The principal focus of transition finance is emission reduction, though other themes like resource efficiency, resilience and just transition are included in some of the normative approaches reviewed here. Some approaches stipulate social safeguards, explicitly requiring the financed project/activity to prevent any negative social consequences (EU, Singapore, AXA IM, ICMA). The Malaysian taxonomy, the Russian taxonomies, the taxonomy proposal in Singapore and the guidelines by AXA IM all contain provisions similar to the 'Do No Significant Harm' (DNSH) criteria of the EU taxonomy.

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<sup>1</sup> Other deliverables include working discussions and roundtable(s) with key public and private stakeholders to build consensus and develop high-level guidance. The project builds on the OECD's recent report on *Developing Sustainable Finance Definitions and Taxonomies* published in October 2020 and the OECD Workshop on *Climate Change: Assumptions, Uncertainties and Surprises* held from 3-4 September 2020. The project seeks to complement the efforts around standardisation and harmonisation underway by other actors like the IFRS, IOSCO, BIS, NGFS etc.

The review suggests that there is little consensus regarding the justification or need to create a separate label, with diverging positions among the normative approaches and the financial instruments studied. This is in line with market sentiment, some investors view transition securities as a separate segment (advocating for a separate label) while others caution that a proliferation of labels adds confusion (advocating against one) (Environmental Finance, 2021<sup>[7]</sup>).

Transition finance shifts attention from the use-of-proceeds format seen in other labelled products (e.g. green bonds, social bonds) to general-purpose finance. Though the normative approaches reviewed qualify both use-of-proceeds and general-purpose applications, all transition finance related instruments observed to date were issued to raise capital for general corporate use.

Three core eligibility criteria to borrow transition finance can be distilled from existing approaches: substitutability (absence of a zero or near-zero alternative); a commitment to a low-carbon transition trajectory; and avoiding unwanted path dependency (preventing the implementation of green alternatives available in the future) (see chapter 2 for more details).

All financial instruments studied provide that the issuer must demonstrate some form of commitment to a decarbonisation trajectory typically aligned with the desired end temperature goal of the Paris Agreement. However, with the exception of the recently issued “Basic Guidelines for Climate Transition Finance” by Japan, there is little guidance and precision regarding the specifics of such a trajectory as well as the manner of demonstrating commitment that would be deemed sufficient compliance. In this respect, the following questions merit further consideration by stakeholders:

- Which trajectories/pathways provide an appropriate benchmark against which transition activities and plans can (should) be measured?
- How do macro-level transition pathways translate to credible trajectories at the issuer level<sup>2</sup>, particularly for those operating in several jurisdictions that may be subject to different climate commitments?

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<sup>2</sup> Two important considerations here are (i) balancing the confidentiality of investment plans with adequate disclosure and (ii) how corporate trajectories, once set, evolve in step with changing understanding of ‘transition’.



- Which investments and expenses (for instance, working capital, forms of capital expenditure, acquisition,<sup>3</sup> decommissioning,<sup>4</sup> R&D,<sup>5</sup> divestment,<sup>6</sup> purchasing offsets,<sup>7</sup> refinancing<sup>8</sup>) are acceptable to comply with the issuer's transition trajectory?

While most approaches reviewed focus almost exclusively on emission reduction, decarbonisation of economies also will have important societal implications (domestically and across countries). Transition pathways/strategies must factor in their distributional effects as well as unintended consequences in the context of the economic system taken as a whole. Accounting for societal inequities and taking a systemic view in the planning process can foster a just and synergistic low-carbon transition.

Most approaches studied do not delineate specific technologies or sectors as 'transition eligible'. While some use examples to illustrate, most do not articulate a list of 'transition' technologies and sectors or technical criteria. Table 2 provides examples of use cases where available. Some common use cases across all approaches include enhancing energy efficiency in buildings and existing facilities, low-carbonising carbon-intensive manufacturing like steel, aluminium and cement, and increasing alternative fuels in shipping and aviation. Divergences include, for instance, improving energy efficiency in thermal power plants (part of the Russian Green taxonomy but no other approaches).

The stocktake shows transition finance instruments are presently structured as either vanilla bonds or KPI-linked (key performance indicator-linked) fixed income instruments (e.g. sustainability-linked bond, sustainability-linked loan revolving credit facility). The majority of the financial instruments observed involve a penalty mechanism that is triggered if the issuer fails to fulfil its sustainability commitment (typically emission reduction targets). In most instances, an issuer premium is observed. However, literature review suggests, this premium is more likely a consequence of market exuberance (oversubscription) than a systematic pricing of transition risk as part of credit risk. Initial analysis shows that this premium erodes in the secondary market suggesting at least a partial correction in the pricing of credit risk. This trend is consistent with that observed in the green bond market although transition instruments by their design could be expected to better encourage an evaluation of (reduced) transition risk. Further work is needed to encourage even pricing of transition risk across assets to prevent mispricing and arbitrage (see chapter 2 for details).

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<sup>3</sup> Explicitly included in the EU taxonomy, Malaysian taxonomy, handbook by ICMA and CBI report. Other approaches are silent on the treatment of acquisition as an acceptable use of finance raised.

<sup>4</sup> Explicitly included in the handbook by ICMA and CBI report. Other approaches are silent on the treatment of decommissioning as an acceptable use of capital raised.

<sup>5</sup> Of the approaches studied, R&D is explicitly mentioned in the principles by Japanese METI and handbook by ICMA.

<sup>6</sup> Explicitly included in the handbook by ICMA. Explicitly excluded by the CBI report. Other approaches are silent on the treatment of divestment as an acceptable use of capital raised.

<sup>7</sup> Explicitly excluded by the CBI report. Others approaches are silent on the treatment of offsets.

<sup>8</sup> Explicitly included in the Russian taxonomy, guidelines by AXA IM and the framework by EBRD. Other approaches are silent on the treatment of refinancing as an acceptable use of finance raised.

A review of transition instruments and criticism levelled against some of them reveals a tension between aligning with domestic climate policies and objectives, and being consistent with the ambition and actions required to deliver international climate commitments (see Box 4).

### Articulating the Core Concept

Based on this stocktake, the paper finds that transition finance may be understood as focused on **acknowledging and aiding the process of becoming green** as opposed to being green. By doing so, it aims to bring high-carbon, economically relevant sectors into the fold of sustainable finance and enable a whole of economy approach to the low-carbon transition. The key is whether the finance raised is used to fund green or *greener*.

This paper provides a preliminary view, that the essence of transition finance is triggering entity-wide change to reduce exposure to transition risk. With its focus on **devising a corporate transition trajectory, general-purpose application and embedded incentive mechanisms<sup>9</sup> (collateral/penalty clauses and covenants)**, transition finance can facilitate entity-wide reduction in emissions and business transformation, including funding R&D efforts, to remain competitive in a low-carbon economy. These efforts could translate to lower cost of capital for issuers actively managing their transition.

A corporate strategy and investment plan (funded by transition financing) to reduce emissions, indicates **progressively decreasing future exposure to transition risk engendered by tightening climate regulation. Reducing future monetary costs due to climate policies** (transition risk), **improves creditworthiness which in turn lowers current discount rate** for the issuer (everything else being constant). In other words, any corporate undertaking active measures to reduce its emissions in anticipation of future costs (e.g. carbon price, reduced market share due to regulatory costs or shifting consumer preference etc.) would have a more stable revenue projection and lower credit risk (all else being constant). **For corporates, therefore, transition instruments could be a means to manage risk, lower cost of capital and become future ready.** It is critical to note that the expectation, adoption and implementation of strong climate policies is a pre-requisite to incentivise corporate transition and the management of transition risk (as transition risk stems from actual or anticipated policy changes). Future policies may internalise negative externalities beyond emission reduction for instance, biodiversity loss, adaptation or social effects thereby broadening the remit of transition and transition risk. **From a policy standpoint, transition finance could be an effective means to drive progress towards sustainability objectives.**

Based on the normative approaches and instruments analysed, this paper further posits that transition finance may not be limited to a particular financial product or structure. In this view,

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<sup>9</sup> It is important to note that in certain cases, coupon/interest rate step-ups could trigger solvency issues and may compromise the financial health of the borrower/issuer. While a penalty mechanism may be essential to incentivise compliance and ensure progress, the structure and form of such clauses must factor in potential implications on financial stability, transition objectives as well as the well-being of workers. Such considerations merit further investigation and analysis in parallel with innovation in transition instruments.

transition finance could be seen as a risk management tool and a means to improve pricing of transition risk. Transition financing can drive emission reduction thereby reducing exposure to transition risk. It is this function (the ability of an instrument to drive emission reduction, improving credit risk and potentially lowering cost of capital), rather than the label or format that is relevant in identifying whether an instrument extends transition finance

General-corporate application and covenants may be used in any suitable format (bond, loan, revolving credit facility, structured products etc.) to incentivise corporate action and reduce commensurate risk. To the extent that such instruments help immunise the issuer against future policy costs and reduce exposure to transition risk (emissions-related or beyond) they drive down cost of capital (all else being constant) and may be regarded as providing 'transition finance'. **Transition finance, this paper proposes, may be better understood as capital market instruments with a set of core functions/attributes rather than a specific label.**

## 2. Emerging taxonomies, guidance and principles

This chapter reviews 12 taxonomies, guidance and principles proposed by governments (6), industry associations (1), investors/financiers (2), think tanks (2) and international financial institutions (1) to identify their principal characteristics. Together they are referred to in this paper as normative approaches. The chapter begins with a synthesis of the review followed by a comparison of boundary conditions (eligibility requirements) and core elements of transition finance identified in each approach. This is followed by summary analysis of each.

Normative (i.e. standards-related) approaches studied in this paper range from more prescriptive approaches like taxonomies, to less prescriptive ones like guidance and principles. The frameworks reviewed include those proposed or under discussion by governments as well as market participants like industry associations and investors. While some documents are specific to transition finance such as the principles put forth by Japan, others embed or clearly delineate the transition concept within broader green finance frameworks, like the taxonomies proposed by Malaysia and Singapore.

Tables 1 and 2 compare the various documents to identify and analyse boundary conditions and core elements of transition finance. All approaches reviewed stipulate certain prerequisites to borrow transition finance. These broadly include specific conditions regarding the issuer and requirements around the application of proceeds. Boundary conditions are outlined in Table 1 and can be distilled into three core eligibility criteria:

- **Substitutability:** The sector (of the issuer or asset) must not have a credible de-carbonisation pathway or viable green alternative.<sup>10</sup>
- **Demonstrable commitment to a trajectory:** Capital raised must be used to fund solutions/investment/expenditures needed to lower emissions in step with a predefined low-carbonisation trajectory<sup>11</sup> contributing to long-term climate goals.
- **Avoiding unwanted path dependency:** The solutions/projects implemented must not lock-in long-term emissions. In other words, should a green alternative become viable in the future,

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<sup>10</sup> In this context, green connotes zero or near-zero emissions.

<sup>11</sup> The extent of emission reduction deemed sufficient depends upon the targets and timeframe of the trajectory. The trajectory may comprise interim emission reduction targets (See box 1) that may be used to monitor progress and compliance. The design of the trajectory is typically guided by the long-term climate goal the issuer aligns with.

its implementation must not be prevented by the intervention funded through transition financing.

**The review suggests that transition finance primarily focuses on emission reduction.** Central to borrowing transition financing is committing to a low-carbon trajectory. This commitment must be clearly demonstrable, verifiable and typically align with the Paris Agreement (see Table 2). There, however, appears to be a divergence among transition finance approaches around the **extent to which alignment with Nationally Determined Contributions (NDCs) is deemed sufficient to demonstrate alignment with the Paris Agreement.**<sup>12</sup> While discussions around what constitutes a credible transition pathway is beyond the remit of this stocktake, the issue of accommodating geographical variances is key (see Box 1 and Box 4 for more details).

The low-carbon transition in each country will be a function of its domestic economic structure, long-term emissions targets, envisaged economic composition post 2050, priorities and capabilities (METI, 2020<sup>[3]</sup>; Green Finance Industry Taskforce, 2021<sup>[4]</sup>). Principal target sectors for transition financing in each country will hence be determined based on their economic relevance and emission contribution. Differences in climate objectives and associated low-carbon trajectories in different countries has important implications for capital allocation, particularly by sustainability-minded investors with portfolios spread over multiple jurisdictions, seeking to implement a coherent low-carbon investment strategy.<sup>13</sup> A further challenge that follows from macro-level questions about suitable emission reduction pathways is translating them credibly at the corporate/entity level. Box 1 below provides some illustrations from the stocktake. The challenge is compounded for corporates operating in multiple jurisdictions with differing objectives and transition pathways.

The stocktake shows that transition finance may be borrowed to fund a particular asset or the operating and capital expenditures (OPEX and CAPEX) of the issuer. The **OPEX, CAPEX and assets financed should advance specific targets of the issuer's transition strategy**<sup>14</sup> and must cohere with the issuer's long-term pathway to reduce GHG emissions and transition to more sustainable business operations. In other words, transition financing is not intended to fund one-off transactions but rather to channel funding to investments that facilitate a larger entity-

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<sup>12</sup> While most normative documents and instruments focus on emission reduction in the context of transition finance, it is important to note the distinction between 'aligning with the Paris Agreement' and 'aligning with the temperature goal of the Paris Agreement'. Alignment with the Paris Agreement goes beyond GHG reduction to include climate-resilient development (UNFCCC, 2015<sup>[97]</sup>; Institut Louis Bachelier, 2020<sup>[98]</sup>). The understanding of transition finance could be extended to include objectives beyond emission reduction should policies internalise externalities beyond GHG emissions (transition risk).

<sup>13</sup> More and more investors are seeking to make their portfolios consistent with climate and development objectives. This results from a variety of factors from risk management to recognising opportunities and rising demand from end beneficiaries/ constituents (e.g. pension holders). For investors with assets spread across multiple geographies, assets claiming alignment with national climate goals in countries with varying levels of ambition may present a challenge in terms of the overall temperature alignment of the portfolio.

<sup>14</sup> Examples include specifying what kinds of investments/expenditures the issuer will undertake using the capital raised and how they contribute to the achievement of interim and final targets set via the transition trajectory. See the column 'details' in Table 3 for more examples.

level change. Both use of proceeds and general corporate formats are accepted applications of transition capital. Part of the capital raised may also be used to refinance existing debt (see the section on financial instruments for details).

All approaches reviewed seek to augment capital flows to help entities in high-emitting, carbon-intensive sectors progressively lower emissions; however, **not all propose to establish a separate ‘transition’ label**. The remaining portion of this chapter provides a detailed review of the taxonomies, principles and guidance studied for this paper.

## Box 2. Developing corporate transition strategies – Illustrations from the Stocktake

### *Odfjell (Shipping- Norway)*

Odfjell is a Norwegian company that provides maritime freight services and storage of chemicals and speciality bulk liquids. In December 2020, the company published its sustainability-linked finance framework as a basis to issue sustainability-linked bonds. The framework outlines Odfjell’s emission reduction targets and transition trajectory. Odfjell has committed to reducing the carbon intensity of its fleet by 50% by 2030 (compared to 2008) and to having a carbon-neutral fleet from 2050. Targets are operationalised in a fleet transition plan. To measure carbon intensity, Odfjell uses the average efficiency ratio (AER) (industry standard). The AER for target emission intensity in 2030 has been computed and set as the endpoint of a linear transition trajectory. For each year from 2020-2030, interim target AERs have been set based on the rate and modalities to reduce carbon intensity required to meet 2030 targets. Odfjell will use technical and operational improvements as the primary means to reduce intensity up to 2025. From 2025, the strategy will pivot towards phasing in vessels using alternative fuels (based on both existing and new alternative propulsion technology).

The company’s targets use the emission reduction targets of the International Maritime Organisation as an external benchmark. Odfjell’s targets and its trajectory have been verified by DNV.GL in a second party opinion (SPO).

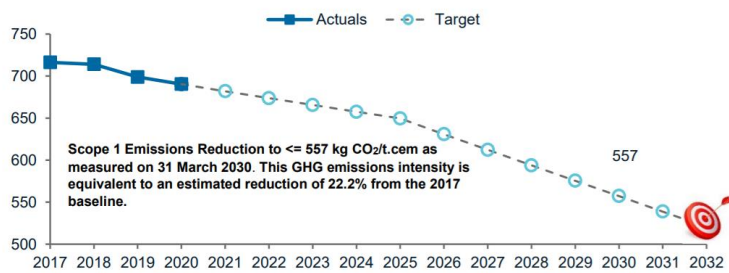
#### The SPT Trajectory

Year	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
AER	8,56	8,35	8,30	8,20	8,16	7,68	7,06	6,53	6,30	6,17	5,89

### *UltraTech Cement (Cement manufacturing – India)*

UltraTech Cement is an Indian cement manufacturer. The company put in place a sustainability-linked financing framework that sets out its emission reduction targets and trajectory. UltraTech has set a target of reducing its Scope 1 emissions intensity to 557 kg CO<sub>2</sub> per ton of cementitious material produced by March 2030 (22.2% reduction compared to 2017 baseline). The emission reduction trajectory has been devised using annual interim targets, setting a glide path towards the 2030 goal. The company has not set a linear transition trajectory- the pace of emission reduction is envisaged to accelerate from 2025 based on carbon capture and utilisation (CCU). Other measures to reduce intensity include enhancing energy efficiency, improving product chemistry and increasing alternative fuel consumption.

