



Framework for investing in climate transition in the capital markets

With a case study: Eastspring Just Transition Portfolio¹

CBI is an international organisation working to mobilise global capital for climate action.
This framework, along with CBI's endorsement, is not specific to bond investments only.

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Endorsed by the Climate Bonds Initiative

Climate Bonds
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¹ The Eastspring Just Transition Portfolio is yet to be accepted.

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We are committed to responsible investment, with a particular focus on climate change and emerging markets, because many of the markets in which we operate are emerging markets. We pledged to become a net zero Asset Owner by 2050. Our **responsible investment** approach believes that supporting Asia and Africa in the transition from 'brown' to 'green' in a just and inclusive manner will be pivotal. With this in mind, we have developed a strategy to guide how we will finance the transition towards a low-carbon future across our markets to address the challenges outlined in our [Just & Inclusive transition](#) paper.

Introduction to Eastspring Investments

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Operating since 1994, Eastspring Investments has one of the widest footprints across Asia. We provide investment solutions across a broad range of strategies including equities, fixed income, multi asset, quantitative solutions, and alternatives. We are committed to delivering high-quality investment outcomes for our clients over the long term.

At Eastspring Investments we believe that integrating Environment, Social and Governance (ESG) factors into our investment processes results in better investment decisions. We are supporting the communities where we live and work. We are aligned with a number of global sustainability initiatives such as the United Nations-supported Principles of Responsible Investment (PRI), the Asia Investor Group on Climate Change (AIGCC) and the Carbon Disclosure Project (CDP) among others and collaborate with industry stakeholders to work towards a more sustainable world.

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Where included, benchmark and index data included in this document are provided for illustrative purposes only. The portfolio and/or services mentioned do not formally track any such benchmarks or indices and no representation is made as to relative future performance or tracking deviation. You should note that investing in financial instruments carries with it the possibility of losses and that a focus on above-market returns exposes the portfolio to above-average risk. Performance aspirations are not guaranteed and are subject to market conditions. Higher yielding investments can produce income at the expense of capital growth or the capital value of the investment. High volatility investments may be subject to sudden and large falls in value, and there could be a large loss on realization which could be equal to the amount invested.

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Prudential's Financing the Transition framework has been assessed against market standards and is in line with applicable taxonomies on the date of publication. This paper and the framework will continue to evolve in line with evolving and transitioning taxonomies, regulation, market standards and practices.

Climate Bonds Initiative Disclaimer

Climate Bonds Initiative confirms that the transition category alignment and Composite Transition screen developed by Eastspring Investments and Prudential were guided by the core principles of Climate Bonds Initiative to ensure credibility of transition finance and endorses them on that basis.

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1 Executive summary

Mobilising capital towards closing the transition financing gap is essential in achieving the goals of the Paris Agreement. Despite capital markets presenting a key platform to contribute to this end-goal at-scale, its full potential has arguably not been realized to-date both at the Asset Allocation (Asset Owner) and Asset Management levels due to existing transition solutions not being tailor-made for measuring transition alignment at the issuer level.

Existing transition solutions: Sustainable Finance Taxonomies primarily define green and transition-eligible activities which can be particularly relevant for use-of-proceeds investment and financing. Guidance on company-level transition alignment has been provided by industry bodies such as the Climate Bond Initiative (CBI) and the Glasgow Financial Alliance for Net Zero (GFANZ) but so far, this has been principles-based. Although providing a much-needed direction of travel, guidance on selecting data which is available at scale to measure companies' alignment with transition principles may be lacking. Existing data solutions targeting transition-aligned issuers have mainly been focused on emissions reduction or companies providing already green solutions. Funds providing either of such solutions comprise ~61% of the assets within the global climate funds landscape, according to a 2023 Morningstar review. Out of the remaining ~39% (assets) that comprise of transition funds focusing on a broad universe of companies considering climate change in their business strategy, ~73% of these are passive funds tracking the EU Paris Aligned Benchmark or EU Climate Transition Benchmark, which also have emissions reduction as a main objective¹.

Challenge: Going beyond emissions reduction as a primary transition focus, there is a gap in defining issuers that are already aligned, or making credible progress in aligning their business activities with:

- Both the 'Green', and 'Transition' or 'Amber' category of both national and/or regional sustainable financing taxonomies, and;
- International industry bodies' such as GFANZ and CBI's best-practice transition principles while;
- Considering a Just Transition in the following main ways:
 - o Factoring in adequate market inclusivity of eligible issuers across markets and across sectors, including high emission sectors, and;
 - o Considering the social element of a just transition – i.e. climate transition should not come at the cost of upholding human rights.

At the Asset Owner level, the paper outlines Prudential's Financing the Transition approach which aims to highlight that, across public and private markets, hard-to-abate sectors should not be ignored in the transition to a sustainable future. The approach also encourages flexibility with regards to emerging markets in accordance with the Paris Agreement's 'common but differentiated responsibilities' Principle.

At the Asset Manager level, the paper proposes a practical framework for building a capital markets climate transition portfolio that aligns to Prudential's Financing the Transition Approach, as well as to answer to the challenges mentioned in the paragraph above, utilising a whole-of-investment cycle approach (more details in Section 4):

- Application of a composite transition portfolio screen
We suggest the creation of a composite transition screen based on currently available ESG and/or market data from independent data providers. This screen can be constructed at a composite level with two main components: transition opportunity and emissions reduction efforts. Each component should include sub-components that measure actions (input), outcomes (performance indicators), and include positive exposure to macro-indicators like favourable regulatory support for climate transition. Measures of action in the transition opportunities component should include 'green' and 'brown-to-green' activities in both climate mitigation and climate adaptation, the latter being a key component for addressing social needs related to climate transition. A portfolio of companies performing well simultaneously on both screen components relative to a broad average of their peers with reasonable disclosure on underlying screen components, can then be constructed.
- Engagement and monitoring throughout the investment lifecycle
 - o Engagement should be used as a tool to continually enforce transition outcomes. Monitoring and engagement can be tailored to fit several transition 'tilts' depending on the Asset Manager's objectives. For example, if an Asset Manager wants to ensure that the portfolio includes companies that are not likely to expand fossil fuel production capacity, they should prioritise adherence to emissions reduction within the composite emissions reductions efforts component of the transition screen for sectors exposed to fossil fuel generation such as power and utilities companies, throughout the investment lifecycle.

- o Investors should also engage with portfolio companies to adequately factor in the social aspects of climate transition. Interaction on social factors as an important part of ongoing due diligence is essential to consider how companies are transitioning in a 'Just' manner. Social performance should be appropriately factored in as enhancers, detractors or neutral elements when measuring transition activities. Social factors, especially when building new transition capabilities, may become significant operational expense components and/or may affect a company's license to operate and should be considered important research factors.
- Reporting, transparency and accountability The two stages mentioned above form the core approach of a transition portfolio. Progress on these components should be reported to Asset Owners for alignment between fund-providers, investors and portfolio companies. Since transition is a developing field, reporting metrics could focus on indicators like frequency and quality of engagements, and supporting narratives on how transition trajectories are being maintained and non-sidelining of the social element of a just transition time.

To operationalise the framework, this paper features a case study on Eastspring Investments' Just Transition Portfolio which focuses on the Asia Pacific region where capital for climate transition is urgently needed. The portfolio targets companies in high emission sectors which score better than a broad average of their sector peers on the components of the composite transition screen, with reasonable disclosure on underlying screen components. The portfolio follows the screening framework proposed in this paper, considering corporates' climate adaptive and mitigation actions, and employs an engagement approach that incorporates social dimensions of the transition.

Applying the transition screen to Eastspring Just Transition Portfolio's investable universe results in approximately 1,000 companies, providing sufficient sector and market coverage for a capital markets portfolio. The resultant universe also correlates with a selection of companies that have a lower emissions profile [Weighted Average Carbon Intensity (WACI)], and a higher Social and Governance score (measured by MSCI ESG Ratings data) as compared to the MSCI Asia Pacific Index constituents².