UltraTech’s target and trajectory has been verified by ISS ESG in an SPO and certified by the Science Based Targets Initiative (SBTi) as consistent with reductions needed to keep warming to well-below 2 degrees. The company’s trajectory is benchmarked to the Beyond 2°C Scenario (B2DS) developed by the International Energy Agency (IEA).



Source: UltraTech as of January 2021

### ***Etihad Airways (Aviation- United Arab Emirates)***

Etihad Airways is one of the flag carriers of the United Arab Emirates. In 2019, Etihad set a target to reach net-zero by 2050 and reduce emissions by 50% by 2035 (compared to 2019 levels). Etihad's long and medium-term targets are in line with those set by the International Air Transport Association (IATA). The company has put in place a transition finance framework to issue sustainability-linked securities. Under the framework, Etihad has committed to reduce the emissions intensity of its passenger fleet by 20% by 2025 (2017 baseline). Measured as emissions per revenue tonne kilometres (gCO<sub>2</sub>/RTK), this translates to an interim target of 574 total gCO<sub>2</sub>/RTK in 2024 and final target of 559 total fleet gCO<sub>2</sub>/RTK in 2025, which are both consistent with the International Pledges Scenario of the Transition Pathways Initiative. The framework outlines three primary means to achieve targets: enhancing operational efficiency, use of sustainable aviation fuels and purchase of voluntary carbon-offsets in case targets are missed (the calculation of targets does not include offsets). Etihad's targets and framework have been verified by Vigeo Eiris in an SPO and are considered robust and more ambitious than the IATA trajectory.

#### **Source:**

<https://d3grzk40ejrt1i.cloudfront.net/1610004396/odfjell-se-sustainability-linked-finance-framework-21-dec-2020.pdf>,

<https://d3grzk40ejrt1i.cloudfront.net/1610004401/odfjell-sustainability-linked-bond-dnv-gl-2nd-party-opinion-pre-issuance-dated-21-december-2020.pdf>,

<https://www.isscorporatesolutions.com/file/documents/spo/spo-ultratech-20210203.pdf>,

<https://sciencebasedtargets.org/companies-taking-action#table>,

[https://vigeo-eiris.com/wp-content/uploads/2020/11/20201020\\_SLB\\_SPO\\_Etihad\\_VF.pdf](https://vigeo-eiris.com/wp-content/uploads/2020/11/20201020_SLB_SPO_Etihad_VF.pdf),

[https://www.etihadaviationgroup.com/content/dam/eaq/corporate/etihadaviation/en-ae/desktop2/pdfs/Sustainability\\_Position\\_Paper.pdf](https://www.etihadaviationgroup.com/content/dam/eaq/corporate/etihadaviation/en-ae/desktop2/pdfs/Sustainability_Position_Paper.pdf).

Table 1. Eligibility Criteria for Transition Financing

Actor	Instrument	Boundary Conditions to take-out Transition Finance			
<b>Government /Country</b>					
Japan	<a href="#">Concept Paper</a>	De-carbonisation is technologically or economically “insoluble” in the foreseeable future	Transition towards Paris Agreement and the reduction target of each country based on the Paris Agreement.		
	<a href="#">Basic Guidelines on Climate Transition Finance</a>	Borrower must articulate a transition strategy with science-based targets.	Fulfil disclosure requirements as per the ICMA Transition Finance Handbook as well as Green, Social, Sustainability or Sustainability-Linked Bond principles as the case may be.		
Malaysia*	<a href="#">Principles Based Taxonomy</a>	Business must have a demonstrated commitment and willingness to transition to sustainable operations.			
European Union**	Taxonomy	No technologically or economically viable green alternative is available.	Activities must show they can enhance their performance beyond industry standard.	Activities avoid lock-in of emission intensive assets or processes.	Activities must not hamper the future deployment of green alternatives.
Russia***	Taxonomy	Project being implemented must contribute to the Paris Agreement or one of the SDGs specified in the taxonomy (SDGs 6,7,8,9,11,12,13,14 or 15).	Project must contribute to one of the following (i) environmental improvement, (ii) pollution reduction, (iii) GHG emission reduction, or (iv) energy or resource efficiency.	Project must be included in the Taxonomy and meet the qualitative and/or quantitative criteria prescribed.	
Singapore*	<a href="#">Discussion Paper on Taxonomy</a>	Activity must not have a green alternative	Borrower must demonstrate commitment to implementing green technology if it exists or decarbonising to contribute to the environmental objectives of the taxonomy.		
<b>Market Participants</b>					
DBS	<a href="#">Sustainable and Transition Finance Framework and Taxonomy</a>	The asset must displace more carbon intensive options in alignment with the trajectory of the Paris Agreement while following the guidance of the IEA Sustainable Development Scenario (SDS) <sup>15</sup> .	The borrower must exhibit one of the following in the previous 12 months: 1. Divestment from carbon-intensive activities, 2. Diversification from carbon-intensive activities by either acquiring a green or socially positive business or		

<sup>15</sup> The IEA SDS holds the temperature rise to below 1.8 °C with a 66% probability without reliance on global net-negative CO2 emissions. Global CO2 emissions from the energy sector and industrial processes fall from 35.8 billion tonnes in 2019 to less than 10 billion tonnes by 2050 and are on track to net zero emissions by 2070. See details at: <https://www.iea.org/reports/world-energy-model/sustainable-development-scenario>



			through R&D, or 3. Decarbonised by demonstrating a reduction in emissions intensity beyond national or regional industry average.			
AXA IM	<a href="#">Guidance</a>	Projects must be within pre-specified climate transition activities.	Borrower must have a clear climate-transition strategy. The management must make a commitment to align business operations with the goals of the Paris Agreement.			
ICMA	<a href="#">Guidance</a>	Borrower should have a long-term corporate strategy to manage climate-related risks and transform the business model to align it with the objectives of the Paris Agreement.	Transition financing must be sought for and applied to transform core business operations. The transition must be central to the future business success.	Transition trajectory must be science-based, quantifiable, include interim targets and be independently vetted and verified.	Planned capital and operational expenditures to support the transition strategy must be communicated along with their intended climate-related impact.	
<b>Think Tanks</b>						
Climate Bonds Initiative	<a href="#">White Paper</a>	All goals and pathway pursued by the project/entity must align with zero carbon by 2050 and nearly halve emissions by 2030.	All goals and pathway pursued by the project/entity must be based on global scenarios developed and supported by scientific evidence to ensure global harmonisation at the sectoral and industry levels.	Credible transition goals and pathways do not count offsets, but should count upstream scope 3 emissions.	Technological viability trumps economic competitiveness. Pathways must include an assessment of current and expected technologies.	A credible transition is backed by operating metrics rather than a commitment/pledge to follow a transition pathway at some point in the future.
Research Institute for Environmental Finance (REIF) Japan	Guidance on Transition Finance	Borrower must be within a high-emitting sector and be overall carbon-intensive.	Asset/technology financed must not lock-in long-term emissions or negative effects on the environment.	Asset(s) or corporations must be eligible under the brown taxonomy provided in the guidance		
<b>International Financial Institutions</b>						
EBRD	<a href="#">Green Transition Bond Framework</a>	Asset must sit within the climate-governance strategy of the implementing company.	Asset must contribute to the national objectives under the Paris Agreement of the country wherein it is located.	Finance must be used towards one or more of the following (i) energy efficiency, (ii) resource efficiency, and (iii) sustainable infrastructure	The decarbonisation or resource efficiency performance targeted by the project must exceed industry average	

**Note:** Please see summary reviews of each document below for further details.

\* Documents not specific to transition finance. These wider green/sustainable finance frameworks include transition activities and finance alongside green. Boundary conditions specific to transition activities have been highlighted in the table.

\*\* Only details specific to transition activities within the EU taxonomy have been captured.

\*\*\* The Russian taxonomy does not explicitly mention or distinguish transition activities. However, it is split into two parts (a Taxonomy for Green Projects and a Taxonomy for Adaptation Projects), both taxonomies include projects in line with the general understanding of transition activities. Please see the review of the taxonomies further below for more details.

**Source:** (METI, 2020<sup>[3]</sup>; Bank Negara Malaysia, 2019<sup>[8]</sup>; VEB.RF, 2020<sup>[9]</sup>; Green Finance Industry Taskforce, 2021<sup>[4]</sup>; DBS, 2020<sup>[10]</sup>; Takatsuki and Foll, 2019<sup>[11]</sup>; ICMA, 2020<sup>[12]</sup>; Climate Bonds Initiative, 2020<sup>[13]</sup>; REIF Japan, 2020<sup>[14]</sup>)

Table 2. Core Elements of the Normative Documents Reviewed

Actor	Instrument	Borrower/Application of Proceeds				Type of Finance		Focus	Pathway to align with	Technical/Disclosure Standards	Separate Label	Use Cases
		Asset Level	Asset Specific Conditions	Entity Level	Entity Specific Conditions	Use of Proceeds	General Purpose					
Government/Country												
Japan	<a href="#">Concept Paper</a>	✓	Project (capital investment) that either itself achieves/ implements the level of best performance in lowering GHG emissions as per a reputable global or regional standard for such industry/sector or creates projects that attain such performance.	✓	Entity that is proactively pursuing the transition and has a mid-term target to transition towards the Paris Agreement and the reduction target of each country based on the Paris Agreement.	✓	✓	Emission reduction	Paris Accord and NDCs	No	Yes	1. Entities working on R&D, 2. Investment towards a BAT (Best Available Technology) project, 3. Capital investment to significantly improve energy efficiency and decrease the CO <sub>2</sub> emissions of existing facilities, 4. Investment in a new business to decrease the CO <sub>2</sub> emissions of a whole supply chain or cities, 5. Production of highly efficient automobiles and projects related with its value chain and production of items regarded as “top-runner” in terms of efficiency.
		✓		✓	Entity must articulate a clear transition strategy with science-based interim targets and communicate how climate-related risks are managed. The entity must also establish an organisational structure to implement and monitor the transition plan and provide an	✓	✓	Emission reduction, Social (just transition)	Paris Agreement	Yes	Yes	

Malaysia*	<a href="#">Principles Based Taxonomy</a>	✓	Asset financed must be assessed within the context of the overall business and its impact to determine which activity category, as defined by the taxonomy, it falls within.	✓	investment plan. Economic activity by the entity directly or indirectly contributes to emission reduction and/or adaptation but causes significant harm to the environment.	✓	✓	Emission reduction, adaptation + DNSH	None stated explicitly but from the context of the document one may infer NDC under Paris Agreement.	No	No	1. Purchase of green technology equipment, 2. Purchase of factory certified as green building, 3. General working capital for an MSPO (Malaysian Sustainable Palm Oil) certified palm oil plantation.
European Union**	Taxonomy	✓		✓	Entity must meet sector specific emission threshold and supplementary conditions prescribed in the Taxonomy.		✓	Emission reduction + DNSH	Net zero economy by 2050	Yes	No	1. Manufacturing steel, iron, aluminium, cement provided prescribed emission thresholds and supplementary conditions are met, 2. Renovation of a building to enhance energy efficiency.
Russia***	<a href="#">Taxonomy</a>	✓			CAPEX or OPEX must be directly linked to implementing a sustainable project(s).	✓	✓	Environmental improvement, pollution reduction, GHG emission reduction, energy & resource efficiency, climate change adaptation	No alignment requirement is specified, but projects must either contribute to Paris Agreement or one of the SDGs stated in the taxonomy.	Yes	No	1. Increase in energy and thermal efficiency of existing buildings. 2. Increase in efficiency of electric and thermal power plants. 3. Production of green steel, aluminium and cement.

Singapore*	<a href="#">Discussion Paper on Taxonomy</a>	✓		✓	Entity must make a clear commitment to transition.	✓	✓	Emission reduction, adaptation, biodiversity preservation and resource resilience + DNSH		No	No	1. Auto manufacturer borrowing to transition to 100% production of electric vehicles by 2030.
<b>Market Participants</b>												
DBS	<a href="#">Sustainable and Transition Finance Framework and Taxonomy</a>	✓	Asset financed must displace more carbon intensive options in alignment with the trajectory of the Paris Agreement while following the guidance of the IEA Sustainable Development Scenario.	✓	Entity must exhibit one of the following in the previous 12 months: 1. Divestment from carbon-intensive activities, 2. Diversification from carbon-intensive activities by either acquiring a green or socially positive business or through R&D, or 3. Decarbonisation by demonstrating a reduction in emissions intensity beyond national or regional industry average.	✓	✓		Paris Agreement along with guidance of the IEA Sustainable Development Scenario.		Yes	1. Logistics and operations efficiency improvement: Fleet optimisation and route management (e.g., eliminating backhauls and consolidating loads), 2. Use of aircraft with electric engines or hydrogen fuel cell, 3. A substantial reduction in GHG emissions or energy saving because of upgrade or retrofit, or an upgrade in certification rating of at least one notch higher.
AXA IM	<a href="#">Guidance</a>	✓	Projects financed must sit within the corporate transition strategy and be essential to advance its		Entity must belong to a high-emitting sector and do not currently or for the near future			Emission reduction, Social + consider negative externalities	Paris Agreement		Yes	

			objectives.		have green assets to finance.							
ICMA	<a href="#">Guidance</a>	✓		✓		✓	✓	Emission reduction; Just Transition; Social considerations relevant to the climate-transition	Science-based scenario aligned with the temperature goal of the Paris Agreement.	No	No	
<b>Think Tanks</b>												
Climate Bonds Initiative	<a href="#">White Paper</a>	✓		✓		✓	✓	Emission reduction	1.5-degree sciences based scenario		Yes	1. Deep retrofits of residential properties, 2. Retrofit of shipping vessels to run on green ammonia, 3. Retrofits of airline fleets to operate with a maximum biofuel or synthetic fuel mix, 4. Installation of gas capture at a waste-to-energy plant treating only residual waste, 5. Switch from fossil fuel based plastics to compostable alternative to produce bottled mineral water.
Research Institute for Environmental Finance (REIF) Japan	Guidance on Transition Finance	✓	Asset must be eligible under the preliminary brown taxonomy and any supplementary detailed taxonomy developed in the future.	✓	Entity must be in a high-emitting sector and be overall carbon-intensive. Capital raised must be used to transition core business operations of the entity.	✓	✓	Emission reduction	None	No	Yes	1. CCS in coal fired power plants, 2. pipeline repairs to reduce methane leakages, 3. Switching ships and aircraft to alternative low-carbon fuels. 4. retrofitting buildings and houses to increase energy efficiency .

International Financial Institutions												
EBRD	<a href="#">Green Transition Bond Framework</a>	✓	At minimum 50% of the loan or investment must be used by the borrower towards transition of an asset or project (both new finance and refinance are eligible).	✓	Entity implementing the project must have targets that can be measured and monitored. The targets set by the company must reflect the measures needed to transition to a net-zero economy by 2050.	✓	✓	Emission reduction, Resource efficiency (circular economy)	Domestic objectives of the country under the Paris Agreement		Yes	1. Manufacturing (e.g. by decarbonising chemical, cement and/or steel production), 2. Food production (e.g. by reducing resource intensity and promoting sustainable land use), 3. Building construction and renovation (e.g. by improving resource efficiency).

**Note:** Please see summary reviews of each document below for further details.

\* Documents not specific to transition finance. These wider green/sustainable finance frameworks include transition activities and finance alongside green. The 'focus' of the approach highlighted in the table may go beyond what may be considered as transition activities. The documents do not distinguish the overall environmental objectives by type of activity (green, transition).

\*\* Only details specific to transition activities within the EU taxonomy have been captured.

\*\*\* The Russian taxonomy does not explicitly mention or distinguish transition activities. However, it is split into two parts (a Taxonomy for Green Projects and a Taxonomy for Adaptation Projects), both taxonomies include projects in line with the general understanding of transition activities. Please see the review of the taxonomies further below for more details.

**Source:** (METI, 2020<sup>[3]</sup>; Bank Negara Malaysia, 2019<sup>[8]</sup>; VEB.RF, 2020<sup>[9]</sup>; Green Finance Industry Taskforce, 2021<sup>[4]</sup>; DBS, 2020<sup>[10]</sup>; Takatsuki and Foll, 2019<sup>[11]</sup>; ICMA, 2020<sup>[12]</sup>; Climate Bonds Initiative, 2020<sup>[13]</sup>; REIF Japan, 2020<sup>[14]</sup>)

The following sections present a summary analysis of the taxonomies, principles and guidance reviewed for this stocktake, highlighting the core elements of transition finance as outlined in each normative approach.

## Governments

### Japan –Principles on Transition Finance (2020) and the Basic Guidelines on Climate Transition Finance (2021)

In March 2020, the study group on environmental innovation finance within the Ministry of Economy, Trade and Industry (METI) published a concept paper outlining its vision for global principles for transition finance (METI, 2020<sup>[3]</sup>). The concept note articulates the need for transition finance based on the following five observations:

- **Delivering the low-carbon transition requires focusing beyond ‘green’.** Substantial investment is needed to deliver the low-carbon transition. There needs to be a focus on facilitating investment in a wider range of areas (e.g. components, raw materials, service) that can contribute to the lowering of global emissions.
- **Global emission reduction needs ‘low-carbonising’ of all industries and sectors, including high-GHG emitters, globally in a coordinated and inclusive manner.** As services form increasingly higher shares of the GDP of some economies (leading to domestic decarbonisation), emissions are exported to other jurisdictions through higher demand for manufactured goods. For global emissions to drop, it is necessary to focus on ‘low-carbonising’ all industries and sectors worldwide in an inclusive way, not leaving out high GHG emitting sectors and industries i.e. “*industries and sectors for which de-carbonization is technologically or economically insoluble in the foreseeable future*”.
- **There is a need to reward and promote ambition and efforts to lower emission in high-emitting industries and sectors.** It is vital to direct finance towards high-emitting industries and sectors where proper measures are adopted and improvements are made towards lowering emissions.
- **Long-term research and development needs greater financial resources.** It is essential to finance long-term research and development (R&D) focusing on ‘low/de-carbonisation’.
- **Finance is needed to bring products and services with high environmental performance to the global market.** More funds are needed to accelerate emission reduction throughout the entire global value chain and the life cycle of products.

These five observations provide an insight into the priorities of Japanese policymakers. In their view, transition finance should cater to an underserved market comprising activities that are needed for economic growth but do not have technologically or economically viable decarbonisation solutions yet. The core objective is to reward and facilitate emission reduction to the extent possible. The note highlights the role of activities that directly or indirectly contribute

to the low-carbon transition including R&D of low-carbon solutions, and the need for transition finance to extend to these activities.

The concept note distinguishes between low-carbonisation and de-carbonisation. While green finance funds activities that are near zero from their very inception or can be made near zero by the financial intervention, **transition finance supports emission reduction that progressively aligns high-emitting activities with the emissions trajectory dictated by the temperature goal of the Paris Agreement.**<sup>16</sup>

An important aspect of the transition finance concept proposed by the Japanese METI is geographical variability. The note highlights that while green activities are green globally, transition activities are a function of their domestic context and emissions objectives. Hence, while questions around the definition of green are global in nature, questions around the definition of and boundaries for transition activities are context-specific and therefore domestic or regional in nature. This proposed approach would allow sustainable finance markets to become more responsive to specific domestic contexts.

In May 2021, the Japanese Financial Services Agency (FSA), METI and the Ministry of the Environment jointly published Basic Guidelines on Climate Transition Finance (FSA, METI, Ministry of the Environment Japan, 2021<sub>[15]</sub>). The guidelines complement the principles published by METI and seek to serve as the reference point for market participants on the issuance and use of transition finance while ensuring credibility of 'transition' labelled instruments. The guidelines are aligned with the ICMA Transition Finance Handbook (reviewed further below) and aim to accelerate capital flows to support emission reduction in hard-to-abate sectors.

The guidelines define transition finance as *“financing means to promote long-term, strategic GHG emissions reduction initiatives that are taken by a company considering to tackle climate change for the achievement of a decarbonized society”*.

Transition finance may be issued both in use of proceeds and general-purpose formats. All instruments (fixed-income) must fulfil the disclosure requirements of the ICMA Transition Finance Handbook to qualify as transition financing. Additionally, in case of use of proceeds format<sup>17</sup>, the issuance must meet the disclosure requirements of the [ICMA Green Bond Principles](#) (2018 update) or the [Green Bond Guidelines](#) issued by the Ministry of Environment (2020 update). Similarly, in addition to disclosing in line with the Handbook, instruments extending finance for general-purpose use must fulfil the disclosure requirements of the [ICMA Sustainability-Linked Bond Principles](#).

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<sup>16</sup> Paris aligned emission trajectory of each country varies depending on domestic targets and contribution to the Paris Accord. The METI concept note acknowledges this variation and emphasises this (NDCs) as the benchmark against which to measure emission reduction/ improvements of transition finance borrowers.

<sup>17</sup> Use-of proceeds instruments consistent with the [ICMA Social Bond Principles](#) and [Sustainability Bond Guidelines](#) and meeting the requirements of the Handbook may also qualify as transition finance.



Loans may be categorised as extending transition finance if they fulfil the disclosure obligations in the guidelines as well as those stipulated in the [Green Loan Principles](#) and the [Sustainability-Linked Loan Principles](#) issued by the Loan Market Association (LMA) or the [Green Loan and Sustainability-Linked Loan Guidelines](#) developed by the Ministry of the Environment.

As per the guidelines, issuers (fundraisers) must articulate a transition trajectory and assign targets aligned with the Paris Agreement. Sector specific decarbonisation roadmaps will be developed and published by the government as a frame of reference for companies. Transition strategies are a pre-condition to borrowing transition finance. The guidelines clarify that transition finance may be borrowed not only by entities<sup>18</sup> committing to transitioning their own operations, but also by entities that provide products and services that enable others to implement their transition plans (e.g. financial institutions).

**Transition pathways/trajectories must reference climate scenarios mentioned in the guidelines,<sup>19</sup> incorporate long-term goals consistent with the Paris Agreement, set science-based<sup>20</sup> interim targets<sup>21</sup> and disclose the drivers of change (decarbonisation) within the strategy.** Trajectories must aim to transform<sup>22</sup> the ‘environmentally material’<sup>23</sup> aspects of the business operation/model and clearly communicate how climate-related risks are managed. Environmentally material issues, the guidelines state, must be identified using scenario-analysis and existing guidance on materiality (e.g. SASB materiality map). Transition strategy development must be accompanied by the creation of an oversight structure comprising the board of directors or management personnel to ensure effective execution and compliance. Further, issuers may seek an independent verification (SPO) of their transition strategies. In case an SPO is sought, verification may focus on the alignment of the targets with the scenario, viability

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<sup>18</sup> Includes subsidiaries and group-level initiatives.

<sup>19</sup> Climate scenarios as per the guidelines include the ones listed the “[Task Force on Climate-related Financial Disclosures \(TCFD\) Technical Supplement](#)”, those in the “[Practical Guide for Scenario Analysis in line with TCFD Recommendations](#)” issued by the Ministry of the Environment, and [climate-scenario tools by the Principles for Responsible Investment \(PRI\)](#).

<sup>20</sup> Science-based targets according to the guidelines are GHG reduction targets needed to achieve the objective of the Paris Agreement and must be set accounting for differences among regions and industries. The guidelines suggests the following scenarios as reference in setting sciences-based targets: scenarios widely recognised internationally like the IEA SDS, IPCC RCP 2.6 and RCP 1.9, and TPI benchmarks; objectives verified by SBTi; and NDCs.

<sup>21</sup> Trajectory must comprise short, medium and long-term (2050) targets that are quantitatively measurable. GHG targets must consider environmental materiality and cover scopes 1, 2 and 3 (scope 3 included on a best-effort basis)

<sup>22</sup> Examples of business transformation provided in the guidelines include fuel conversion that achieves significant carbon and GHG reduction benefits, introduction of innovative technologies, improvement of or changes in manufacturing processes and products, and development and provision of products and services in new fields.

<sup>23</sup> Environmental materiality refers to the impact of business operations on the environment. While much attention has been paid to the financial impact/materiality of environmental issues/risks (e.g. SASB materiality map) greater clarity is needed on the consequences of financial and investment decisions on the environment as well as metrics that effectively capture and communicate such impact. Ongoing OECD project “*Towards Environmentally Impactful Investing: Metrics and Disclosure*” aims to identify the core environmental issues to be measured by corporates and investors and outline fit-for purpose metrics that can aid decision-making.

of the plan and targets, and the appropriateness of the management and governance processes pertaining the transition plan. Where applicable, transition strategies must consider any negative social consequences.

The guidelines further recommend that transition strategies be accompanied by an investment plan that details the OPEX and CAPEX. This includes detailing the investments in R&D, M&A, decommissioning and communicating their climate-related impact and outcomes as well as implications for promoting a 'just transition'.

### **Malaysia – Climate Change and Principle-based Taxonomy (draft taxonomy published for public consultation)**

In December 2019, Bank Negara Malaysia (Malaysia's central bank) released its climate change and principle-based taxonomy for public consultation (Bank Negara Malaysia, 2019<sup>[8]</sup>). The consultation period ended in August 2020 and the final taxonomy is expected in 2021.

Bank Negara recognises climate change as a systemic risk to financial stability. The principle-based taxonomy applies to all supervised institutions in Malaysia and aims to encourage awareness, capacity building, climate-risk management and greater financial flows towards low-carbon technologies and climate resilient development. The proposed taxonomy is based on the 'Value-based Intermediation Financing and Investment Impact Assessment Framework (VBIAF) Guidance Document 2019'– a Shariah compliant impact-based risk assessment framework, issued by Bank Negara, which serves as the reference point to develop ESG risk management practices in Malaysia.

The proposed taxonomy is structured around five guiding principles and accompanied by an activity level-classification system. Broadly, the taxonomy takes into account the following issues: (i) direct/indirect contribution of the financed entity or activity to climate mitigation and adaptation, (ii) unintended significant harm to the environment, (iii) demonstrated willingness (or not) to improve business practices and transition to more sustainable operations, and (iv) involvement in prohibited activities.

The activity-level classification system recognises six kinds of activities based on the permutations of the considerations above. In addition to activities that support substantial emission reduction and/or increase resilience while causing no significant harm to the environment, the classification system recognises a spectrum of activities including:

- Those that contribute to mitigation and/or adaptation with the overall business doing significant harm to the environment but *committing* to improve its practices;
- Those that contribute to mitigation and/or adaptation with the overall business doing significant harm to the environment *without committing* to improve its practices; and
- Those that neither contribute to mitigation or adaptation but the overall business commits to transition to sustainable practices.

These categories indicate the taxonomy's qualification and understanding of 'transition' activities. In addition to activities that are already green, the taxonomy recognises a range of mitigation- and resilience-facilitating activities needed for the holistic transition of the Malaysian economy. This broad spectrum of activities is intended to encourage supervised institutions (e.g. banks) to direct capital flows towards businesses at different points in their low-carbon transition. A qualifying business is one with a **demonstrated willingness to implement solutions to transition to more sustainable operations**. Both use of proceeds and general-purpose applications (OPEX and CAPEX) are eligible under the taxonomy. It must be noted that **general-purpose finance, including for working capital, qualifies under the taxonomy only if the borrower has demonstrated a willingness and commitment to the transition**, for instance by putting in place a policy or an action plan. The same applies to equity investment in a company whose operations otherwise harm the environment. In case of the latter however, debt finance in a use of proceeds format may be extended for a green project.

Under the taxonomy, eligible activities must not be assessed on a standalone basis; instead, they must be analysed in the context of the overall operations of the implementing business and its impact on the environment. It must be noted that the Malaysian taxonomy neither proposes a separate label nor explicitly advocates for alignment with any particular emission trajectory. However, from the context and rationale of the document, it may be assumed that for an activity to qualify as taxonomy compliant in Malaysia, it **must contribute to the achievement of national objectives under the Paris Agreement**. The Malaysian taxonomy does not proffer technical screening criteria or thresholds. Instead, the taxonomy leaves it to the supervised institutions to leverage third party verifiers or national, regional or global certification and standards to demonstrate compliance.

### European Union- Sustainable Finance Taxonomy

In March 2020, the EU Technical Expert Group on Sustainable Finance published the EU Sustainable Finance Taxonomy. The taxonomy will be implemented within the EU in a phased manner over the course of 2021 and 2022.<sup>24</sup> The emerging EU taxonomy covers low-carbon activities,<sup>25</sup> transition activities as well as enabling activities. The taxonomy prescribes strict thresholds and supplementary criteria that must be met by an activity to be deemed taxonomy compliant, including that the activity does no significant harm to other environmental objectives. The following paragraphs focus on the aspects of the taxonomy regarding transition activities. A detailed discussion of the EU Taxonomy can be found in (OECD, 2020<sub>[16]</sub>).

As per the EU taxonomy, transition activities are those that contribute to a transition to a net-zero emissions economy in 2050, but are not currently close to net-zero carbon emissions. To be assessed taxonomy compliant, **transition activities must not have a technologically or**

<sup>24</sup> The first delegated act on sustainable activities for climate change adaptation and mitigation objectives was published on 21 April 2021. The delegated act will be formally adopted by the EU Commission once it has been translated into all EU languages by the end of May 2021. A second delegated act for the remaining four objectives will be published in 2022.

<sup>25</sup> Activities that have very low, zero or net negative emissions and are compatible with a net-zero 2050 pathway. For instance, afforestation and renewables.

**economically feasible low-carbon alternative, must demonstrate that they can significantly enhance performance beyond the industry average without locking-in carbon intensive assets or processes** (OECD, 2020<sup>[16]</sup>; EY, 2020<sup>[17]</sup>). To be compliant with the taxonomy, emissions from a ‘transition activity’ must be below the corresponding threshold and meet any additional conditions prescribed (e.g. for aluminium and steel manufacturing). For hard-to-abate manufacturing sectors, the emissions threshold is set as the EU ETS sectoral benchmark. Transition activities also include improving energy efficiency of buildings through renovation, professional services or acquisition and management of an energy efficient building. Manufacturing of low-carbon technologies qualifies as a low-carbon activity. No emission thresholds are prescribed for such products/technologies as their mitigation benefits outweigh the emissions during the manufacturing process.

**The Taxonomy defines transition activities from a climate mitigation perspective without being specific to any sector.** Expanding the scope of the term to environmental objectives beyond mitigation would require a revision of the taxonomy regulation (Platform on Sustainable Finance, 2021<sup>[18]</sup>). The remit of transitional activities will be reviewed and updated every three years as per the current regulation.

In March 2021, the EU Domestic Platform on Sustainable Finance published its recommendations on calibrating the taxonomy to support transition finance within the EU (Platform on Sustainable Finance, 2021<sup>[18]</sup>). The report puts forth 19 recommendations under the following three headings:

- **Maximise current taxonomy:** the report outlines 11 recommendations under this theme including better communicating the role of the EU taxonomy in promoting transition finance, harmonising reporting obligations under the SFDR,<sup>26</sup> NFRD<sup>27</sup> and the forthcoming taxonomy regulation and ensuring companies disclose their transition strategies and related CAPEX while specifying how these align with the taxonomy. The platform suggests expanding ‘enabling activities’<sup>28</sup> (activities that facilitate decarbonisation of other activities e.g. wind turbine manufacturing) under the taxonomy to acknowledge the contribution of the entire supply chain of taxonomy-aligned activities and CAPEX pertaining to energy efficiency in manufacturing, agriculture and forestry. Further, to enable non-taxonomy-aligned corporates to access transition finance, the report recommends qualifying any CAPEX or OPEX undertaken to make progress towards sectoral technical screening criteria as taxonomy-aligned investments.<sup>29</sup>

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<sup>26</sup> Sustainability-Related Disclosures in the Financial Services Sector

<sup>27</sup> Non-Financial Reporting Directive

<sup>28</sup> The Taxonomy currently only recognises ‘directly enabling activities’. The platform suggests expanding the remit to include downstream activities that enable activities to align with the Taxonomy, e.g. distributors and financiers of taxonomy-aligned products.

<sup>29</sup> The platform is currently working on developing criteria for investment plans by companies performing activities that currently do not meet the substantial contribution criteria of the Taxonomy, but plan to undertake CAPEX to bring the environmental performance of such activities within the thresholds prescribed by the Taxonomy. Such CAPEX, the platform suggests, could be classified as Taxonomy-aligned. This is subject to the corporate setting and to the

- **Develop future taxonomy:** the report puts forth four proposals to evolve the current Taxonomy framework to encourage transition financing. These include (i) specifying activities that have no impact on the taxonomy's environmental objectives, (ii) specifying activities that cause significant harm to the taxonomy's environmental objectives so that market participants are aware of the performance levels to exclude, (iii) exploring means to support substantial improvements in performance of non-green activities such that they better contribute to (but not reach) the taxonomy's environmental goals, and (iv) identifying activities that enable cessation of activities that cause significant harm and cannot be improved (e.g. decommissioning or closure).
- **Use other policies and tools (non-taxonomy):** apart from the taxonomy, the platform recommends clarifying the linkages between financial product labelling and the taxonomy, including reporting obligations for financial instruments, establishing activity specific transition pathways based on the taxonomy criteria and allowing companies to use metrics other than taxonomy-aligned percentages to demonstrate compliance with their transition plans. In particular, the report recommends using the requirements of the Climate Transition Benchmark.<sup>30</sup>

The Report underlines the importance of ensuring that current and future taxonomy thresholds are consistent with science-based sectoral decarbonisation pathways. To encourage voluntary corporate reporting of transition trajectories in addition to reporting obligations under the taxonomy, the platform suggests creating safe-harbour provisions for forward-looking sustainability disclosures to avoid legal liability.