Overall, the white paper presents an approach to constructing a climate transition focused capital market portfolio as it is designed to screen for transition-alignment at the issuer level. Combined with engagement and reporting throughout the investment lifecycle, the concept of a just transition can be implemented at scale by Asset Managers and Asset Owners investing in capital market portfolios.

This document is intended to be a technical white paper presenting a holistic approach to answering the challenge at both Asset Allocation (Asset Owner) and Asset Management levels. This white paper should be read by audiences with requisite understanding of finance, investment and Environmental, Social and Governance (ESG) knowledge, including (but not limited to) knowledge on Climate Change and Climate Transition.

² Note: Both the portfolio and MSCI Asia Pacific index used in this case study are ex-companies deriving >30% of revenue from thermal coal mining and power generation as per Prudential and Eastspring's Coal Exclusion policy.

2 Introduction

2.1 The importance of investing in climate transition

Climate change has become central topic in financial markets. As the effects of climate change accelerate, the discussion has evolved, resulting in a more sophisticated climate lexicon, reflecting the increasingly nuanced nature of the climate agenda. Terms like 'Paris-aligned' are now common, drawing focus to a collective objective – underpinned by the Paris Agreement (ratified in 2016) – of limiting global warming to well below 2°C pre-industrial levels and perusing efforts to limit the global average temperature to ideally below 1.5°C above pre-industrial levels.

Similarly, in line with achieving the targets of the Paris Agreement, the term 'Net Zero' gained prominence after the IPCC's Special Report on Global Warming of 1.5°C (SR15) in 2018ⁱⁱ. This term emphasised the urgency to achieve a state of balance between anthropogenic emission input and removals. This terminology introduced a time-based pathway to achieving the Paris Agreement. According to the United Nations Net Zero Coalition, achieving Net Zero requires reducing global greenhouse gas (GHG) emissions by 45% from 2010 levels by 2030 and reaching net zero by 2050 to keep the 1.5°C Paris target within reachⁱⁱⁱ.

International discourse has similarly shifted from taking a purely exclusionary approach to high emission sectors (i.e., those not recognised as 'green' today), to recognising the importance of credible efforts to align with a Net-Zero pathway. International forums like the Conference of the Parties (COP), which were traditionally heavily focused on emissions reduction, increasingly recognise the importance of transition as a contributing factor to emission reduction. For example, the 2023 COP28 held in Dubai discussed coal phaseout strategies, the role of transition fuels, and the concept of a just transition for impacted communities^{iv}.

To achieve drastic decarbonisation across all economic sectors, we need among others to finance fundamental shifts in energy systems, particularly in energy-intensive and hard-to-abate sectors. Over the past three years, the theme of 'transition' has become more prominent in climate discussions among regulators and industry standard setters. This has led to the proliferation of various frameworks aimed at guiding the market on how to define and finance the climate transition, which the International Energy Agency (IEA) estimates will require about USD 2 trillion annually by 2030^v.

Some of these frameworks and market guidelines focus on defining eligible green and transition activities within Sustainable Finance Taxonomies (i.e., the EU Taxonomy, ASEAN Taxonomy, Thailand Taxonomy and the Singapore-Asia Taxonomy to mention a few) or the International Capital Market Association (ICMA)'s Green Bond Principles. ICMA has also provided guidance on structuring use-of-proceeds or sustainability-linked transition bonds through its Climate Transition Finance Handbook.

Another set of frameworks provides guidance on principles that corporates, Asset Managers and Asset Owners (i.e., asset allocators) should adopt to qualify companies within their investment or lending portfolios as being ‘transition-aligned’. These frameworks include, but are not limited to:

- The Glasgow Financial Alliance for Net Zero (GFANZ)’s financial institution net-zero transition plan framework and its Measuring portfolio alignment (both Nov 2022 framework).
- The Climate Bonds Initiative (CBI)’s guidance on transition finance for transforming companies.
- The Paris Aligned Investment Initiative (PAII)’s Net Zero Investment Framework.

However, assessing credible transition-alignment at the company level for constructing a capital market securities portfolio is challenging. This difficulty arises mainly from the lack of uniform data with good market coverage and sufficient depth for company-level assessment, whether using an activity-based or a principle-based approach. This issue has perhaps limited the full potential of involving capital markets as a tool for mobilising transition capital (Box 1).

Section 2.2 aims to provide more detail on the impact of both activity-based and principles-based frameworks on the global climate transition finance discourse.

Box 1: The importance of capital markets

The potential impact of capital markets on the energy transition can be immense due to their size: In 2021 global equities markets are worth nearly USD106 trillion and bond markets another USD128 trillion^{vi}. Mainstreaming transition finance through these markets can significantly impact and help to close the financing gap for the energy transition in general and for emerging markets.

According to the IEA, decarbonisation investments in emerging markets (excluding China) in 2020 only amounted to one-sixth of what was needed^{vii}. This raises concerns about the ability of countries and the global market to close, for example the USD 2 trillion per year transition financing gap for emerging markets^{viii}.

Developing a holistic and sound transition framework for identifying investee companies that are genuinely committed to shifting toward more sustainable business models through measurable actions and outcomes, can create an investment opportunity by allowing Asset Managers to participate early in potentially mispriced assets with development potential in adapting to the risk of, and taking advantage of opportunities in climate transition.

2.2 Review of current investment approaches for Asset Owners and Asset Managers

Despite recognising capital markets as important for climate transition, market, industry guidance and regulatory focus has broadly been on defining transitioning companies:

- A Green and Transition activities level;
- Against their alignment with broad transition principles;
- From the standpoint of carbon emissions reduction at the company level; and/ or
- By negatively screening companies in high emission sectors.

Asset Owners receive similar guidance, encouraging them to allocate capital to Asset Managers who assess transitioning companies based on the above criteria. To illustrate this, according to a 2023 Morningstar review, 61% of assets in climate funds focus on finding companies with a reduced emissions intensity or companies providing already green solutions. Out of the remaining 39% (assets) of transition funds focusing on a broad universe of companies that consider climate change in their business strategy, 73% of these are passive funds following the EU Paris Aligned Benchmark or EU Climate Transition Benchmark, which also have emissions reduction as a main objective^x.