### **Russia- Taxonomies for Green and Adaptation Projects (to come into effect via Government decree by August 2021)**

In 2020, the Russian Development Bank VEB.RF published the draft Russian Green Finance Guidelines proposing a national taxonomy to stimulate private investment in green projects (VEB.RF, 2020<sup>[9]</sup>). The guidelines have been updated post public consultation and input from national and international experts. The forthcoming taxonomy framework in Russia comprises of two taxonomies: A taxonomy for green projects (VEB.RF, 2021<sup>[19]</sup>) outlining criteria for projects

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corporate following an investment plan that adheres to strict environmental criteria to prevent greenwashing. The platform refers to these as 'activity specific plans' and distinguishes them from 'corporate transition strategies' (voluntary disclosures by companies with no requirements of mandatory CAPEX KPI reporting).

<sup>30</sup> The Climate Transition Benchmark proposed by the EU Technical Expert Group on Sustainable Finance (EU TEG) must adhere to the following minimum standards: be aligned with IPCC 1.5. degrees scenario with no or limited overshoot, allocate to sectors highly exposed to climate change and its mitigation, achieve minimum 7% reduction in GHG intensity per year until 2050 (absolute terms), reduce GHG intensity by minimum 30% compared to market benchmark (relative terms), and have a green: brown ratio (% revenues) greater than or equal to the market index. EU TEG recommends that GHG emissions be calculated using life-cycle assessment and that the consideration of scope 3 emissions be gradually phased over a period of 4 years from implementation. For more details see: [https://ec.europa.eu/info/sites/default/files/business\\_economy\\_euro/events/documents/finance-events-190624-presentation-climate-benchmarks\\_en.pdf](https://ec.europa.eu/info/sites/default/files/business_economy_euro/events/documents/finance-events-190624-presentation-climate-benchmarks_en.pdf)

with zero or near-zero emissions<sup>31</sup>, and a taxonomy for adaptation projects (VEB.RF, 2021<sub>[20]</sub>) outlining criteria for projects that help the economy adapt to the effects of climate change<sup>32</sup>. The taxonomies are operationalised by the ‘Standards for Financial Instruments Recognised as Eligible for Financing Sustainable (Including Green) Development Projects’<sup>33</sup> laying out the modalities around application of proceeds, reporting and verification of taxonomy-compliant instruments (VEB.RF, 2021<sub>[21]</sub>). Taxonomies will come into effect by a Government decree latest by August 2021.

Both taxonomies require eligible projects to (i) comply with the prescribed qualitative and/or quantitative criteria,<sup>34</sup> (ii) contribute to the Paris Agreement or one of the prescribed SDGs,<sup>35</sup> (iii) create a material impact<sup>36</sup> with respect to one of the priority objectives including environmental conservation or improvement; pollution reduction; GHG emission reduction; energy and resource efficiency, (iv) incorporate best available technology (BAT), and (v) adhere to the ‘Do No Significant Harm’ principle.<sup>37</sup> Projects undertaken to remedy any negative environmental impact due to a failure to comply with domestic law and regulation, however, do not qualify under either taxonomy.

Finance raised in compliance with the taxonomies may be used in a variety of ways. Proceeds might be (i) ring fenced for specific projects, used towards (ii) OPEX or CAPEX to implement eligible projects, (iii) issuing sustainable asset backed securities, or (iv) refinancing taxonomy-compliant sustainable finance instruments. This latitude aims to encourage the use of diverse products and structures to spur the growth of the Russian sustainable capital market. Financial instruments and issuers are subject to regular reporting, verification and certification requirements.

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<sup>31</sup> The green taxonomy covers the following 8 sectors: waste management; energy (includes nuclear); construction; industrial production (includes steel, aluminium, cement, chemicals); transport and industrial vehicles; water supply and wastewater disposal; natural landscapes, rivers, water bodies and biodiversity; agriculture.

<sup>32</sup> The adaptation taxonomy covers the following 6 sectors: waste management; energy (includes modernisation of existing mining and production facilities e.g. oil and gas); sustainable infrastructure; industrial production (includes mining of ferrous and non-ferrous metals); transport and industrial vehicles; agriculture.

<sup>33</sup> The Standards clarify what is meant by sustainable financial instruments, their verification, use, reporting and disclosure requirements (requirements set by the Bank of Russia) as well as how sustainable financial instruments should be used to promote investment in Russia.

<sup>34</sup> Prescribed criteria may be revised or tightened as new technology becomes available/viable.

<sup>35</sup> Goal 6 (Clean water and sanitation), Goal 7 (Affordable and clean energy), Goal 8 (Decent work and economic growth), Goal 9 (Industrialisation, innovation, infrastructure), Goal 11 (Sustainable cities and communities), Goal 12 (Sustainable consumption and production), Goal 13 (Urgent action to combat climate change), Goal 14 (sustainable use of ocean resources), Goal 15 (Sustainable use of terrestrial ecosystems)

<sup>36</sup> Defined as significant long-term positive quantitative impact on the climate and environment. The taxonomies recommend a quantitative assessment of the environmental impact of the projects in accordance with the model verification methodology for green and adaptation financial instruments (VEB.RF, 2021<sub>[99]</sub>).

<sup>37</sup> A project is deemed to be in compliance with the ‘Do No Significant Harm’ principle if it adheres to the domestic environmental law and regulations.

**The Russian taxonomies do not explicitly distinguish transition activities.** However, while the green taxonomy primarily pertains zero or near-zero projects, it also qualifies certain activities that although high-emitting (e.g. steel, cement and aluminium production), are crucial for economic development and presently cannot be undertaken with a zero or near-zero emission footprint. The adaptation taxonomy, in parallel, is geared towards reducing emissions and improving energy and resource efficiency in certain other high-emitting activities (e.g. mining, coal powered heating, and chemical production) to enhance the economy's resilience to climate change. Taken together, both taxonomies define the spectrum of sustainable activities in Russia- from activities with zero emissions to those with a high carbon footprint but pursuing BAT to lower their negative environmental impact and contribute to the transition- guided by the country's economic structure and sectoral priorities going forward.

Neither Taxonomies contain any stipulations around entity level green or transition strategy (e.g. Japan) or materiality to core business transformation, as seen in other approaches (e.g. Malaysia and EU). This connotes that **sustainable finance (including for transition activities) may be raised by a company regardless of its sector as far as the project being financed contributes to the priority environmental objectives and is included in either taxonomy.** Taxonomy-compliant finance in Russia may either be applied towards a specific asset/project or CAPEX and OPEX directly linked to a sustainable project.

Similar to the Malaysian principle-based taxonomy, the Russian approach includes a range of activities providing a wide coverage of the economy. Even though 'transition finance or activities' are not specifically referenced, the remit of the taxonomies includes issuers that are currently at different points in the decarbonisation process, and projects that not only eliminate emissions but also reduce emissions relative to status quo and improve environmental footprint. The latter include inter-alia enhancing energy efficiency in electric and thermal power plants or increase in thermal or electricity efficiency of buildings.

### **Singapore- Discussion Paper on Taxonomy -Identifying a Green Taxonomy and Relevant Standards for Singapore and ASEAN**

In January 2021, the Green Finance Industry Taskforce of Singapore (GFIT) published its proposal for a Singaporean taxonomy for consultation (Green Finance Industry Taskforce, 2021<sup>[4]</sup>). GFIT is an industry group comprising representatives of Singapore-based financial institutions and is convened by the Monetary Authority of Singapore (MAS). The proposal outlines the design elements and the rationale underpinning a prospective Singaporean taxonomy while soliciting feedback on key items. A formal taxonomy would be produced if public consultation demonstrates sufficient support.

The core objective of the taxonomy will be to accelerate investment towards environmental objectives of Singapore and other ASEAN members by Singapore-based financial institutions. The proposal acknowledges the role of a taxonomy in stimulating the growth of green financial products, preventing greenwashing by clearly delineating environmentally sustainable activities and developing a common language among domestic and international market participants to facilitate international flows.

The taxonomy proposal is framed in the context of four primary concerns - international inconsistency, undue compliance burden, path dependency and insufficient coverage of the economy. Given the global nature of capital and market participants there is strong emphasis that a Singaporean taxonomy must be internationally consistent and interoperable to prevent market fragmentation. Any taxonomy would introduce disclosure and data generation requirements, and the proposal is conscious to minimise compliance burden for financial institutions. There is also a concern that prescribing strict thresholds may create a static instrument incapable of evolving in step with scientific understanding thereby forming unwanted path dependencies. Lastly, **the proposal recognises that an exclusive focus on ‘green’ risks excluding vast majority of the economy. This could generate asset pricing bubbles and present systemic risks to financial stability.**

GFIT recommends designing a Singaporean taxonomy based on the structure and methodology of the EU taxonomy. The proposal, however, acknowledges the need to adapt the form and design of the EU taxonomy to Singapore and ASEAN by (i) focusing on sectors that are most relevant to ASEAN for economic growth and emissions (includes transition activities), (ii) adjusting targets and thresholds to those compatible with the growth and development in ASEAN, and (iii) factoring in current disclosure practices and data availability in ASEAN.

Like the EU taxonomy, the proposal recommends measuring contribution against a set of environmental objectives, namely (i) climate change mitigation, (ii) adaptation, (iii) protecting biodiversity, and (iv) promoting resource resilience. To comply with the proposed taxonomy, financed activities must demonstrate no significant harm caused to other environmental objectives, adhere to prescribed social safeguards and not breach any local laws.

**Given the policy context of ASEAN, the proposal recommends that a Singaporean taxonomy cover green as well as transition activities.** Projected reliance of ASEAN members on fossil fuel based power and sectors like steel and aluminium for infrastructure development, imply that there is a need to not only finance technologies and activities that are demonstrably green but also those that facilitate a progressive lowering of emissions and negative environmental impact.

Transition activities are recognised as those that “are currently high carbon and critical to the functioning of the economy but are in transition to less carbon intensive business models”. The proposal recommends including abated gas as a transition fuel in the taxonomy. **Whether alignment with a trajectory or national/ international science-based low-carbon scenarios must be demonstrated, and the extent to which NDCs are sufficient in measuring transition, are questions left open for consideration following the public consultation.** The proposal also recommends inclusion of activities enabling the transition, for instance low-carbon technologies like CCS in the fossil fuel sector.

The proposal identifies five broad sectors to be included in the taxonomy based on their contribution to GHG emissions and economy at ASEAN level. These include (i) agriculture and forestry/land use, (ii) construction/real estate, (iii) transportation and fuel, (iv) energy (including upstream), and (v) industry. These sectors together are responsible for 90% of ASEAN emissions



and 40% of economic activity. The sectors have been mapped based on the International Standard Industrial Classification System (ISIC) and include those that are green as well as in transition. Additionally, the proposal suggests inclusion of three enabling sectors, namely (i) information and communications technology (ICT), (ii) waste/circular economy and (iii) carbon capture and sequestration (CCS). A non-exhaustive sub-sectoral mapping is included in the taxonomy proposal.

GFIT recommends implementing the taxonomy in a phased manner. Acknowledging that quantitative metrics and thresholds could take time to develop, the proposal outlines a ‘traffic light’ system of classification of activities to commence rollout. This approach allows categorising transition activities distinctly (yellow). The classification is largely based on substitutability and implementation of green technologies available for the sector. From the context of the proposal, **transition activities may be understood as those that cannot be substituted by a green alternative** and are (i) **either on a time-bound transition to becoming green** i.e. implementing the green technology available for the sector, or (ii) **making efforts to significantly low-carbonise in a manner that will contribute to the objectives of the taxonomy** (where no green technologies for the sector are currently available). The use cases highlighted in the proposal suggest that the borrower must demonstrate a clear commitment, for instance through a time-bound target, for its activity to qualify as a transition activity. The proposal clarifies that transition activities are those that **are not yet undertaking a transition consistent with an emission-reduction pathway aligned with the objectives of the proposed taxonomy**. There is however, no clarity in the proposal on what is meant by an emission-reduction pathway consistent with the objectives of the taxonomy and how the progressive emission reduction and improved environmental footprint from transition activities count towards the objectives of the taxonomy in this context. The proposal further recommends development of granular quantitative criteria for transition activities to ensure time bound convergence with a well below 2-degree pathway.

## Investors/Financiers

### AXA Investment Managers - Financing Brown to Green: Guidelines for Transition Bonds

In June 2019, AXA Investment Managers issued a call for a new category of labelled bonds to enable ‘brown’ companies, currently locked-out of the green bonds market, to borrow towards implementing decarbonisation strategies (Takatsuki and Foll, 2019<sup>[11]</sup>). AXA argues that projects and operations of most companies in the world currently do not meet the eligibility criteria to be classified ‘green’. Nevertheless, these companies have an essential role to play if entire economies are to transition to net-zero by 2050. The financial sector therefore, needs to support the capital needs of presently brown companies in order for them to be able to become green in the future.

As per the guidelines, transition bonds are intended for companies that are (i) in high emitting sectors, and (ii) in industries that currently (or for the foreseeable future) do not have green assets to finance, but do have capital needs to reduce their emissions. The Guidelines are structured around the following four pillars:

- **Use of proceeds.** Proceeds from Transition Bonds must be used to finance or refinance a project within ‘pre-defined climate transition-related activities’.
- **Process for project evaluation and selection.** Borrowers must communicate the eligibility criteria used to identify projects as well as how the identified projects contribute to climate transition. Project selection must include an assessment of negative externalities including adverse impact on other social and environmental objectives.
- **Management of proceeds.** The borrower must ensure that the capital raised is allocated to the stipulated projects and that the effective use of proceeds is monitored and reported.
- **Reporting and measurement of impact.** Borrowers must maintain up-to-date records of the use of proceeds and report the environmental impact of the projects financed. The more detailed the reporting the better. The guidelines require borrowers to report the following three items:
  - Proportion of new financing versus refinancing;
  - The projects to which the proceeds have been allocated including breakdown of project wise investment; and
  - The environmental and social impact of the projects preferably accompanied by the measurement methodology. Appropriate indicators must be used. The use of the indicators proposed by the Green Bond Principles is encouraged. The indicators should be computed at an aggregate level and where possible on per million euros invested in the bond as well.

The guidelines require that borrowers have and clearly communicate their climate-transition strategies. Transition strategy must be material to the business operations and be quantifiable with short and long-term targets to enable measurement. Transition bonds issued by the borrower must align with and further corporate-level transition targets. There **is clear emphasis on transition finance being purpose driven and coordinated as part of a broader corporate transformation**. The guidelines however, do not specify any particular benchmark, scenario or pathway.

### **DBS - Sustainable and Transition Finance Framework and Taxonomy**

In June 2020, DBS published its Sustainable and Transition Finance Framework and Taxonomy (DBS, 2020<sup>[10]</sup>; Cicero, 2020<sup>[22]</sup>). The framework is intended to guide origination, categorisation monitoring and reporting of green and transition finance products and services. The framework applies to a range of DBS offerings including loans, bonds, trade finance, supply chain finance, bank deposits, guarantees and advisory services. The framework focuses on two use cases: (i) finance for specific green, sustainable or transition projects (use of proceeds format), and (ii) finance to support companies’ transition to more sustainable operations (general corporate purpose).

Projects financed may be categorised as:

- Green, if they align with the EU technical screening criteria, CBI taxonomy, Green Bond Principles or Green Loan Principles;
- Sustainable, if they contribute to one of the SDGs; or
- **Transition, if they displace more carbon intensive options in alignment with the trajectory of the Paris Agreement while following the guidance of the IEA Sustainable Development Scenario** (using the criteria stipulated in the SDS to evaluate transition projects and their compliance with regional and national performance improvements, for instance energy efficiency improvements or emission reductions projected by the SDS).

In case of a general corporate use, **transition finance may be extended only if the borrower has in the previous 12 months:**

- **Divested from carbon-intensive activities;**
- **Diversified from carbon-intensive activities either by acquiring a green or socially positive business or through R&D;**
- **Decarbonised by demonstrating a reduction in emissions intensity beyond national or regional industry average.**

The framework stipulates a three-tier due diligence process to determine the eligibility of assets and corporates. Physical and transition risk assessment will be conducted in accordance with the Equator Principles, IFC Performance Standards for Environmental and Social Sustainability and World Bank Industry Specific Environmental, Health and Safety Guidelines as well as relevant guidelines e.g. EU technical screening criteria.

The taxonomy by DBS includes 17 sectors.<sup>38</sup> Eligible activities or assets within these sectors broadly include those promoting resource efficiency, e.g. through 3D knitting; operational efficiencies to reduce environmental footprint; decarbonisation through energy efficiency or alternative fuels, e.g. hydrogen; social benefits including healthcare; wireless technologies and R&D.

### **International Capital Markets Association (ICMA)- Transition Finance Handbook**

In December 2020, the International Capital Markets Association (ICMA) published its guidance on transition finance (ICMA, 2020<sub>[12]</sub>). The handbook does not seek to define transition or outline standards and definitions. It rather provides high-level guidance on the type of disclosure expected to position a debt issuance as transition financing. The choice of metrics and performance indicators is left to the issuer. The Handbook must be read together with Green, Social or Sustainability Bond Principles to identify the complete range of disclosure requirements. The guidelines do not propose ‘transition’ as a separate label.

The recommendations focus on the following four elements:

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<sup>38</sup> Automotive, Metals & materials, Food and agri-businesses, Agri-commodities, Real estate, Oil & gas (including offshore), Chemicals, Power, Infrastructure, Healthcare, Pharmaceuticals, Shipping & coastal vessels, Aviation, Telecommunication, Technology, Apparel footwear & textile, Logistics.

- **Issuer’s climate transition strategy and governance.** The issuer must clearly communicate a corporate strategy that articulates long-term objectives to transform the business model and align it with the temperature goal of the Paris Agreement. Simply identifying climate-positive expenditures is deemed insufficient. A corporate strategy to assess and manage climate-related risks is a prerequisite for a borrower to seek transition finance. Strategy design including choice of scenarios is the issuer’s prerogative. An external service provider must review the strategy to assess its fitness and credibility.
- **Business model environmental materiality.** Transition financing must be sought for and applied to transform core business operations, i.e. principal drivers of the company’s environmental impact. The transition should be material to the future success of the company and not be incidental to its operations.
- **Climate transition strategy to be science-based including targets and pathways.** The transition trajectory proposed by the issuer must be quantifiable, aligned with scientific benchmarks/ decarbonisation pathway, set interim targets and be verified by an independent third party.
- **Implementation transparency.** The issuer must provide details of the capital and operational expenditures, including R&D, envisaged to support its transition strategy. The issuer must also outline the intended climate-related impact of such expenditures including implications for a just transition.

**The guidance from ICMA is intended to facilitate the use of Green, Social or Sustainability bonds in high-emitting sectors.** The Handbook is intended to contextualise labelled bond issuances by high-emitters by helping them articulate how the proceeds contribute to an overall transition strategy and in turn the objectives of the Paris Agreement. The Handbook is less prescriptive than some of the other approaches and provides significant latitude to issuers to comply with the aforementioned expectations. ICMA’s guidance acknowledges that **different issuers are subject to different economic and geographic realities, which will dictate the shape and viability of their transition trajectories.** It appears that the guidance accommodates geographical variability as long as the transition pathway followed by a company is backed by commonly accepted scientific evidence.

## Think tanks

### Climate Bonds Initiative (CBI) – Financing Credible Transitions

The paper positions transition finance as a category of financial products catering to high-emitting companies that are disqualified from the green finance market (Climate Bonds Initiative, 2020<sup>[13]</sup>). High emitting industries and sectors have a role to play in aligning the entire economy with the emission reduction goals of the Paris Agreement. In this respect, it is essential to meet the specific capital requirements associated with their transition to lower-carbon performance.

Based on the condition that there are zero or near zero substitutes for eligible activities, and the possibility for mid to long-term decarbonisation, the paper proposes five categories of economic activities: (i) near zero, (ii) pathway to zero, (iii) no pathway to zero, (iv) interim and (v) stranded. The paper also recognises a sixth cross-cutting category of enabling activities that refer to economic activities producing goods or services that help other industries and sectors reduce emissions in line with the Paris Agreement.

CBI proposes that transition finance should be extended to activities that are either “making a substantial contribution to halving global emissions levels by 2030 and reaching net zero by 2050 but will not have a long term role to play (*Interim activities*), or will have a long term role to play but at present the long-term pathway to net zero goals is not certain (*No pathway to zero activities*)”. For activities that have a long-term role to play and have a Paris aligned long-term decarbonisation pathway (*Pathway to zero activities*), the paper encourages the use of the ‘green’ label. Such activities (*Pathway to zero activities*) may also qualify for transition financing.

Unlike green finance, transition finance, as per CBI framework, is applicable to both the asset/activity as well as the company/entity level. This implies a much wider range of eligible financial products covering both general purpose and ring-fenced applications (use of proceeds). There are five principles that must be fulfilled by an entity or project seeking transition finance:

- **Credible transition goals and pathways align with 1.5°C global warming limit.** The borrower must have a transition goal and be pursuing a pathway aligned with the global target of net-zero emissions by 2050 and nearly halving emissions by 2030. **Compliance with NDCs is not deemed sufficient.**
- **Credible transition goals and pathways are established by the climate science community and are not entity specific.** The pathway used, must be based on global scenarios developed and supported by scientific evidence to ensure global harmonisation at the sectoral and industry level.
- **Credible transition goals and pathways do not count offsets, but should count upstream scope 3 emissions.** The pathway followed by the entity or asset must factor in scope 1 and 2 emissions as well as upstream scope 3 emissions as far as practicable. The pathway must not account for emission reduction from offset use.
- **Credible transition goals and pathways take into account technological viability, but not economic competitiveness.** The pathway must be based on current as well as expected technologies. The decarbonisation pathway must include any viable technology even if it compromises cost-competitiveness of the borrower.
- **Credible transition means actually following the transition pathway – pledges, policies and strategies alone are not sufficient.** Transition finance must privilege the actual impact and actions of the borrower as opposed to the existence of policies to transition or the intention to do so. The borrower’s actions must clearly demonstrate a tangible commitment to and progress along the decarbonisation pathway. This implies regular monitoring and may require the timeline of the decarbonisation pathway to match the tenor of financing.

By insisting on science based global decarbonisation pathways, the principles seek to minimise geographical and entity-level fragmentation. The principles argue that though aligning with NDCs is intuitive, NDCs tendered by countries today do not align with a 2-degree world. It is therefore imperative to go beyond the national targets and align with emission trajectories dictated by scientifically approved 1.5-degree scenarios. Similarly ‘best-in-class technology’ is deemed an insufficient benchmark because of its static nature. Such benchmarks simply acknowledge the best performer within a sector or industry without improving the overall performance of the said class. This position is in contrast to the general principles put forth by METI that emphasises the need to acknowledge geographical differences. It must be noted that CBI principles do not disregard the different circumstances and contexts of different countries. It is however, assumed that such variability will be accounted for in the climate scenarios developed by the scientific community.

The disqualification of offsets in most circumstances (see below) ensures that financing is used to genuinely transform business operations and reduce emissions. The paper argues for the inclusion of upstream Scope 3 emissions, i.e. emissions associated with the goods and services purchased by the borrower. This is intended to produce a ripple effect across different sectors and amplify the transition. Offsets, however, qualify under the CBI principles if they are the only means to reduce emissions. Favouring technological viability over cost-competitiveness serves to raise ambition. The paper stipulates that any activity or entity that fulfils the five principles outlined above contributes to the goals for the Paris Agreement and as such must be eligible for climate or environmental finance regardless of the labelling (green or transition).

### **Research Institute for Environmental Finance Japan- Transition Finance Guidance**

The Research Institute for Environmental Finance (REIF) is a not-for-profit organisation in Japan with a membership comprising industry participants and academics (REIF Japan, 2020<sub>[14]</sub>). In October 2020, REIF published guidance on transition finance. As per the guidance, **transition finance is intended for corporates that operate in high-emitting sectors causing a highly-negative environmental impact, but have demonstrated a willingness to transition to more sustainable business practices.** The guidance distinguishes between finance to fund specific projects or transition particular parts of a business (A –Type) and finance taken out to transition the entire corporate (C-Type).

REIF recommends a GPO approach (Goal, Process, Outcome). This includes setting a goal for the transition, monitoring the process and verifying the outcome. The issuer must clearly indicate the point of departure (e.g. a baseline) and destination in the transition pathway (e.g. net zero by 2050) along with the timeframe within which the destination will be reached. The guidance sets out six principles:

- **Principle 1- Use of Proceeds:** The guidance distinguishes between A-type and C-type transition finance. The principal distinction between the two is the application of capital raised. A-type finance is conceived for a ‘use of proceeds’ application while C-type finance funds transition-related ‘general corporate’ expenditures.

**A-Type** finance is targeted at transitioning brown assets to green. If the proceeds raised are used in part for refinancing, the issuer must disclose the ratio of proceeds used for investment versus refinancing. A-type finance may also be used to make greener a certain part of the business. In either case, the guidance emphasises that the benefits of transitioning an asset or business operation must be quantified wherever possible, for instance by defining end-goals or interim targets against which to evaluate success. The guidance outlines a basic non-exhaustive brown taxonomy of assets/activities eligible for A-type finance.<sup>39</sup> Transition may be undertaken in a phased manner, for instance by converting coal-fired plants to natural gas or biomass in phase 1 followed by carbon capture and storage (CCS) in phase 2. **The transition to an interim lower-emitting technology must not lock-in long-term emissions.**

**C-Type** finance is geared towards transitioning the core operations of a company, i.e. the entire entity. The guidance provides for C-type finance to be extended only to corporations that operate in high-emitting sectors and that have overall (corporate-wide) high carbon-intensity. The rationale for this proviso is that an entity with only some carbon-intensive business lines or asset(s), or an entity within a sector that is not high emitting and hard to abate, can use A-type or regular finance to improve its greenness. The central idea is to serve capital needs of entities, which otherwise may be locked-out of the sustainable finance market. The guidance outlines a preliminary non-exhaustive brown taxonomy for corporations eligible for C-type finance.<sup>40</sup> Borrowers of C-type finance must take care to avoid double counting transition outcomes achieved through any previous A-type finance.

- **Principle 2 - Process of Evaluation and Selection for Project and Companies:** Borrowers of transition finance must articulate the expected environmental benefits from their proposed transition, their compliance with transition taxonomies and the kinds of eligibility criteria used to evaluate suitability for transition. Key here is a corporate level strategy with quantifiable transition targets and KPIs. The guidance recommends that transition finance products include a collateral clause for instance coupon step-up, covenants or a penalty that is triggered in case targets are not achieved.
- **Principle 3 - Identification of the Transition Process and Outcomes:** This involves setting a timeline to achieve transition objectives and milestones to track progress and deviations. The process of reviewing transition goals, processes, and outcomes (GPO) is critical to transition finance under the REIF guidance.
- **Principle 4 - Management of Proceeds:** The guidance recommends ring fencing all capital raised as transition finance. This may be complemented with an external audit.

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<sup>39</sup> Coal-fired power generation plants; Natural gas power generation; Automobiles; Ships; Aircraft; Buildings and houses; Cement; Metal and glass; Iron, steel and chemicals; Palm oil; Food and beverages; Agriculture; Clothing; Consumer goods; Real estate and land use; Services and Others.

<sup>40</sup> Electric power companies; Energy developers for fossil fuels (oil & gas); Iron and steel manufacturers; Chemicals; Metals and processing; Cement; Ceramics and glass; Pulp or paper; Infrastructure related (e.g. railways, airplanes-related).

- **Principle 5 - Reporting:** The guidance imposes pre- and post-issuance reporting requirements upon borrowers. Pre-issuance reporting includes identification of transition objectives, process and outcomes. Post-issuance, progress reports must be published annually. These may include progress in KPIs, anticipated environmental improvements or appreciation in the economic value of the borrower due to an orderly transition. The guidance recommends that quantitative indicators must be privileged to ensure transparency.
- **Principle 6 - External Assessment:** The guidance recommends the use of different pre- and post-issuance verifiers for transition financing given their separate functions. While pre-issuance verification focuses on the validity of the financial product design given the intended outcomes, post-issuance verifiers need to assess the alignment of the use of transition funds with the transition pathway. The latter may involve recalibrating the transition pathway and the borrower's use of funds. Post-issuance verification is also central to triggering penalty mechanisms. Additional costs incurred should be included in the issuer's expenditure or the total amount borrowed from banks in case of loans.

## International Financial Institutions

### EBRD – Green Transition Bonds Framework

EBRD's Green Transition Bond Framework is premised on the view that in order to successfully transition to low-carbon economies, there is a need to move beyond financing projects that are low/no-carbon from the outset (green projects) (EBRD, 2019<sup>[23]</sup>). Funds are needed for projects that promote emission reduction and resource efficiency in sectors highly dependent on fossil fuels, for instance projects to decarbonise production of cement, promote sustainable land use, low/no carbon transport systems and resource efficiency in buildings.

The framework provides a basis for the EBRD to issue 'Green Transition Bonds' to finance projects that further one or more of the following three objectives in high-emitting sectors: (i) energy efficiency, (ii) resource efficiency (including circular economy), and (iii) sustainable infrastructure (including low carbon transport and green logistics).

Projects financed under the framework are expected to be part of an overarching climate-governance strategy of the implementing company as well as **contribute to the national objectives under the Paris Agreement of the country in which the project is located. The decarbonisation or resource efficiency objectives targeted by the project must exceed industry average.** The borrower must use at least 50% of the loan or investment from EBRD towards a project (either a new project or a project being refinanced). The remaining money may be used to further corporate-level climate-strategy and governance, i.e. remaining finance may be used towards OPEX or CAPEX. Importantly, projects involving fossil fuel, e.g. new thermal power plants, infrastructure to transport oil, coal, and upstream fossil fuel production etc. are ineligible. However, an oil or coal plant switching to gas may qualify for transition finance if the plant seeks to implement the best available technology (BAT) and there is no low-carbon alternative for the location.



There is thus a distinction between high-emitting activities needed to achieve the low-carbon transition (those for which BAT is implemented and no low-carbon alternatives are available) and activities that would end up being replaced or stranded on account of their incompatibility with a net zero economy. Substitutability by near or zero carbon alternatives is at the heart this approach.

# 3. Financial instruments and products

This chapter reviews 39 transition finance related instruments and products to investigate their core features and additionality from a financial market perspective.<sup>41</sup> The stocktake includes instruments and products with an explicit ‘transition’ label, as well those positioned as providing transition financing.<sup>42</sup> These cover the following:

- **Vanilla bonds** marketed and labelled as transition finance. These include bonds bearing one of the following labels: transition, green transition, sustainable transition and climate action.
- **Sustainability-Linked Bonds (SLB)** issued by entities that operate in high-emitting sectors, and that set one or more emission reduction targets. The review of emerging and proposed transition finance taxonomies, guidance and principles (normative approaches) suggests emission reduction as the prime focus of transition finance. Thus, while SLBs can include a suite of sustainability performance targets (SPT), only those which include an emissions related SPT are studied here, which covers the majority of SLBs issued to date.
- **Sustainability-Linked Loan Revolving Credit Facilities (SLL RCF)** with interest margin set as a function of emission related SPT.

The stocktake does not include green bonds issued by corporates in high-emitting sectors (e.g. the green bond issued by Repsol in 2017). Normative approaches in the preceding section suggest that the rationale behind transition finance is to serve the capital needs of issuers hitherto locked-out by the green finance market because their operations are not demonstrably green (Takatsuki and Foll, 2019<sub>[11]</sub>; Climate Bonds Initiative, 2020<sub>[13]</sub>). However, if a high-emitting issuer has been able to raise capital through a bond labelled and marketed as ‘green’, such issuer is not locked-out by the green capital market and therefore doesn’t fall within the category of

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<sup>41</sup> Additionality refers to whether transition instruments fill a market gap. In other words do transition instruments help create an impact/decarbonisation progress that may not be achieved using existing financial products and instruments. While additionality may be hard to measure, transition finance, especially if intended as a new market segment, must be supported by a strong rationale and theory of change. The distinguishing features of transition instruments, drivers of price and returns, and levers to effect actual progress are important factors to clearly identify before dedicating efforts to creating a new suite of products and a label.

<sup>42</sup> Instruments covered are those that are explicitly labelled, marketed or, based on literature review, generally considered to provide transition financing. Of the approaches studied, most explicitly qualify fixed-income securities only while being silent about whether equity transactions may be considered as transition financing. CBI and Malaysia explicitly include equity financing while EBRD explicitly excludes it. Guidelines by AXA IM pertain transition bonds only. No relevant ‘transition equity’ transactions have been recorded in this stocktake.

corporates transition finance aims to cater to. Therefore, green bonds issued by corporates in otherwise high-emitting sectors are excluded from the present study.

The stocktake of financial instruments and products used to date covers two formats: vanilla bonds and KPI-linked paper (bonds and loans) (White & Case LLP, 2020<sup>[24]</sup>). Regardless of the labelling and marketing, all transition finance instruments in essence subscribe to one of these two configurations. Based on these two, Tables 3 and 4 provide an overview of financial and non-financial characteristics of six categories of instruments: (i) vanilla fixed-coupon bonds, (ii) sustainability-linked bonds (SLB), (iii) sustainability-linked convertible bonds, (iv) sustainability-linked sukus, (v) sustainability-linked loan revolving credit facilities, and (vi) sustainability-linked loans (SLL) (hereafter collectively referred to as transition instruments).

Regardless of the format of the transition instrument, two core features are observed:

- **Issuer premium/yield discount at issuance:** Transition (bond) instruments, regardless of the format, are typically priced at a premium to other corporate paper by the same issuer. In other words, investors accept lower yields and price transition fixed-income instruments higher than they would other issuances by the issuer. The yield discount at issuance is estimated as the difference between the benchmark spread of the transition instrument and the benchmark spread of the issuer discerned from the issuer's curve. Computations<sup>43</sup> are presented in Table 4 and are based on data from Refinitiv where available.
- **Penalty mechanism:** All transition instruments structured as SLBs include a penalty mechanism that is triggered in the event of non-compliance with pre-stipulated SPTs<sup>44</sup> (trigger event). Three types of penalty mechanisms are observed: (i) coupon step-up (most common), (ii) premium payment upon maturity set as fixed percentage (set in basis points) of redemption amount, and (iii) obligation to purchase offsets to meet the SPT calculated as a percentage (set in basis points) of the nominal amount. In case of SLLs, the interest rate on the loan increases if SPTs are missed. No penalty mechanisms are observed in transition instruments designed as fixed-coupon vanilla bonds<sup>45</sup>.