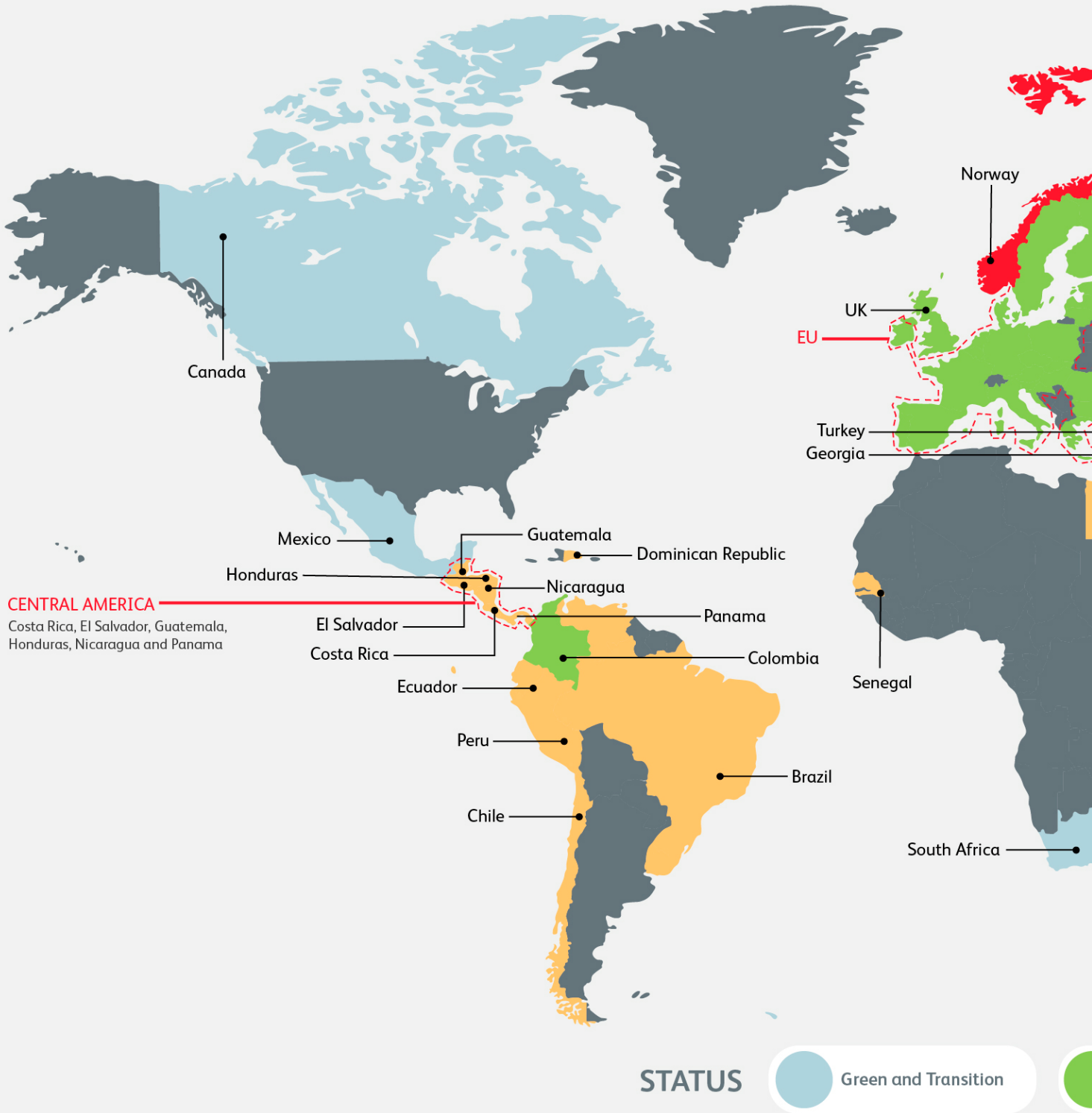
Green and Transition Activities

Regulators have provided guidance on constructing portfolios of climate transition-eligible securities by defining transition activities through sustainable financing taxonomies, categorised as 'Green' and Transition ('Amber'). According to the CBI, 15 taxonomies^x have been released globally as of 2023, with about twice as many under development (Figure 1).

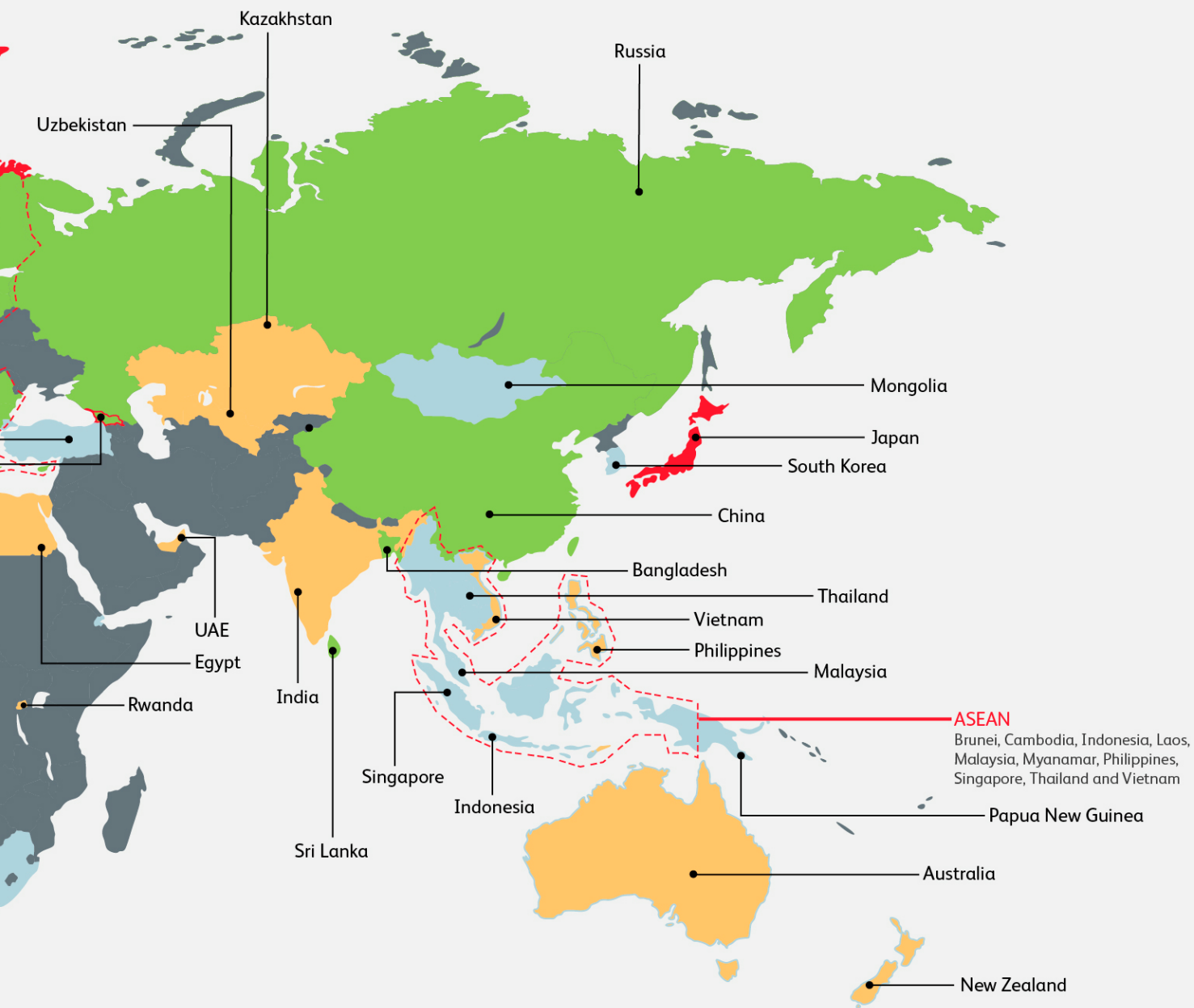
Spearheaded by the launch of the EU Taxonomy in 2020, focus was initially on a binary definition of green activities that were already 'net zero aligned'. However, in recognising the need for definitions that enable a gradual, science-based transition to a net-zero future, especially in emerging markets where high emission sectors form a key proportion of GDP and baseload activities, taxonomies with transition elements began to emerge. Examples include the ASEAN, Singapore and Thailand Taxonomies where regulators aimed to provide clarity on activities contributing to a 1.5°C aligned outcome. These taxonomies recognise an improvement-over-time factor and the energy demands essential for continued economic development and population maintenance and growth.


Industry standard setters such as the ICMA and CBI (through their sector criteria), have also played key roles in defining climate transition, specifically for fixed income securities. These instruments come mainly in the form of labelled Green Bonds and the Green component within sustainable bonds which ringfence financing to activities that primarily align to the 'Green' component of global Sustainable Finance Taxonomies. Collectively, these two types of instruments currently comprise ~81% of the sustainable debt capital markets according to a CBI Sustainable debt global state of the market report in 2023^{xi}.


Figure 1: Current state of global sustainable taxonomies as of 2023³.




³ The table represents our view of the state of global sustainable taxonomies as of 2023.