The premium or yield discount at issuance may in part be explained by oversubscription and increased transparency through second party opinions (SPO) and reporting. Increased demand from investors tends to increase the price and lower the yield. Improved information symmetry due to external verification and regular reporting would further reduce the premium demanded

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<sup>43</sup> Only for fixed-coupon vanilla and KPI-linked bonds.

<sup>44</sup> Examples: Improve use of (i) recycled materials by 30%, (ii) reduce scopes 1 and 2 emissions by 20%, and (iii) reduce scope 3 emissions by 10% by 2025 compared to 2017 baseline.

<sup>45</sup> It is important to note that in certain cases, coupon/interest rate step-ups could trigger solvency issues and may compromise the financial health of the borrower/issuer. While a penalty mechanism may be essential to incentivise compliance and ensure progress, the structure and form of such clauses must factor in potential implications on financial stability, transition objectives as well as the well-being of workers. Such considerations merit further investigation and analysis in parallel with innovation in transition instruments.

for adverse selection (thereby lowering the yield). The direct implication of this is that an issuer could raise higher amount through transition instruments.

Increasing evidence points to premia in sustainable debt markets. This however, appears to be more a consequence of market exuberance rather than a systematic assessment of credit risk due to emissions and climate change (Financial Times, 2021<sup>[25]</sup>). Even though asset prices increasingly reflect transition risks, studies show that climate-related risk pricing is currently inadequate and not systematic (U.S. Commodity Futures Trading Commission, 2020<sup>[26]</sup>; OECD, 2021<sup>[27]</sup>; Colas, Khaykin and Pyanet, 2019<sup>[28]</sup>).

Initial evidence from the analysis of transition instruments indicates tightening spreads in the secondary market. In other words, the initial yield discount accepted by investors lowers after issuance, with the instrument's spread over its benchmark moving closer to the issuer spread curve/issuer curve.<sup>46</sup> This is in line with observations in the green bond market (Ehlers and Packer, 2017<sup>[29]</sup>). In the case of green bonds that have been issued at a discount to the issuer's regular curve, the discount has been observed to tighten quickly after issuance (e.g. green bond issued by Daimler AG in 2020) (Mohamed, Dany and Mahtani, 2020<sup>[30]</sup>) suggesting correction, at least in part, for higher credit risk than originally priced.

In theory, if transition risk is accurately priced in credit risk across the market,<sup>47</sup> companies with higher emission profiles would have a systematically higher cost of capital. This would strongly incentivise corporate environmental action and emission reduction while preventing mispricing and arbitrage opportunities. If transition risk becomes evenly reflected in asset prices, corporates actively reducing their emissions would lower their cost of debt as stricter climate regulation is introduced, other factors being constant.

Research demonstrates a significant and negative relation between credit risk, and carbon emissions and intensity as stricter climate policies are implemented (see Box 3) (Capasso, Gianfrate and Spinelli, 2020<sup>[31]</sup>). In theory, corporates that reduce their emissions are less exposed to transition risk precipitated by future tightening of climate policies, e.g. carbon prices. With increasing calls for stronger climate regulation (Financial Times, 2021<sup>[32]</sup>; Investor Agenda, 2019<sup>[33]</sup>), high emitting corporates have a more elevated exposure to transition risk (Ilhan, Sautner and Vilkov, 2020<sup>[34]</sup>), which should translate to a higher cost of capital. However, a high emitting corporate that is actively reducing emissions, would be more resilient to the costs imposed by stricter climate policies (Environmental Finance, 2021<sup>[35]</sup>). Other factors being constant,<sup>48</sup> the future revenues and ability of such corporate to repay its debt would be higher than for a peer that does not undertake measures to improve its emissions profile. In other words, the discount rate is reduced in credit risk analysis due to a lower probability of default.

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<sup>46</sup> Empirical assessment to study this trend more deeply could be an area of future analysis on the topic.

<sup>47</sup> Assuming commensurate policies are implemented

<sup>48</sup> Credit assessment would depend on the particulars of the company, for instance its production costs, ability to transfer additional costs to consumers, and scenarios (policy changes and glide path) used.

Transition instruments with KPI-linked penalty mechanisms can drive corporate emission reduction and improvement in credit risk. In doing so, issuers can benefit from lower cost of debt. **It is important to underline that credit risk reduction is a function of tangible lowering of emissions and not the type of finance borrowed or label of instrument used.** Transition instruments may be better understood as vehicles to manage and mitigate exposure to transition risk and enhance or maintain the competitiveness of the issuer in a future low-carbon economy. Given its general corporate application, capital raised through transition instruments is better positioned to trigger entity-wide transformation translating to improved creditworthiness. Penalty mechanisms in the KPI-linked format (based on a credible transition pathway) incentivise a corporate to effect change and for creditors to price in higher credit risk if the issuer fails to achieve its anticipated emission reduction. The requirement to demonstrate alignment of the intended investment/expenditure with the borrower's transition trajectory signposts the direction of progress and can drive actual change. SPO and regular reporting further improves information symmetry between the issuer and creditors.

Financial instruments providing funds to enable a company transition to lower emissions may not be necessarily limited to those designed as sustainability-linked bonds or loans. This paper proposes that any instrument may be categorised as providing transition finance if it incentivises and facilitates an entity-wide transformation (whole or in part) in a manner that enables the borrower to improve its emissions profile, reduce exposure to financial risks due to more demanding climate policies and/or preserve its competitiveness in a future low-carbon economy.<sup>49</sup>

### Box 3. Does reducing emissions improve credit risk?

The urgency to reduce GHG emissions dramatically is being voiced from different quarters of society, including corporates and investors. There is a rising awareness and concern about climate change and increasing support for stricter measures like carbon prices. As Governments introduce more stringent climate policies, evidence suggests that companies with high GHG emissions will face elevated levels of transition risk. For instance, research from the EDHEC Risk Institute finds an increase in the probability of default (shortening of distance to default) for high-emitting companies after the passage of the Paris Agreement. Exposure to climate-risks in the event of stricter climate regulation is beginning to be priced into syndicated loans, especially those extended to fossil fuel companies.

<sup>49</sup> Future policies may internalise negative externalities beyond emission reduction for instance, biodiversity loss or social effects thereby broadening the remit of transition and transition risk. General-corporate application and covenants may be used in any suitable format (bond, loan, revolving credit facility, structured products etc.) to incentivise corporate action and reduce commensurate risk. To the extent that such instruments help immunise the issuer against future policy costs and reduce exposure to transition risk (emissions-related or beyond) they drive down cost of capital (all else being constant) and may be regarded as providing 'transition finance'. **Transition finance, this paper proposes, may be better understood as capital market instruments with a set of core functions/attributes rather than a specific label.**

Bouchet V and Guenedal T. (2020) model the impact of carbon prices on EBITDA of the constituents of the MSCI World Index. The study, based on scope 1 emissions, highlights the sensitivity of credit risk to carbon prices with variations across and within sectors in the medium and long-term. Capasso G., G. Gianfrate and M. Spinelli (2020) find significant and negative relation between the distance-to-default and the carbon emissions and intensity of companies. The study finds that on average a 1% increase in carbon emissions reduces a firm's distance-to-default by 0.002 (other variables held constant). Research also finds causality between creditworthiness (counterparty risk) and exposure to climate risk through stricter regulation and major climate policy shifts. Regression analysis by Ilhan E., Z. Sautner and V. Grigory (2020) of put options on carbon-intensive companies points to higher exposure to risk of tail events (tail risk) for such firms due to climate policies. More attention to climate change leading to greater certainty around stricter climate policies increases the tail risk of carbon intensive firms. The tail risk emanates from policy shock i.e. a sudden and unanticipated change in policy that has dramatic negative impact on one or more sectors. Consequent real and expected impact on business operations could compromise the firm's ability to meet its obligations, causing an unfavourable change in asset prices.

Source:

<https://www.ft.com/content/3ea3e9f6-1c18-42c7-9912-c51efed3f721>,  
<https://www.ft.com/content/d31ec6c9-453a-4705-b47b-1c9e46de817a>,  
[https://risk.edhec.edu/sites/risk/files/pdf/eri\\_wp\\_climatechange\\_creditrisk\\_2020.pdf](https://risk.edhec.edu/sites/risk/files/pdf/eri_wp_climatechange_creditrisk_2020.pdf),  
<https://doi.org/10.1093/rfs/hhaa071>, <https://research-center.amundi.com/article/credit-risk-sensitivity-carbon-price?search=true>.

Uneven pricing of transition risk could make the financial system more vulnerable to stark asset price corrections in the event of more stringent regulatory climate action (ESMA, 2021<sup>[36]</sup>). Policymakers have an important role in facilitating even pricing of transition risk across assets and sectors. These include *inter-alia* establishing clear market standards through taxonomies or definitions, mainstreaming non-financial reporting to increase data quality and risk identification and management, conducting more holistic regulatory stress testing of portfolios, and better assessing the impact of climate policies on financial markets (OECD, 2021<sup>[27]</sup>).

The remaining section of this chapter compares the catalogued transition instruments along their non-financial (Table 3) and financial characteristics (Table 4). The stocktake covers 39 instruments in 19 business sectors issued in 15 jurisdictions. Almost all issuers have a corporate level GHG reduction target that determines their transition trajectory. While there is variance in the transition pathways followed by different issuers, many have been certified by the Science Based Targets Initiative. The corporate financing frameworks (regardless of their nomenclature- Transition Bond Framework, Sustainability-Linked Financing, etc.) underpinning most issues are based on the ICMA Sustainability-Linked Principles.

Capital raised may be used for on-lending, financing or refinancing projects that lower emissions (Scope 1, 2 and 3) in high-emitting sectors (increasing share of renewables, improving energy efficiency, lowering carbon intensity) or refinancing existing debt (part of the proceeds).

Table 3. Non-Financial Characteristics of Transition Finance Products and Instruments

Year	Issuer	Business Activity	Country	Label	Details	Amount	Tenor	GHG reduction targets (Issuer)	Trajectory/Pathway	Metrics to monitor compliance
<b>Vanilla Bond</b>										
2021	Bank of China	Banking	China	Transition	Two tranche issue. Capital raised to <b>on-lend to eligible transition finance projects</b> . Projects are selected based on the criteria and thresholds outlined in the BoC Transition Bond Framework. Project selection and management of proceeds is aligned with the EU classification of transition activities and the principles laid out in the ICMA transition finance handbook. The proceeds would be allocated to 12 natural gas based power plants and 2 waste heat recovery power generation projects at cement plants.	USD 500 M	3	Yes	Carbon neutrality and emission reduction pathways of the country the project financed is located in.	Disclosure as recommended by ICMA
2021	Bank of China	Banking	China	Transition	Two tranche issue. Capital raised to <b>on-lend to eligible transition finance projects</b> . Projects are selected based on the criteria and thresholds outlined in the BoC Transition Bond Framework. Project selection and management of proceeds is aligned with the EU classification of transition activities and the principles laid out in the ICMA transition finance handbook. The proceeds would be allocated to 12 natural gas based power plants and 2 waste heat recovery power generation projects at cement plants.	CNH 1.8 B (USD 278.2 M)	2	Yes	Carbon neutrality and emission reduction pathways of the country the project financed is located in.	Disclosure as recommended by ICMA
2021	SNAM	Gas Distribution	Italy	Transition	Dual tranche issue. Capital raised to <b>refinance and/or finance existing and/or future projects eligible under the company's Transition Bond Framework</b> . Second tranche is a bond tap (par value of EUR 250 M fixed-rate coupon bond with maturity in 2030). Eligible projects include carbon & emission reduction, renewable energy, energy efficiency, green construction projects, retrofitting gas transmission network.	EUR 500 M	5	Yes	Net zero by 2040 (Scope 1 and 2)	1. Allocation of the net proceeds of Transition Bond to eligible projects 2. Relevant KPIs wherever feasible
2021	EBRD	Development finance	UK	Green Transition	Single tranche issue. Fully privately placed and entirely subscribed by Japan Post Insurance Co. Capital raised to <b>on-lend to projects in fossil-fuel dependant sectors to enable GHG reduction and low-carbon transition</b> . Proceeds used to fund projects promoting energy efficiency, resource efficiency and sustainable infrastructure.	AUD 280 M	10		-	

2020	BPCE	Finance	France	Transition	Single tranche issue. Capital raised to refinance and finance in whole or in part sustainability-linked corporate loans and transition relevant projects on Natixis's balance sheet. Eligible sectors include those that demonstrate a strong potential to contribute to the low-carbon energy transition. These include transport, power, oil & gas, mining & metals and building materials. The <b>proceeds will be used to refinance or finance (i) eligible projects based on the green weighting factor developed by Natixis, (ii) sustainability-linked corporate loans with KPIs limited to energy &amp; climate transition extended by Natixis, and (iii) extend a sustainability-linked loan to one of the world's leading aluminium producers to support its energy transition.</b> The entire issue was privately placed with AXA Investment Mangers.	EUR 100 M	10	Yes	Does not specify in the material reviewed however, the issuer has a target to align operations with the Paris Agreement (below 2 degrees).	
2020	Cadent	Gas distribution	UK	Transition	Single tranche issue. Capital raised to <b>finance sustainable gas distribution projects with a reduced environmental footprint</b> (retrofitting or repairing pipelines to integrate Hydrogen and other low-emission gases and reduce Methane leakage).	EUR 500 M	12	Yes	UK adaptation strategy and low-carbon transition	1. Estimated annual GHG emissions avoided (in tCO <sub>2</sub> e)2. Reduction in leakage as a result of the project (in GWh/y or GWh/km replaced)
2020	SNAM	Gas distribution	Italy	Transition	Single tranche issue. Capital raised to <b>refinance and/or finance existing and/or future projects eligible under the company's Transition Bond Framework.</b> Eligible Projects include carbon & emission reduction, renewable energy, energy efficiency, green construction projects, retrofitting gas transmission network.	EUR 600 M	8	Yes	Net zero by 2040 (Scope 1 and 2)	1. Allocation of the net proceeds of Transition Bond to eligible projects 2. Relevant KPIs wherever feasible
2020	SNAM	Gas distribution	Italy	Transition	Single tranche issue. Capital raised to <b>refinance and/or finance existing and/or future projects eligible under the company's Transition Bond Framework.</b> Eligible Projects include carbon & emission reduction, renewable energy, energy efficiency, green construction projects, retrofitting gas transmission network.	EUR 500 M	10	Yes	Net zero by 2040 (Scope 1 and 2)	1. Allocation of the net proceeds of Transition Bond to eligible projects 2. Relevant KPIs wherever feasible
2019	EBRD	Finance	UK	Green Transition	Single tranche issue. Capital raised to <b>on-lend to projects in fossil-fuel dependant sectors to enable GHG reduction and low-carbon transition.</b> Proceeds used to fund projects promoting energy efficiency, resource efficiency and sustainable infrastructure.	EUR 500 M	5			
2019	Marfrig	Food Processing (beef)	Brazil	Sustainable Transition	Single tranche issue. Capital raised to <b>fund acquisition of cattle from suppliers respecting the firm's sustainability criteria.</b> This includes procuring animals from farms that are	USD 500 M	10		NA	1. Share of total animals purchased that meets the environmental and social Eligibility Criteria 2. Share of areas where cattle are sourced within the Amazon



					not responsible for deforestation and do not include forced labour in their supply chains.					Biome which are satellite monitored
2019	Crédit Agricole	Banking	France	Transition	Issue fully placed privately with AXA IM. <b>Capital raised to on-lend to projects promoting the energy transition in high-carbon sectors.</b> Eligible projects include ships powered by LNG, energy efficiency projects in industry, gas power plants in countries with high dependency on coal.	EUR 100 M	10			
2019	SNAM	Gas distribution	Italy	Climate Action	Single tranche issue. Capital raised to <b>finance or refinance, wholly or in part, 'eligible projects'</b> which include carbon & emission reduction, renewable energy, energy efficiency and green development projects and retrofit of gas network.	EUR 500 M	6.5		Net zero by 2040 (Scope 1 and 2)	1. Allocation of the net proceeds of Climate Action Bonds to eligible projects 2. Relevant KPIs wherever feasible
<b>Sustainability-Linked Bond (SLB)</b>										
2021	H&M Group	Fashion	Sweden	-	Single tranche issue. Capital raised to <b>improve use of (i) recycled materials by 30%, (ii) reduce scopes 1 and 2 emissions by 20%, and (iii) reduce scope 3 emissions by 10%</b> by 2025 compared to 2017 baseline.	USD 500 M	8.5	Yes		1. Share of recycled materials used in commercial goods as part of total materials used in commercial goods. 2. Scope 1 and 2 GHG-emissions. Includes CO <sub>2</sub> and other GHG missions as defined in the GHG Protocol published by WBC. 3. Scope 3 GHG-emissions. Includes CO <sub>2</sub> and other GHG emissions and is defined as emissions related to fabric production, garment manufacturing, raw materials and upstream transport
2021	New World Development	Real Estate	China	-	Single tranche issue. Capital raised to <b>finance investment needed to achieve 100% renewable energy in all rental properties</b> in Greater Bay Area, China by 2026.	USD 200 M	10	Yes	1.5 degrees under Paris	1. % Renewable energy in GBA rental properties
2021	Odfjell SE	Maritime transport and chemical storage	Norway	-	Single tranche issue. Capital raised to <b>finance expenditures needed to reduce the carbon intensity of its controlled fleet by a minimum of 50%</b> by 2030, compared to 2008. Measures to achieve AER target include (i) energy saving devices to improve propulsive efficiency, (ii) governor control devices that optimise vessel movements, and (iii) de-rating of engines and turbo charger upgrades.	NOK 850 M	4	Yes	Trajectory determined by the 2030 AER target	1. Average Efficiency Ratio (AER) of the controlled fleet in gCO <sub>2</sub> per tonne-nautical mile
2021	Seaspan Corporation	Maritime freight	China	-	Single tranche issue. Capital raised to <b>acquire, construct or retrofit vessels powered by alternative fuel sources</b> e.g. LNG, raising commitment to such vessels to at least USD 200 million by 2024. Proceeds may be used to refinance existing debt.	USD 200 M	3	Yes	IMO decarbonisation targets	1. Aggregate financial value of binding commitments towards vessel acquisitions, new buildings, and vessel retrofits, which can be powered by alternative fuel sources.
2021	Simpar	Transport and logistics	Brazil	-	Two tranche issue (EUR and USD). Capital raised to <b>finance investments needed to achieve GHG emissions intensity</b>	USD 625 M	10	Yes	Pathway to reduce GHG emissions intensity by	1. tCO <sub>2</sub> e/million R\$ (net revenue) covering 100% of SIMPAR operations and including scopes 1, 2 and 3