 Green

 Under development

 Others*

*Other types of sustainable finance taxonomies such as principles level Transition finance guidelines, or sustainable development taxonomies (environmental and social benefit)

Transition Principles-based Alignment

At the corporate level, guidance from industry bodies like the GFANZ, CBI, UNPRI and the PAII (to mention a few) has focused on defining principles-based transition alignment. Broadly, Asset Managers referencing alignment to these frameworks will have a portfolio of transitioning companies that have, in principle:

- **Ambitious transition targets:** Portfolio companies should have adequately ambitious corporate transition targets aligned with best practice pathways, such as the Paris Agreement, Net Zero Pathway, or a 1.5°C Trajectory. Target setting should also be supported by a science-based methodology.
- **Transition spectrum:** A portfolio of transitioning companies may include companies along a transition spectrum of already 'Green' to a wide variety of 'transitioning companies'. There is no common consensus across frameworks for the latter. Definitions include, but are not limited to:
 - **GFANZ's Financial institution net-zero transition plans framework:** Companies that are aligned or aligning to a 1.5°C pathway, those providing climate solutions as a core business model and those looking at a managed phaseout of high emission assets (e.g. coal).
 - **PAII's Net Zero Investment Framework 2.0:** Similar to GFANZ, it defines transitioning companies as those that are aligned or aligning to a 1.5°C pathway and committed to aligning to a 1.5°C pathway.
 - **CBI's transition finance for transforming companies:** Companies that are Paris aligned and have backed up their decarbonisation targets with robust plans and actions which flows through to sound internal tracking and external reporting.

State-of-play of Transition Data at the Corporate Level

Enacting the selection of transitioning corporates that align with the transition principles and/or are involved in the Green and Transition activities within Sustainable Finance Taxonomies set out in the sections above requires the presence of representative market data at-scale. The state of transition-related market data however, has primarily been based off company-level emissions reductions (~50% of climate funds are classified as Low-carbon or tracking the EU Paris Aligned or Climate Transition Benchmarks in 2023) or companies that have most of their business involved in green sectors such as renewable energy (~40% of climate funds in 2023 are Green bond funds, funds that comprise of cleantech companies or are purely focused on climate solutions)^{xii}.

The emphasis on transition as emissions reductions is also reflected in an updated version of the ICMA Climate Transition Finance Handbook (June 2023) where corporates that issue bonds or apply for loans in sustainable format should set targets in accordance with 'science based' decarbonisation, or emissions-driven targets to meet the Paris Goals^{xiii}.

The trends mentioned above broadly reflect the landscape of transition data provided to Asset Managers by ESG data providers as primarily emissions-reduction focused through:

1. Providing data that enables emissions based, or emissions-activity based exclusions;
2. Providing emissions analysis tools to manage fund level emissions, using tracking indicators like Weighted Average Carbon Intensity (WACI);
3. Risk-based indicators that may rely on emissions exposure to carbon pricing regimes and categorise companies by their transition risk exposure;
4. Risk based indicators combined with an element of decarbonisation; and/ or
5. Emissions-based company performance indicators, including emissions track record, public Net Zero commitments, Science Based Targets Initiative (SBTi) certifications, and decarbonisation targets.

In some cases, ESG data providers also incorporate use-of-proceeds alignment into their approach to point number 5 above, adding green revenue alignment share in accordance with existing taxonomies, predominantly the EU Taxonomy, which was the first Sustainable Finance Taxonomy presented to the market. The limitation of revenue-alignment to the 'Green' portion instead of the 'Amber' categories is also due to the current challenge in finding appropriate corporate disclosure to match data alignment with the transition (amber) categories of existing taxonomies where alignment may not refer to revenue attributable to a specific activity, but could also include processes (further details in Section 3.2).

⁴ The EU Paris Aligned Benchmark (PAB) and the EU Climate Transition Benchmark (CTB) have emissions reduction as a primary focus as of the timing of this paper. The former aims to keep the benchmark portfolio's carbon emissions in line with a target to limit global temperature rise to 1.5°C while the latter aims to bring the benchmark portfolio on a decarbonisation trajectory. Source: [European Securities and Markets Authority, Climate benchmarks and ESG disclosure](#).

3 Implementation challenges

Current standards and guidance mentioned in Section 2.2, though helpful in providing a direction of travel in line with credible climate transition, presents the following challenges in constructing a capital markets portfolio of companies across all markets and sectors

Going beyond emissions reduction as a primary transition focus and/or alignment with mainly the 'Green' portion of Sustainable Finance Taxonomies, there is a gap in defining issuers that are already aligned, or making credible progress in aligning their business activities with:

- The 'Green', and 'Transition' or 'Amber' category of both national and/or regional sustainable financing taxonomies, and;
- International industry bodies' such as GFANZ and CBI's best-practice transition principles while;
- Considering a Just Transition is considered in the following main ways:
 - o Factoring in adequate market inclusivity of eligible issuers across markets and across sectors, including high emission sectors, and;
 - o Considering the social element of a just transition – i.e. climate transition should not come at the cost of upholding human rights.

3.1 Asset Allocation

Currently, most global responsible investment frameworks do not differentiate between emerging and developed markets – applying the same standards and thresholds to both, despite their different risks and challenges. This creates a barrier to much-needed investment for the transition and is not in line with the 'common but differentiated principle' of the Paris agreement.

While more frameworks and standards recognize the concept of transition finance, there is a lack of standardised definition of what activities (i.e. Green only, or Green and Amber/ Transition activities) constitute transition finance, and how to address the need to finance carbon-intensive companies through the transition process. Managed phase-out is also crucial for transition finance, but often conflicts with divestment policies expected by stakeholders.

Unfortunately, emerging markets are often underrepresented in climate-related investment strategies. For example, the IMF states that the share of assets from emerging markets in Asia in global non-ESG investment funds is around 10 percent. However, these markets are underweighted in ESG funds as their share in those funds is only 2 percent. If their share of global ESG funds were to rise to match its share of overall funds (i.e. rise from 2 percent to about 10 percent), this would generate approximately USD500 billion per year in inflows to the region^{xiv}.

Additionally, this paper presents Prudential's belief that merely investing in green activities would not be enough to achieve Net Zero. According to the OECD, in 2023 only 7.9% of total global assets under management (AUM) are invested in 'green' assets by investment funds^{xv}. It is essential to actively invest in carbon-intensive economies and help them decarbonise.

The bias against emerging markets and the focus on green assets also affects the risk/return characteristics of these investment opportunities. Outperformance of pure-green assets, especially Green-labelled bonds, has not been proven and leads to concentrated funds. Diversification is key for Asset Owners to meet their fiduciary duty. Additionally, alignment with Prudential's approach places a belief in active stewardship as a key contributor to sustainable business practices, reduced risk, and enhanced long-term returns. Active stewardship is especially relevant for the climate transition as it can help transition firms from 'underperforming' to 'average' creating real-life impact.

For further reading, please refer to Prudential's 2022 [Just & Inclusive transition](#) paper^{xvi} and [Prudential's Financing the Transition framework](#).

3.2 Asset management: Methodologies, data availability and coverage

Current data-driven market approaches for portfolio construction as described in Section 2.2, may not fully encompass a global spectrum of companies targeting climate transition, thereby unintentionally sidelining certain markets or sectors, and preventing a 'inclusive' or 'just' transition. This is due to a focus on already green use of proceeds and/or a predominantly emissions-reduction approach. Approaches that mainly depend on emissions reductions may also lack sufficient forward-looking elements that can indicate a mispricing opportunity at a security level.

Furthermore, there is room for existing data approaches to more adequately address the social element of the climate transition. For example, there should be increased recognition of the use of data to identify climate adaptive solutions that answer to the social adaptation component of climate change, instead of maintaining the current more-pronounced focus on emissions reduction/ climate mitigation solutions. Data on other social aspects that may be relevant to the climate transition, such as upskilling provided to employees on new green and transition technologies or processes, or data showing that emissions phase-out do not result in significant unemployment could also be captured.

3.2.1 Taxonomies, the focus on green activities and data challenges on quantifying amber activities

The EU Taxonomy has led the development of a list of activities that are defined as Green, or 'aligned with a net zero trajectory by 2050' in line with European Green Deal objectives^{xvii}. It has become a reference standard for transition-eligible activities in the market. However, despite its market-leading positioning, at its launch in 2020 no political compromise was found with regard to specific transition sectors, such as the sectors of fossil gas and nuclear energy which were only addressed under the Complementary Delegated Act in 2022^{xviii}.

3 Implementation challenges

However, addressing market inclusivity, could emerge as a challenge. In 2023, a Responsible Investor report mentioned that only three EU companies met the Taxonomy’s green criteria for natural gas^{xx}. The CBI had also assessed that the criteria for inclusion are such that only a minimal amount of gas investments will qualify^{xx}.