					<b>reduction to 124.04 tCO2e/million R\$ Net Revenues (Scopes 1, 2 and 3) by 2025.</b> These include acquisition of fuel efficient fleet, switching to low emitting fuel alternatives, implementing telemetry technology, improvements in operational efficiency and increasing renewables in the energy mix. Part of the proceeds will be used to refinance existing debt.				15% to 114.37 tCO2e/million R\$ Net Revenue (Scope 1, 2 and 3 emissions) by 2030	
2021	Movida	Car rental	Brazil	-	Two tranche issue (EUR and USD). Capital raised to <b>finance investments needed to achieve GHG emissions intensity reduction to 45.37 tCO2e/million R\$ Net Revenues (Scopes 1, 2 and 3) by 2025.</b> These include electrification of the fleet and increasing the share of renewables in corporate facilities.	USD 500 M	10	Yes	Pathway to reduce GHG emissions intensity by 15% to 37.38 tCO2e/million R\$ Net Revenue (Scope 1, 2 and 3 emissions) by 2030	1. tCO2e/million R\$ (net revenue) covering 100% of SIMPAR operations and including scopes 1, 2 and 3
2021	Surbana Jurong	Infrastructure and urban development (consulting)	Singapore	-	Single tranche issue. Capital raised to <b>finance investments needed to achieve (i) 10% reduction in GHG emissions intensity (Scopes 1 and 2) by 2029, and (ii) reach net zero carbon emissions status, excluding carbon offsets, in its global headquarters at Surbana Jurong Campus by August 2030.</b>	SGD 250 M	10	Yes	Net zero buildings target by 2050 set by the WSBC	1. Total amount of tonnes of tCO2e/ full-time employee
2021	Tesco PLC	Food retail & distribution	UK	-	Single tranche issue. Capital raised to <b>finance investments to reduce GHG emissions by 60% (Scopes 1 and 2) by 2025.</b> Part of proceeds will be used to refinance debt.	EUR 750 M	8.5	Yes	1.5 degrees (own operations) 2 degrees (supply chain)	1. GHG emissions reduction (Scopes 1, 2 in tCO2e)
2021	UltraTech Cement	Cement manufacturing	India	-	Single tranche issue. Capital raised to <b>reduce GHG emissions to 557kg of carbon dioxide for every ton of cementitious material by March 2030.</b> Part of proceeds will be used to refinance existing debt.	USD 400 M	10	Yes	2 degrees. More specifically trajectory dictated by GHG reduction target of 462kg net CO2 per ton of cementitious material by 2032.	1. GHG emissions per ton of cementitious material produced.
2020	CHANEL	Apparel & Accessories	France	-	Two tranche issue. Capital raised to <b>make progress towards the following three targets (i) decreasing own (Scope 1 and 2) emissions by 50% by 2030, (ii) decreasing supply chain (Scope 3) absolute greenhouse gas emissions by 10% by 2030, and (iii) shifting to 100% renewable electricity in CHANEL operations by 2025.</b> Targets 1 and 2 are linked to longer term tranche (maturing in 2031) while target 3 is linked to the shorter-term tranche (maturing in 2026)	EUR 300 M	5	Yes	1.5 degrees	1. Percentage of renewable electricity in operations.

2020	CHANEL	Apparel & Accessories	France	-	Two tranche issue. Capital raised to <b>make progress towards the following three targets (i) decreasing own (Scope 1 and 2) emissions by 50% by 2030, (ii) decreasing supply chain (Scope 3) absolute greenhouse gas emissions by 10% by 2030, and (iii) shifting to 100% renewable electricity in CHANEL operations by 2025.</b> Targets 1 and 2 are linked to longer term tranche (maturing in 2031) while target 3 is linked to the shorter-term tranche (maturing in 2026)	EUR 300 M	10	Yes	1.5 degrees	1. Scope 1 and 2 GHG emissions (measured in tCO <sub>2</sub> e and tCO <sub>2</sub> e per unit sold) 2. Scope 3 GHG emissions (measured in tCO <sub>2</sub> e and tCO <sub>2</sub> e per unit sold)
2020	Albioma	Power Producer	France	-	Two tranche issue. Capital raised to <b>refinance existing debt and fund the issuer's investment programme to increase the share of renewables in its energy mix to 95%-100% by 2030.</b> The bond was privately placed.	EUR 100 M	7 and 8	Yes	2-degree trajectory	1. Renewable Energy as a share of total energy output (consolidated basis excluding minority stakes)
2020	Lafarge Holcim	Cement manufacturing	France	-	Single tranche issue. Capital raised to <b>finance expenditures required to achieve a carbon intensity (Scope 1) equal to or lower than 475kg of Co2 per ton of cementitious material by 2030.</b>	EUR 850 M	10	Yes	Net zero carbon emissions by 2050 (Scope 1)	1. Kg CO <sub>2</sub> /t cementitious (Scope 1)
2020	NRG	Power Producer	US	-	Single tranche issue. Capital raised to <b>finance investment needed to lower current absolute emissions to 31.7 million metric tons of CO<sub>2</sub> eq by 2025.</b>	USD 900 M	7	Yes	Net zero carbon emissions by 2050 (1.5 degrees pathway)	1. Absolute greenhouse gas (GHG) emissions, MMtCO <sub>2</sub> e (Scope 1, 2 and 3 of U.S. emissions)
2020	Suzano	Paper and pulp	Brazil	-	Single tranche issue. Capital raised to <b>finance investments needed to reduce GHG emissions intensity to or less than 0.190 tCO<sub>2</sub>e/ton</b> produced as measured by the average of years ended 2024 and 2025.	USD 732.9 M	10	Yes	Pathway to reduce GHG emissions intensity by 15% to 0.18 tCO <sub>2</sub> e/t produced (Scopes 1 and 2).	1. tCO <sub>2</sub> e/ton of product produced (paper and pulp) (scope 1 and scope 2 emissions)
2019	ENEL	Power Utility	Italy	-	Three tranche issue. Capital raised to <b>finance general corporate expenditure with a commitment to increase total installed renewable capacity by 55% or more by 31 December 2021 and reduce GHG emissions to 125 g of CO<sub>2</sub> KW/h or less.</b> All tranches offer a 25bps coupon step up if the above targets aren't met by 31 December 2021. Step-up on two tranches is based on renewables capacity while the third is contingent upon lowering GHG emissions.	EUR 1 B	5	Yes	2-degree trajectory - reducing direct emissions by 70% by 2030 and indirect emissions by 16% by 2030	1. Direct GHG emissions (Scope 1) 2. Renewable installed capacity percentage
2019	ENEL	Power Utility	Italy	-	Three tranche issue. Capital raised to <b>finance general corporate expenditure with a commitment to increase total installed renewable capacity by 55% or more by 31 December 2021 and reduce GHG emissions to 125 g of CO<sub>2</sub> KW/h or less.</b> All tranches offer a 25bps coupon step up if the above targets aren't met by 31 December 2021. Step-up	EUR 1 B	8	Yes	2-degree trajectory - reducing direct emissions by 70% by 2030 and indirect emissions by 16% by 2030	1. Direct GHG emissions (Scope 1) 2. Renewable installed capacity percentage

					on two tranches is based on renewables capacity while the third is contingent upon lowering GHG emissions.					
2019	ENEL	Power Utility	Italy	-	Three tranche issue. Capital raised to <b>finance general corporate expenditure with a commitment to increase total installed renewable capacity by 55% or more by 31 December 2021 and reduce GHG emissions to 125 g of CO2 KW/h or less</b> . All tranches offer a 25bps coupon step up if the above targets aren't met by 31 December 2021. Step-up on two tranches is based on renewables capacity while the third is contingent upon lowering GHG emissions.	EUR 5 M	15	Yes	2-degree trajectory - reducing direct emissions by 70% by 2030 and indirect emissions by 16% by 2030	<ol style="list-style-type: none"> <li>1. Direct GHG emissions (Scope 1)</li> <li>2. Renewable installed capacity percentage</li> </ol>
<b>Sustainability-Linked Sukuk*</b>										
2020	Etihad Airways	Aviation	UAE	Transition Sukuk	Single tranche issue. Capital raised to meet <b>financial needs towards achieving the following targets (i) net zero carbon emissions by 2050, (ii) 50% reduction in net emissions by 2035, and (iii) 20% reduction in emissions intensity in the airlines passenger fleet by 2025</b> . The use of proceeds raised include (i) purchasing more energy efficient aircrafts to enhance energy efficiency, (ii) funding operational efficiency including demand side management, traffic management practices and reducing aircraft weight to improve energy consumption, and (iii) increasing the use of sustainable fuels including blending with jet fuel to reduce carbon intensity and funding related R&D.	USD 600 M	5	Yes	Net zero carbon emissions by 2050	<ol style="list-style-type: none"> <li>1. Equivalent tonnes of carbon dioxide emitted = Etihad Airways total fuel burn (kg) by a standard emissions factor of 3.157 gCO<sub>2</sub>/kg fuel.</li> <li>2. Revenue tonnes kilometres = utilised/sold capacity for passengers and cargo expressed in metric tonnes x distance flown.</li> <li>3. Number of research programs funded</li> <li>4. Types of research studies launched</li> <li>5. Qualitative case studies on R&amp;D projects</li> </ol>
<b>Sustainability Linked Convertible Bond</b>										
2020	Schneider Electric	Power Utility	France	-	Single tranche issue. Capital raised to <b>achieve the following three objectives by 2025 (i) deliver 800 megatons of saved and avoided CO2 emissions to customers, (ii) increase gender diversity, from hiring to front-line managers and leadership teams, and (iii) train 1 million underprivileged people in energy management</b> . Premium payment is triggered if the weighted average score of all three KPIs is lower than 9/10 by 2025.	EUR 650 M	5.5	Yes	Carbon neutrality in end to end operations (scopes 1,2 and 3) by 2040	<ol style="list-style-type: none"> <li>1. Saved and avoided CO<sub>2</sub> emission to our customers.</li> <li>2. Gender diversity from hiring to front-line managers and leadership teams.</li> <li>3. Number of underprivileged people trained in energy management.</li> </ol>
<b>Sustainability-Linked Loan Revolving Credit Facility ( SLL RCF)**</b>										
2021	AbinBev	Alcoholic beverages	Belgium	-	Largest and first RCF of its kind in the world. Syndicated revolving credit facility extended by 24 banks with interest rate to vary according to the company's performance on the following four sustainability issues (i) <b>improving water use efficiency, (ii) enhancing circular packaging by increasing PET recycled content, (iii) increasing share of electricity</b>	USD 10.1 B	5+ (2)	Yes	25% reduction in GHG emissions across value chain by 2035	

					<b>sourced from renewables to 100% by 2025, and (iv) reducing GHG emissions (Scope 1, 2 and 3).</b> Interest rate margin will vary according to the company's performance along its 2025 sustainability goals.					
2021	Pandora	Jewellery	Denmark	-	Syndicated credit facility with interest rate to vary according to the company's performance on the following two sustainability issues: <b>1. becoming carbon neutral in its own operations by 2025 and 2. using only recycled gold and silver by 2025.</b> Interest rate margin will vary according to the company's performance on its 2025 sustainability targets.	EUR 950 M	5+ (2)	Yes	Carbon neutrality by 2025	
2021	S&P Global	Rating (media and information services)	US	-	Syndicated credit facility with interest rate tied to the issuer's progress on <b>reducing scopes 1, 2 and 3 (from busienss travel) by 25% by 2025 (compared to 2019 levels).</b> The interest rate is tied to the issuer's SBTi-verified goal to reduce emissions consistent with its net-zero pledge (achieving net-zero emissions by 2040).	USD 1.5B			Carbon neutrality by 2040	
<b>Sustainability-Linked Loan (SLL)</b>										
2021	Believe Housing	Social Housing	UK	-	Loan extended by Legal & General (fully privately placed) to <b>refinance existing debt build new homes and other general corporate uses including investing in existing properties.</b> The interest rate margin is linked to the company's energy transition (reducing emissions and improving energy efficiency) in line with SDGs 13 and 11.	GBP 85 M	32.5	Yes	-	
2021	Gibson Energy	Energy	United States		Loan extended by BMO Capital Markets. Interest rate linked to the issuer's performance along the following targets: (i) <b>reduce scope 1 and 2 emissions intensity by 15% by 2025,</b> (ii) <b>increase representation of women in the workforce to 40%-42% and in the board to 40% by 2025,</b> (iii) <b>increase the representation of racial and ethnic minorities to 21%-23% by 2025 including at least one member on the board.</b>	USD 750 M	5	Yes		
2021	Port of Newcastle	Maritime	Australia		Syndicated loan with interest rate to reduce based on the issuer's performance along the following environmental and social targets: (i) <b>keeping scopes 1 and 2 emissions below the levels dictated by the issuer's well-below 2 degrees trajectory,</b> (ii) <b>screening all suppliers for modern slavery,</b> (iii) <b>demonstrated progression under the NSW Government Sustainability Advantage Recognition Scheme,</b> (iv) <b>accreditation of a number of mental health first aiders in each company department,</b> (v) <b>and set-up a Aboriginal and Torres Strait Islander student internship</b>	AUD 515 M	5	Yes	Well-below 2 degrees	

					<b>program with The University of Newcastle.</b>					
2021	ISPT	Real Estate (REIT)	Australia		Syndicated loan to restructure existing debt. Interest rate to increase or decrease depending on the issuer's performance along pre-specified ESG targets. <b>Targets include emissions reduction, installation of renewables, water conservation and resource efficiency, increasing diversity in workforce.</b>	AUD 2.8B				

**Note:** Recent sustainability-linked loan facility secured by American Homes for rent (USD 1.25 B), the sustainability-linked loan taken out by CLS Holdings PLC (GBP 61.7 M) and the sustainability-linked bond issued by Pusterla 1880 ( EUR 25 M) have not been included above because the sustainability targets associated with the transactions have not been disclosed (Environmental Finance, 2021<sup>[37]</sup>; London Stock Exchange, 2021<sup>[38]</sup>; Andrea Partners, 2021<sup>[39]</sup>). \* Sharia compliant bond-like instrument in Islamic finance

\*\* Line of credit with interest rate adjustment based on whether sustainability performance targets are achieved