Taxonomies focusing on transition elements over time, such as the ASEAN and Singapore Taxonomy, have started to develop (Figure 1). While these taxonomies expand the definition of activities eligible as both activities that currently meeting Net Zero criteria (Green) or that will meet Net Zero criteria over time (Amber), several challenges to interoperability between different taxonomies have also started to arise. These mainly pertain to different qualifying activities, based on different assumptions or models of timeframes used to define a credible transition in different regions (Figure 2).

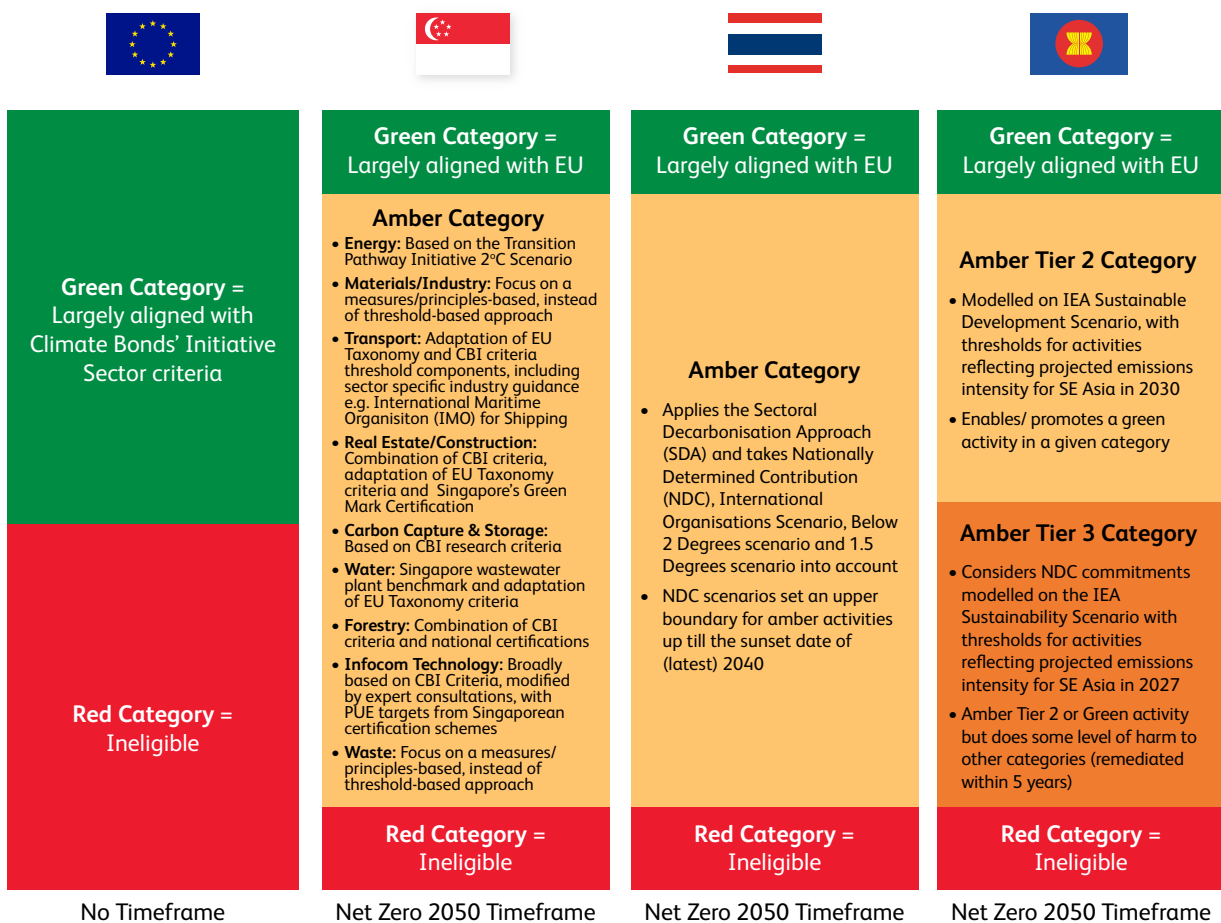


Figure 2: Transition scenarios across selected Green and Green and Transition Taxonomies.

The way activities are defined to meet green or amber categories across taxonomies are also non-uniform, posing a challenge for portfolio construction at a company level, where data available for ensuring alignment across taxonomies may currently be scarce (Table 1).

3 Implementation challenges

Table 1: Comparison of threshold criteria for climate mitigation activities across sectors with varying emissions spectrums, and across taxonomies with completed technical screening criteria as of March 2024.

Category	EU Taxonomy	Singapore Taxonomy	Thailand Taxonomy	ASEAN Taxonomy
Energy: Case Study on Geothermal energy				
Green	Emission intensity measured during the lifecycle of the power plant is less than 100g CO ₂ e/kWh	Same as EU Taxonomy	Same as EU Taxonomy from 2022 – 2040 but from 2041 to 2050, 50gCO ₂ e/kWh	Same as EU Taxonomy
Amber		Existing facilities meeting these thresholds: 2023-2030: ≤220g CO ₂ e/kWh 2031-2035: ≤150g CO ₂ e/kWh <u>Sunset by 2036</u>	Lifecycle GHG emissions from the generation of electricity by the entire facility: 2022-2025: 381g CO ₂ e/kWh from 2041 to 2050, 50g CO ₂ e/kWh 2026-2030: 225g CO ₂ e/kWh 2031-2035: 191g CO ₂ e/kWh 2036-2040: 148g CO ₂ e/kWh <u>Sunset by 2040</u>	Amber Tier 2: Lifecycle GHG emissions from the generation of electricity by the entire facility: >100 and <425g CO ₂ e/kWh <u>Sunset by 2040</u> Amber Tier 3: Lifecycle GHG emissions from the generation of electricity by the entire facility: >425 and <510g CO ₂ e/kWh <u>Sunset by 2030</u>
Red	Facilities that do not meet green criteria	Facilities that do not meet green or amber criteria. Power plants dedicated to support fossil fuel infrastructure (e.g., operations of fossil fuel activities) are ineligible	Same as Singapore Taxonomy	Facilities that do not meet green or amber criteria

Category	EU Taxonomy	Singapore Taxonomy
Manufacturing/ Industry: Case Study on Steel*		
Green	<p>Sets lifecycle carbon emission thresholds for interim/end products and some interim process steps e.g.</p> <ul style="list-style-type: none"> Product thresholds <ul style="list-style-type: none"> Hot metal = 1.331 tCO₂e/t product; Sintered ore = 0.163 tCO₂e/t product Electric Arc Furnace (EAF) high alloy steel = 0.266 tCO₂e/t product Process step/ technology thresholds <ul style="list-style-type: none"> Electric Arc Furnace (EAF) needs to use at least 70% steel scrap 	<p>Focus is on processes or technology types e.g.</p> <ul style="list-style-type: none"> Blast furnace needs to have CO₂ Capture, Utilisation and Storage technology (CCUS) that captures at least 70% of all emissions Direct Reduced Iron – Electric Arc Furnace (DRI – EAF) must have CCUS to capture 70% of emissions if fossil gas based and meets hydrogen thresholds of 100% hydrogen based. Electric Arc Furnace (EAF) – must use up to 70% scrap input (annual inputs)
Amber		<ul style="list-style-type: none"> Facility must have CCUS that captures at least 20% of emissions Facility must have a transition plan aligned with 1.5°C by 2030 Specific measures e.g. For EAF – Implement decarbonisation measures that enable the facility to increase the total input of scrap and share of renewable energy
Red	Facilities that do not meet green criteria	Facilities that do not meet green or amber criteria e.g. coal for on-site electricity generation, or CCUS for production of products that release the CO ₂ immediately when these are used (such as in urea, carbonated beverages, or fuels), or for enhanced oil recovery, and the production of other forms of fossil energy sources.

* Note: There is no manufacturing or industry criteria developed under the Thailand and ASEAN Taxonomies as of this paper.

3 Implementation challenges

Category	EU Taxonomy	Singapore Taxonomy	Thailand Taxonomy	ASEAN Taxonomy
Transport: Case Study on Freight Transport by Road				
Green	Mainly focus on vehicles with zero tailpipe CO ₂ emissions (N1, N2 and 3 vehicles <7.5T) and non-dedicated transport of fossil fuels.	Same as EU Taxonomy	Same as EU Taxonomy	Same as EU Taxonomy
Amber	N/A	Applicable to vehicles >3.5T, with a focus on peer-group comparisons where the vehicle must have less emissions than the 50 th percentile of vehicles in the same class and not be dedicated to the transport of fossil fuels. <u>Thresholds to be reviewed by 2030</u>	Applicable to vehicles >3.5T, with a focus on peer-group comparisons , where the vehicle must have less emissions than the 85 th percentile of vehicles in the same class and not be dedicated to the transport of fossil fuels. <u>Sunset date by 2030</u>	Amber Tier 2: Applicable to vehicles >7.5T with a focus on specified thresholds where the vehicle must have tailpipe emissions: 2024-2030: <42g CO ₂ e/tkm 2031 onwards: <21g CO ₂ e/tkm; and not be dedicated to the transport of fossil fuels. <u>No sunset date</u>
Red	Vehicles that do not meet the Green criteria	Vehicles that do not meet the Green and Amber criteria	Same as Singapore Taxonomy	Same as Singapore Taxonomy

Category	EU Taxonomy	Singapore Taxonomy
Infocomm Technologies: Case study on data processing, hosting and related activities*		
Green	Standard alignment: Meets all criteria under standards such as the European Code of Conduct on Data Centre Efficiency and the global warming potential (GWP) of refrigerants used in the data centre cooling system does not exceed 675.	Similar to the EU only in GWP of refrigerants. Geography driven: References local standards (BCA-IMDA Green mark scheme, Platinum rating) for locally based data centres. However, if the data centre is outside Singapore an additional criteria of Water Usage Efficiency (WUE) of <2.1 for data centre projects starting before 2025 and <2.0 post a 2025 project start date.
Amber		Process driven: • Retrofitting of existing facilities if the project starts before 2025, the project should attain the BCA IMDA Green mark, Gold certification. If post 2025, the project should achieve the BCA IMDA Green mark gold PLUS rating. Emissions driven: • GWP of refrigerants must not exceed 675 or meet national standards whichever is lower. Geography driven: • If the activity is located in Singapore, the data centre's BCA-IMDA rating must obtain recertification every 3 years. • If the activity is located outside of Singapore, WUE of the retrofitted data centre must be no more than 2.3 at the beginning of the retrofit and align to at least 2.0 by 2030.
Red	Facilities that do not meet green criteria	Facilities that do not meet green or amber criteria

* Note: There is no Infocomm Technologies technical criteria developed under the Thailand and ASEAN Taxonomies as of this paper.

While providing a clear and much-needed guide on transition-eligible activities, sourcing data that aims to achieve uniform representation of such activities at the revenue, process or CAPEX level might be more challenging for a portfolio of listed equity and general corporate purpose bonds than for labelled use-of-proceeds bonds and direct lending.

3.2.2 Limitations of emissions-based approaches

Existing emissions-based data-driven approaches may generally achieve better coverage than activity-based approaches inherent in using data to ascertain company-level Taxonomy activity alignment. However, existing emissions-based approaches may unintentionally sideline emerging market companies due to several reasons, including:

- Lower disclosure instances of company-level emissions data and/or public climate commitments in emerging markets compared to developed markets;
- ESG data providers often rely on publicly made Net Zero commitments that may be certified by institutions such as the SBTi as part of assigning a transition score to a company – an approach that still features a focus on emissions alignment to achieving a Net Zero future. This may disadvantage companies that are undertaking climate transition activities, and/or have emissions reduction targets, but have not yet published a Net Zero 2050 overarching target. Other types of companies that may be disadvantaged are those that are aligning their decarbonisation strategies to their country's Nationally Determined Contribution (NDC) outcomes. Although NDCs were formed under the Paris Agreement's 'common but differentiated responsibilities' approach, a larger proportion of Emerging Market Country NDCs do not yet feature a Net Zero 2050 commitment as compared to their Developed Country counterparts.

According to the SBTi 2022 progress report, about 70% of companies with approved targets and commitments are from developed markets^{xxi}. Within the SBTi, commitments from the Oil and Gas sector have been paused from validation^{xxii} despite the sector's inclusion in the EU, Singapore and ASEAN Taxonomies. Additionally, the quality and practicality of company public climate commitments, another key element of ESG data providers' transition score assessment, may vary.

In an attempt to answer to the data challenges presented in this section and create data-driven framework for the creation of a transition portfolio comprising of companies that are already aligned, or making credible progress in aligning their business activities with:

- Both the 'Green', and 'Transition' or 'Amber' category of both national and/or regional sustainable financing taxonomies, and;
- International industry bodies' such as GFANZ and CBI's best-practice transition principles while;
- Considering a Just Transition is considered in the following main ways:
 - o Factoring in adequate market inclusivity of eligible issuers across markets and across sectors, including high emission sectors, and;
 - o Considering the social element of a just transition – i.e. climate transition should not come at the cost of upholding human rights;

Section 4 presents an approach to do so by leveraging on various stages of the investment cycle, from building a composite transition screen to monitoring and engagement. Section 5 then presents a case study on the enactment of the approach described in Section 4.

4 Building a holistic framework for listed portfolios

4.1 Alignment with existing industry guidance

It is important to consider that the climate transition framework proposed in this paper should align to existing transition guidance, such as the GFANZ and CBI frameworks mentioned in Section 2.2 in identifying corporates committed to transition. These frameworks are further detailed below.

GFANZ guidance: Under the GFANZ's financial institution net-zero transition plan framework and its Measuring portfolio alignment frameworks^{xxiii, xiv}, financial institutions are encouraged to recognise that transition strategies can target companies along a spectrum of contribution to Net Zero:

1. **Climate solutions:** Companies that provide climate solutions to mitigate, eliminate or remove GHG emissions.
2. **Aligned:** Companies that are already aligned with a 1.5°C pathway.
3. **Aligning:** Companies committed to aligning with a 1.5°C pathway.
4. **Managed phaseout:** High-emitting physical assets such as coal power plants, which can be phased out before the end of their life.

CBI guidance: The CBI's guidance on Transition finance for transforming companies^{xxv} complements the GFANZ's framework by defining company-level principles that should be in place. These principles, when combined with the GFANZ framework, would fall under its four categories (mentioned above). These principles refer to action-backed plans, pathways and reports. CBI's five Hallmarks of a credibly transitioning company^{xxvi} are:

1. **Paris-aligned targets:** Setting sector-specific and company-specific Paris-aligned Key Performance Indicators (KPIs) that are science based, addressing decarbonisation in the short, medium and long term.
2. **Robust plans:** Supporting Paris-aligned targets with a strategy, financing plans and appropriate governance structures.
3. **Implementation action:** Backing up targets and plans with appropriate actions, such as CAPEX allocation.
4. **Internal reporting:** Tracking metrics to determine the success of company targets.
5. **External reporting:** Publicly reporting on the progress of the transition strategy, with independent verification.

Following this categorisation, a transition portfolio would comprise of issuers with business activities targeting both transition ('green' and 'amber' categories of existing sustainable financing taxonomies) and energy efficiency processes and/or targets with sufficient ambition to reach Net Zero. These industry guidance are also aligned with Prudential's 2022 Just and Inclusive Transition paper. Prudential's approach is outlined in more detail in Section 4.1.1.

4.1.1 An Asset Owner approach to transition

In alignment with industry best practice guidance such as the GFANZ and CBI principles-based approaches mentioned above, Prudential’s principles-based approach aims to qualify investments, whether funds, mandates, or individual companies, in one or more of the ‘financing the transition’ categories. From an Asset Owner perspective, this approach can be applicable to Asset Managers managing strategies across private and public (capital) markets.