**Source:** Refintiv EIKON, (Bank of China, 2021<sup>[40]</sup>; Bank of China, 2021<sup>[41]</sup>; EY, 2021<sup>[42]</sup>) (EBRD, 2019<sup>[23]</sup>; EBRD, 2019<sup>[43]</sup>; EBRD, 2021<sup>[44]</sup>) (BPCE, 2021<sup>[45]</sup>; BPCE, 2020<sup>[46]</sup>; BPCE, 2020<sup>[47]</sup>) (Cadent, 2021<sup>[48]</sup>) (Marfrig, 2019<sup>[49]</sup>; FAIRR, 2019<sup>[50]</sup>) (SNAM, 2020<sup>[51]</sup>; SNAM, 2020<sup>[52]</sup>; SNAM, 2021<sup>[53]</sup>) (H&M, 2021<sup>[54]</sup>; ClimateAction, 2021<sup>[55]</sup>) (LafargeHolcim, 2020<sup>[56]</sup>; LafargeHolcim, 2020<sup>[57]</sup>) (New World Development Company, 2021<sup>[58]</sup>; New World Development Company, 2021<sup>[59]</sup>) (NRG, 2020<sup>[60]</sup>; Robert White, 2021<sup>[61]</sup>) (DNV.GL, 2020<sup>[62]</sup>; Odfjell, 2021<sup>[63]</sup>; Odfjell, 2021<sup>[64]</sup>; Odfjell, 2020<sup>[65]</sup>) (Schneider Electric, 2020<sup>[66]</sup>; Schneider Electric, 2020<sup>[67]</sup>) (Atlas Corp., 2021<sup>[68]</sup>; Seaspan, 2020<sup>[69]</sup>) (Simpar, 2021<sup>[70]</sup>; ISS ESG, 2021<sup>[71]</sup>; Global Legal Chronicle, 2021<sup>[72]</sup>) (Movida, 2021<sup>[73]</sup>; Movida, 2021<sup>[74]</sup>) (Reuters, 2021<sup>[75]</sup>) (Suzano, 2020<sup>[76]</sup>; ISS ESG, 2020<sup>[77]</sup>) (Tesco, 2021<sup>[78]</sup>; Sustainalytics, 2020<sup>[79]</sup>) (AblnBev, 2021<sup>[80]</sup>; Sustainable Brands, 2021<sup>[81]</sup>; AblnBev, 2021<sup>[82]</sup>) (Jordan Ravindirane, 2020<sup>[83]</sup>; Vigeo Eiris, 2020<sup>[84]</sup>; Etihad Aviation Group, 2020<sup>[85]</sup>) (ENEL, 2021<sup>[86]</sup>) (Albioma, 2020<sup>[87]</sup>; Vigeo Eiris, 2020<sup>[88]</sup>) (UltraTech Cement, 2021<sup>[89]</sup>; ISS ESG, 2021<sup>[90]</sup>) (Pandora, 2021<sup>[91]</sup>; Environmental Finance, 2021<sup>[37]</sup>) (Legal & General, 2021<sup>[92]</sup>; Believe Housing, 2021<sup>[93]</sup>) (Crédit Agricole, 2019<sup>[94]</sup>) (Environmental Finance, 2021<sup>[95]</sup>)

Table 4. Financial Characteristics of Transition Finance Products and Instruments

Year	Issuer	Business Activity	Country	Instrument Details	Label	SPO	Amount	Tenor (yrs.)	Rating		Spread at issuance (bps)				Finance Type	Oversubscribed
									Issuer	Bond	BMK	Z	OAS	IC		
<b>Vanilla Bond</b>																
2021	Bank of China	Banking	China	Vanilla Bond - Fixed Coupon [non-callable]	Transition	Yes	USD 500 M	3	A+	A	76.98	71.91	71.91	-8.62	GC (on-lending to projects)	Yes (3.2x)
2021	Bank of China	Banking	China	Vanilla Bond - Fixed Coupon [non-callable]	Transition	Yes	CNH 1.8 B (USD 278.2 M)	2	A+	A	-	-	-	-	GC (on-lending to projects)	Yes (5.4x)
2021	SNAM	Gas distribution	Italy	Vanilla Bond-Zero Coupon [callable]	Transition	Yes	EUR 500 M	5	BBB+	BBB+	37	39.04	36.63	-25.7	GC	
2020	BPCE	Finance	France	Vanilla Bond - Fixed Coupon	Transition		EUR 100 M	10	A+	-	-	-	-	-	GC & UP	No
2020	Cadent	Gas distribution	UK	Vanilla Bond - Fixed Coupon	Transition		EUR 500 M	12	BBB+	BBB+	177.63	122.74	122.74	-42.07	GC	
2020	SNAM	Gas distribution	Italy	Vanilla Bond-Zero Coupon [callable]	Transition	Yes	EUR 600 M	8	BBB+	BBB+	74.5	40.82	39.18	-6	GC	Yes
2020	SNAM	Gas distribution	Italy	Vanilla Bond - Fixed Coupon [callable]	Transition	Yes	EUR 500 M	10	BBB+	BBB+	117.72	88.02	85.87	-8.48	GC	Yes (3x)
2019	EBRD	Finance	UK	Vanilla Bond - Zero coupon	Green Transition		EUR 500 M	5	AAA	AAA	24	-	-	-10	GC (on-lending to projects)	
2019	Marfrig	Food Processing (beef)	Brazil	Vanilla Bond - Fixed Coupon [callable]	Sustainable Transition	Yes	USD 500 M	10	BB-	BB-	-	-	-	-62.5	GC	Yes (3x)
2019	SNAM	Gas distribution	Italy	Vanilla Bond - Fixed Coupon [callable]	Climate Action		EUR 500 M	6.5	BBB+	BBB+	150.59	105.27	104.65	-4.41	GC	Yes (5x)
<b>Sustainability-Linked Bond (SLB)</b>																
2021	H&M Group	Fashion	Sweden	SLB- Fixed coupon with one time step-up (25 bps aggregate - 10 bps for circular economy , 5 bps scopes 1 and 2 & 10 bps for scope 3) [callable]	SLB	Yes	USD 500 M	8.5	BBB	BBB	78.72	49.49	49.38	-	GC	Yes (7.6x)

2021	New World Development	Real Estate	China	SLB- Fixed coupon with commitment to purchase offsets amounting to 25 bps on the notional amount of the bond[non-callable]	SLB	Yes	USD 200 M	10			269.84	277.65	277.65	-5.86	GC	Yes (6x)
2021	Odfjell SE	Maritime transport and chemical storage	Norway	SLB- Floating coupon with 150 bps increase in redemption price	SLB	Yes	NOK 850 M	4			575			-19	GC	Yes
2021	Seaspan Corporation	Maritime freight	China	SLB- Fixed coupon with payment of 50 bps [non-callable]	SLB	Yes	USD 200 M	3	B	B	604.2	604.31	604.31		GC	
2021	Simpar	Transport and logistics	Brazil	SLB- Fixed coupon with one time step-up (25 bps) [callable]	SLB	Yes	USD 625 M	10	BB-	BB-	456.05	454.81	398.18	-	GC	
2021	Movida	Car rental	Brazil	SLB- Fixed coupon with one time step-up (25 bps) [callable]	SLB	Yes	USD 500 M	10	B+	B+	415.67	423.46	408.22	-	GC	
2021	Surbana Jurong	Infrastructure and urban development (consulting)	Singapore	SLB- Fixed coupon with premium payment of 75 bps of nominal amount at maturity [non-callable]	SLB		SGD 250 M	10		unrated	119.84	110.96	110.96	-	GC	Yes (6x)
2021	Tesco PLC	Food retail & distribution	UK	SLB- Fixed coupon with one time step-up (25 bps) [callable]	SLB	Yes	EUR 750 M	8.5	BBB-	BBB-	110.12	72.93	72.45	-32.48	GC	
2021	UltraTech Cement	Cement manufacturing	India	SLB- Fixed coupon with one time step-up (75 bps) [callable]	SLB		USD 400 M	10	BBB-	BBB-	170	166	162.1	-	GC	
2020	CHANEL	Apparel & Accessories	France	SLB- Fixed coupon with predetermined cash premium payment at maturity [callable]	SLB		EUR 300 M	5	unrated	unrated	-	-	-	-	GC	Yes
2020	CHANEL	Apparel & Accessories	France	SLB- Fixed coupon with predetermined cash premium payment at maturity [callable]	SLB		EUR 300 M	10	unrated	unrated	-	-	-	-	GC	Yes
2020	Albioma	Power Producer	France	SLB- Fixed coupon with one time step-up (25	SLB	Yes	EUR	7 and 8	-	-	-	-	-	-	GC	



				bps) [non-callable]			100 M										
2020	Lafarge Holcim	Cement manufacturing	France	SLB- Fixed coupon with one time step-up of 75.0 bps [callable]	SLB	Yes	EUR 850 M	10	BBB	BBB	-	-	-	-	GC	Yes (3.05x)	
2020	NRG	Power Producer	US	SLB- Fixed coupon with one time step-up (25 bps) [callable]		Yes	USD 900 M	7	BB+	BB+	140.3	145.7	142.8	-	GC		
2020	Suzano	Paper and pulp	Brazil	SLB- Fixed coupon with one time step-up (25 bps) [callable]	SLB	Yes	USD 732.9 M	10			295.4	300.9	292.1	-	GC		
2019	ENEL	Power Utility	Italy	SLB- Fixed coupon with one time step-up (25 bps) [callable]	SDG	Yes	EUR 1B	Tranche 1 : 5	BBB+	BBB+	89.7	55.05		9.6	GC		
2019	ENEL	Power Utility	Italy	SLB- Fixed coupon with one time step-up (25 bps) [callable]	SDG	Yes	EUR 1B	Tranche 2: 8	BBB+	BBB+	108.48	70.33	68.29	-17.82	GC		
2019	ENEL	Power Utility	Italy	SLB- Fixed coupon with one time step-up (25 bps) [callable]	SDG	Yes	EUR 5M	Tranche 3: 15	BBB+	BBB+	137.14	87.3	86.59	54.74	GC		
<b>Sustainability-Linked Sukuk</b>																	
2020	Etihad Airways	Aviation	UAE	SLB- Fixed coupon with commitment to purchase offsets ranging 5bps-25bps on the notional amount of the sukuk [non-callable]	Transition Sukuk	Yes	USD 600M	5	-	-	-	-	-	-	GC	Yes	
<b>Sustainability-Linked Convertible Bond</b>																	
2020	Schneider Electric	Power Utility	France	SLB- Zero coupon convertible bond with a 50 bps premium payment [callable]	SLB	Yes	EUR 650M	5.5	AA-	AA-	-	-	-	-	GC		
<b>Sustainability-Linked Loan Revolving Credit Facility ( SLL RCF)</b>																	
2021	AbinBev	Alcoholic beverages	Belgium	SLL RCF- Interest rate a function of sustainability performance	-		USD 10.1B	5+ (2)	-	-	-	-	-	-	GC	-	
2021	Pandora	Jewellery	Denmark	SLL RCF- Interest rate a function of sustainability performance			EUR 950M	5+(2)	-	-	-	-	-	-	GC	-	

2021	S&P Global	Rating (media and information services)	US				USD 1.5B									GC	
<b>Sustainability-Linked Loan (SLL)</b>																	
2021	Believe Housing	Social Housing	UK	SLL- Interest rate a function of sustainability performance			GBP 85M	32.5	-	-	-	-	-	-	-	GC	-
2021	Gibson Energy	Energy	US				USD 750M	5	-	-	-	-	-	-	-	GC	-
2021	Port of Newcastle	Maritime	Australia	SLL- Interest rate a function of sustainability performance		Yes	AUD 515M	5	-	-	-	-	-	-	-	GC	-
2021	ISPT	Real Estate (REIT)	Australia	SLL- Interest rate a function of sustainability performance		Yes	AUD 2.8B		-	-	-	-	-	-	-	GC	-

**Note:** All spreads are calculated on the date of issuance

BMK= benchmark spread (difference between the yield of the issue and yield of a risk-free security of same tenor (benchmark))

Z= Z spread (constant spread over the risk free rate across the entire term structure of the issue that makes the price of the security equal to the present value of future cash flows)

OAS= Option Adjusted Spread (portion of the yield ascribed to the embedded option in the security)

IC= difference between the regular benchmark spread of the issuer and the benchmark spread of the transition instrument (same benchmark for both spreads)

GC= General Corporate; UP = Use of Proceeds

Recent sustainability-linked loan facility secured by American Homes for rent (USD 1.25 B) and the sustainability-linked loan taken out by CLS Holdings PLC (GBP 61.7 M) have not been included above because the sustainability targets associated with the transactions have not been disclosed (Environmental Finance, 2021<sup>[37]</sup>; London Stock Exchange, 2021<sup>[38]</sup>).

Table 4 does include privately placed bonds covered in Table 3.

**Source:** Refintiv EIKON, (Bank of China, 2021<sup>[40]</sup>; Bank of China, 2021<sup>[41]</sup>; EY, 2021<sup>[42]</sup>) (EBRD, 2019<sup>[23]</sup>; EBRD, 2019<sup>[43]</sup>; EBRD, 2021<sup>[44]</sup>) (BPCE, 2021<sup>[45]</sup>; BPCE, 2020<sup>[46]</sup>; BPCE, 2020<sup>[47]</sup>) (Cadent, 2021<sup>[48]</sup>) (Marfrig, 2019<sup>[49]</sup>; FAIRR, 2019<sup>[50]</sup>) (SNAM, 2020<sup>[51]</sup>; SNAM, 2020<sup>[52]</sup>; SNAM, 2021<sup>[53]</sup>) (H&M, 2021<sup>[54]</sup>; ClimateAction, 2021<sup>[55]</sup>) (LafargeHolcim, 2020<sup>[56]</sup>; LafargeHolcim, 2020<sup>[57]</sup>) (New World Development Company, 2021<sup>[58]</sup>; New World Development Company, 2021<sup>[59]</sup>) (NRG, 2020<sup>[60]</sup>; Robert White, 2021<sup>[61]</sup>) (DNV.GL, 2020<sup>[62]</sup>; Odfjell, 2021<sup>[63]</sup>; Odfjell, 2021<sup>[64]</sup>; Odfjell, 2020<sup>[65]</sup>) (Schneider Electric, 2020<sup>[66]</sup>; Schneider Electric, 2020<sup>[67]</sup>) (Atlas Corp., 2021<sup>[68]</sup>; Seaspan, 2020<sup>[69]</sup>) (Simpar, 2021<sup>[70]</sup>; ISS ESG, 2021<sup>[71]</sup>; Global Legal Chronicle, 2021<sup>[72]</sup>) (Movida, 2021<sup>[73]</sup>; Movida, 2021<sup>[74]</sup>) (Reuters, 2021<sup>[75]</sup>) (Suzano, 2020<sup>[76]</sup>; ISS ESG, 2020<sup>[77]</sup>) (Tesco, 2021<sup>[78]</sup>; Sustainalytics, 2020<sup>[79]</sup>) (AblnBev, 2021<sup>[80]</sup>; Sustainable Brands, 2021<sup>[81]</sup>; AblnBev, 2021<sup>[82]</sup>) (Jordan Ravindirane, 2020<sup>[83]</sup>; Vigeo Eiris, 2020<sup>[84]</sup>; Etihad Aviation Group, 2020<sup>[85]</sup>) (ENEL, 2021<sup>[86]</sup>) (Albioma, 2020<sup>[87]</sup>; Vigeo Eiris, 2020<sup>[88]</sup>) (Pandora, 2021<sup>[91]</sup>; Environmental Finance, 2021<sup>[37]</sup>) (Legal & General, 2021<sup>[92]</sup>; Believe Housing, 2021<sup>[93]</sup>) (Environmental Finance, 2021<sup>[95]</sup>)

#### Box.4. Criticism of transition instruments – National priorities and capabilities vs. International commitments

To inspire market confidence and allay concerns around transition washing, transition instruments must be backed by a well-articulated strategy including KPIs and modalities to achieve targets. Some transition instruments have been criticised for providing inadequate details around the trajectory pursued, means to achieve targets, intended use of proceeds, or eligibility for certain technologies or sectors.

For instance, in spite of being oversubscribed, the transition bond issued by the Bank of China (BoC) was criticised by some for allocating bond proceeds to gas power plants without CCS<sup>1</sup>, and for not articulating how this activity contributes to the transition or what measures the bank is taking to meet its decarbonisation targets and align with the Paris Agreement.

BoC claims that the bond is consistent with China's target of achieving carbon-neutrality by 2060 as well as the Paris Agreement. The bank further justifies the inclusion of gas projects citing alignment with the IEA Sustainable Development Scenario (SDS). Critics nonetheless point out that the SDS targets carbon-neutrality by 2070, which is 10 years later than China's national target of reaching carbon-neutrality. Some further equate Paris alignment with a 1.5-degree temperature trajectory and have questioned the bond's alignment. More generally, investors have pointed to the lack of sufficient clarity in the information disclosed, and of clear definitions and a well-articulated trajectory with interim targets—key elements of any transition instrument.

Similar criticism has been levelled against the transition bond framework of Hong Kong based CLP Group (power company). Some investors questioned the inclusion of gas power plants as eligible use of proceeds within the framework (because of their higher emission lock-in). CLP justified potential allocation to gas plants on grounds of commercial viability and consistency with Government policy of increasing the share of gas in the energy mix. Questions around inclusion of gas infrastructure also were raised regarding the transition bond issued by Cadent and the climate action bond issued by SNAM.

The above examples highlight a common theme – the existence of a gap between international commitments and pathways, and national policies and objectives, which compromises market confidence. Though an issue may be compatible with domestic policies (targets and acceptable technologies), it may be inconsistent with measures needed to deliver international commitments. Transition finance needs to bridge the realities of national capabilities and priorities with actions needed to achieve international commitments and global well-being.

Note: <sup>1</sup> Bank of China's transition finance framework prescribes that eligible projects must align with the definition of transitional activities in the EU taxonomy. Under the EU taxonomy, gas plants qualify if they meet the emission threshold of 100 CO<sub>2</sub>e/kWh. Gas power plants being funded by BoC's transition bond are located in China where they must emit below national average.

**Source:** <https://www.environmental-finance.com/content/analysis/bank-of-china-transition-bond-a-missed-opportunity.html>,  
<https://www.allenoverly.com/en-gb/global/news-and-insights/news/bank-of-china-issues-its-first-dual-currency-climate-transition-bonds>,  
<https://www.environmental-finance.com/content/news/clp-criticised-for-transition-bond-framework-targeting-natural-gas.html>

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