Climate Solutions	Aligned	Aligning	Transitioning amidst growth	Managed phase out
Companies, projects, or business units dedicated to producing climate solutions that significantly contribute to climate mitigation, climate adaptation, and climate resilience	Companies/projects that are already aligned to a 1.5°C- or below a 2°C pathway	Companies/projects committed to align to a 1.5°C or below 2°C pathway	Companies in carbon-intensive sectors in emerging markets that are significantly reducing emissions intensity	Carbon-intensive assets that need to be phased out before the end of their economic lives to converge to an ‘aligned’ or ‘aligning’ pathway

The framework aims to address two main challenges described in this paper:

- The categories include ‘brown to green’ (i.e., companies not yet aligned to a 1.5°C or below a 2°C pathway) in addition to the well-defined ‘green’ category in Sustainable Finance Taxonomies; and
- It incorporates the ‘common but differentiated responsibilities’ principle of the Paris Agreement by allowing some flexibility with regards to emerging markets through including the ‘transitioning amidst growth’ category.

The ‘aligning’ and ‘managed phase-out’ categories align to GFANZ guidance and the amber category in most Sustainable Finance Taxonomies that have a transition component. The ‘aligning’ category focuses on hard-to-abate sectors, and ‘managed phase-out’ on specific carbon-intensive assets like coal plants.

The ‘transitioning amidst growth’ category is additional to most industry guidance and aims to introduce the much-needed flexibility with regards to emerging markets. Prudential believes this takes a similar approach as the ASEAN taxonomy, which aims to ‘consider the specific situation of the ASEAN Member States, many of which are in a state of development and growth’.

An example of a company that is ‘transitioning amidst growth’ is a utility company operating in a country with increasing electricity demand due to population growth, strong economic growth, and electrification, aiming to ensure universal access to electricity. For instance, an emerging market-based telecommunication service provider that has not committed to a 1.5-degree pathway, however, has transitioned 90% of its rural sites to be powered by hybrid-solar. The company also committed to reducing its GHG emissions by 40% by 2030 and reaching net zero by 2060, which is ahead of its country’s Nationally Determined Contributions (‘NDC’).

4.1.2 An Asset Manager approach – Defining a holistic transition framework for capital markets

At the Asset Manager level, a holistic solution that aligns to the guidance in Section 4.1 and 4.1.1, should leverage the entire investment cycle where portfolio screening captures an issuer-level approach that balances forward looking transition business exposure indicators with emissions reduction outcomes. Monitoring and engagement is also necessary on indicators that hold investee companies accountable to the social element of a just transition (Figure 3).

Stage	Portfolio Construction	Monitoring & Engagement	Reporting
Transition Portfolio Solution	<p>Composite Transition screen for defining an investible universe of securities</p> <ul style="list-style-type: none"> Composite score of 2 components that are sector differentiated (refer to Section 4.2 for details) ✓ Transition opportunity ✓ Emissions reductions efforts <p><i>Qualifying companies score better than a broad average of their sector peers on both components</i></p> <p>Do No Significant Harm (DNSH) considerations</p> <ul style="list-style-type: none"> The screen above can be layered with an exclusionary criteria that aims to prevent Principal Adverse Indicators (PAIs) impact. 	<p>Monitoring & Engagement indicators</p> <ul style="list-style-type: none"> Progress against the components of the composite transition screen. Engaging companies to consider how these companies are not sidelining the social elements while transitioning. Social elements should not be detractors to climate transition performance. Engagement should feature time-based milestones where areas of improvement are identified. Engagement should encourage public disclosure on both transition and social components and continued alignment to industry standards and Sustainable 	<p>Reporting should be aligned with the portfolio and engagement construct and could include:</p> <ol style="list-style-type: none"> Number of engagements Directionality of improvement on the composite transition screen Ensuring no exposure to DNSH indicators over the lifetime of the investment
Outcome	<p>Defining an investible universe of mispriced transition opportunities across markets and sectors.</p>	<p>Engagement on factors that are likely to improve the company's transition-based performance, ensure social elements are not sidelined, and add to the strength of the investment thesis.</p>	<p>Ensure alignment of expectations between Asset Manager and Asset Owner across the investment's lifecycle</p>

Figure 3: Illustrative overview of a just transition framework and investment strategy for listed portfolios

A. Portfolio construction:

This stage features the application of a proposed composite transition screen (more details in Section 4.2) that utilizes current ESG and market data to account for broad market and sector coverage to create an investible universe of companies on both the 'Green' and 'Brown to Green' spectrum. The screen has two key components that identify concrete action and outcomes in transition opportunities and emissions reduction efforts respectively. Companies that qualify will have to score better than a broad average of their sector peers on both segments, with reasonable disclosure on underlying screen components. These companies are likely be those that are already making tangible efforts to back up any public decarbonisation claims, or who have not yet made public decarbonisation claims, but have put in sufficient transition-aligned actions such that working towards the creation and eventual disclosure of a public decarbonisation target should not be insurmountable. The screen also takes into consideration exposure to favourable macro-indicators for transition solutions and inclusion of climate adaptation solutions that target a monetizable component of the social aspect of the climate transition.

B. Monitoring & Engagement:

Engagement should be used as a tool to continually enforce transition outcomes. Monitoring and engagement should be tailored to fit the focus of a transition strategy (see Section 6. for more details). Monitoring and engagement should be done on both the transition screen components, and social factors inherent in the climate transition such as:

- Employment opportunities generated by new transition technologies, and
- Any key social controversies identified by ESG data providers.

Engaging on social factors helps to prevent sidelining of social need in pursuit of transition outcomes and adds to ongoing due diligence, which may strengthen the investment thesis.

For example, transition-driven job creation may be necessary to support skilled manpower needed to execute new transition technologies especially in emerging markets. This can, however, affect line items like operating expenses (OPEX). Conversely, serious social controversies such as unjust displacement of local communities, can harm a company's reputation, in some cases license to operate and therefore detract from the investment thesis. Such social controversies may also affect the 'do not significantly harm' (DNSH) consideration of any sustainable investment.

Engagement within this framework should also focus on 'turning action into public best practice disclosure' to enhance market transparency. These best practice disclosures could be activities such as disclosing in-line with TCFD requirements or obtaining and disclosing verification on climate goals by bodies like the SBTi, if necessary, and aligning with the criteria outlined in Sustainable Taxonomies throughout the holdings period.

C. Client Reporting:

Aligning internal Portfolio Construction and Monitoring steps with external (to the Asset Owner at minimum) reporting signals. This encourages alignment of the investment strategy to its climate transition goals throughout the portfolio's lifecycle.

4.2 Identifying data-points for investment opportunities

The Composite Transition screen proposed in this paper has two main components to capture a wide range of companies that are either already aligned or making efforts to align with a Net Zero future. This dual approach assesses companies' efforts in both transition activities and emissions reduction. The screen components are available as data-points ESG data providers (either at a score or score-component level), and/or market data providers. These components cover (but are not exhaustive to) the following themes:

Component 1: Composite transition opportunity screen

- Measures of input / effort that target the transition activity product development and sales cycle:
 - Input measures should include both climate mitigation and climate adaptation solutions (refer to Box 2).

- Raw data inputs such as a stable Research & Development / Sales ratio and trend.
- Green and transition CAPEX alignment as a percentage of total capital expenditure (CAPEX) (refer to Box 3).
- Measures of output (performance):
 - o Leading indicators of future transition driven technology revenue such as high-quality patents in low carbon solutions relating to climate mitigation and climate adaptation solutions (refer to Box 3). International patent offices often classify low-carbon innovations from companies across all sectors, including high emission sectors.
 - o Revenue from transition activities in low carbon technologies and activities. These can be aligned to existing 'green' and 'amber' taxonomy categories (refer to Box 3).
- Positive macro exposure:
 - o Extent of market exposure to geographies with policy incentives for relevant green and transition solutions. For example, companies exposed to India's energy subsidies provided under its goal to achieve 50% cumulative electric power installed capacity from non-fossil sources by 2030^{xxvii}, or companies exporting or developing critical raw materials essential for the transition that may receive strategic project status in the EU under the Critical Raw Materials Act^{xxviii}.

Box 2: Climate adaptation as a key component of the transition opportunity screen

Measures of input / effort, output and macro exposure should include climate adaptation technology and solutions in addition to low-carbon, or climate mitigation solutions. Climate adaptation solutions are crucial in encompassing the social element in a climate transition. These adaptation solutions are also essential, and present real investable opportunities, especially considering the IPCC's 6th Assessment Report, which states that a 1.5°C future might be very difficult to reach without immediate and drastic decarbonisation.

Implications mean that climate-induced reductions in quality of life are almost guaranteed to happen, particularly in the most affected regions, such as the equatorial belt. There is therefore a pressing need and opportunity to mitigate such effects, especially among the most vulnerable populations. Solutions such as (but not restricted to) advancements in water infrastructure and distribution, drought resistant agriculture varieties, coastal protection solutions and/or solutions targeting health and climate change, should be included wherever possible within the transition screen.

Box 3: Patents, Green CAPEX, Green Revenue and their importance in a composite screen

Measures of input / effort in low carbon transition should feature all three indicators of high-quality product development (as proxied through a patent screen for example), Green CAPEX and Green Revenue activity. These measures encompass the entire product development and sales cycle, rather than focusing on just one, or a few of these variables.

Focusing only on revenue will make the screen less forward-looking. Focusing only on Green CAPEX may sideline sectors where maintenance CAPEX, instead of growth CAPEX, is needed for energy efficiency upgrades. Existing Green CAPEX data also tends to be captured in alignment to the 'Green' category of frameworks such as the EU Taxonomy, which may not capture all transition-eligible CAPEX. High quality patents can be a proxy for future transition business growth but carry risks as a singular screen as not all patents will become commercial products.

Component 2: Emissions reduction efforts screen

- Measures of input / effort:
 - Capacity trend of clean technology such as clean energy capacity.
 - Presence or absence of energy efficiency enhancements such as energy management systems, portfolio of green buildings.
- Measures of output (performance):
 - Emissions performance: Weighted Average Carbon Intensity (WACI) and/or absolute emissions trend.
 - Note: Having data for this component of the screen is suggested to be compulsory for the full functioning of the screen as emissions disclosure is a basic step that shows company commitment to addressing climate change.
 - Presence of a company-wide strategy on climate with board oversight.
 - If available, presence of a public climate commitments, such as commitments to align with country NDCs, or achieving Net Zero by 2050 and/or SBTi verification.
- Positive macro exposure:
 - Extent of exposure to geographies with policy incentives for activities relating to carbon reduction. For example, markets that enforce minimum green building standards to incentivise real estate developers to meet minimum environmental considerations as part of their standard business activity.

Screen components can be sourced from ESG and market data providers. Section 5 provides an overview of coverage as well as the emissions, social and governance characteristics of the screen when enacted on the Eastspring Just Transition Portfolio.

Incorporating adjustments to the screen: In utilising the screen, Asset Managers can choose from a variety of these data sources to tailor the composite screen to their portfolio's geography and sector. For example, a broad transition portfolio could include score elements obtained entirely from a final score assessment, or interim score components of ESG and climate ratings by major ESG data providers. Emissions trends as a component of the emissions reduction efforts screen component can be sourced from both ESG and market data providers. If an Asset Manager is intending to use the screen to build a transition portfolio focused on companies in the EU, data on company climate patents for the transition opportunity screen can be obtained from patent offices like the European Patent Office's Y02 patent tag for 'technologies or applications for mitigation or adaptation against climate change'.

Qualifying companies on the composite transition screen: Upon construction of a composite screen comprising of the above two main components, a score can be assigned to a company at the transition opportunities and the emissions reduction efforts level. Asset Managers can then select for companies that score better than a broad average of their sector peers on both sub-components, or at a combined total composite transition level, with reasonable disclosure on underlying screen components. Qualifying companies in this manner may increase exposure to companies that are taking steps in both fronts to be better prepared for a climate changed future. This can be done using derivations of a ‘best-in-class’ screen approach, relying on a percentile selection approach, or calculation of a significance deviation from a mean approach, depending on the underlying score distribution of the score’s universe.

Note on application:

A. Application of the score in alignment to CBI’s guidance on Transition finance for transforming companies framework:

It is important to note that both elements of the composite transition screen should not only form a score that is better than a broad average of its industry peers, with reasonable disclosure on underlying screen components, but should also exhibit the same directionality in order to select for companies that are not adding to their emissions while also, increasing transition-aligned activities. Companies that score poorly on the emissions reductions effort element of the screen while scoring well on the other should be excluded in a resultant portfolio to avoid the chance of carbon/ emissions lock-in. When applied to sectors such as the power generation sector, this will likely form a data-proxy indicator which will help Asset Managers exclude companies that are expanding fossil fuel capacity while trying to also transit to renewables. Directionality trends for each element of the composite score should be monitored and become a point of engagement throughout the portfolio’s lifecycle. Section 6. details how the screen should be monitored and potentially tailored to accommodate variances in an Asset Manager’s transition strategy.

B. Increasing the chances that companies selected as a result of the screen are future ‘transition leaders’:

The above recommended action of only selecting for companies that score better than a broad average of their sector peers with reasonable disclosure on underlying screen components and checking that both elements of the composite score exhibit the same directionality (see CBI alignment point above), a company should have a non-zero score in Component 2: emissions performance as this fulfills the basic requirement of companies deemed to be making credible transition efforts having to already measure and disclose their emissions as a basic requirement. A company scoring zero in this sub-indicator is likely to score worse than its sector peers and hence not be included as a resultant selection of the screen. However, this paper would like to point out a non-zero score requirement in the emissions sub-component as necessary for intended utility of the screen.

C. This framework places less emphasis on public and/or certified Net Zero commitments (see Section 4.2.1 for details on limitations) due to potential unconscious bias against emerging markets and certain high emissions sectors arising from data availability and different states of disclosure maturity which may not correlate to actual transition activity on the ground (Section 3.2.2). Instead, it focuses on concrete actions in climate transition at the business-level.

4.2.1 Limitations of the framework

A limitation of the screen is its reduced reliance on public, and publicly certified Net Zero or SBTi claims, which are common in current transition scores constructed by ESG data providers due to the issues covered in Section 4.2, ‘Note on Application, Point C’. However, inclusion of component 1 above (the composite transition opportunity screen), aims to guard against ‘transition-washing’ by increasing the chances that companies selected, beyond demonstrable efforts to reduce emissions, have instituted and acted upon concrete transition plans as part of their operations. As climate transition remains a constantly evolving space, improvements in data quality, standardisation and granularity of each of the screen components are expected over time, as corporate level disclosure on climate transition and Sustainability, continues to improve. The screen and its underlying data feeds are also subject to change as the ESG (including climate data) landscape potentially becomes more regulated over time (e.g. Japan Financial Services Agency’s code of conduct for providers of ESG data and evaluation, the EU’s Regulation on the Transparency and Integrity of ESG Rating activities, 2024), the quality and coverage of the underlying composite screen components will likely improve and evolve over time.

5 Implementing the framework – Case study: Eastspring Just Transition Portfolio⁵

This segment features the Eastspring Just Transition portfolio as an application example to illustrate an overview of coverage as well as the emissions, social and governance characteristics of the overall transition framework approach (Section 4.1.2) and the composite transition screen (Section 4.2).

5.1 Just transition as an investment strategy

As a broad investment approach, this paper proposes that a Just Transition is considered in the following main ways within capital market portfolios:

- Factoring in adequate market inclusivity of eligible issuers across markets and across sectors, including high emission sectors, and;
- Considering the social element of a just transition – i.e. climate transition should not come at the cost of upholding human rights.

This approach not only encourages that the climate transition be inclusive and acknowledges the ‘common but differentiated responsibilities’ under the Paris Agreement, but also enables investors to capture a broad universe of transitioning companies and potential mispriced opportunities in climate transition. Along these lines, the investable universe of securities in the Just Transition portfolio includes companies with high emissions in Asia and Emerging Markets. Companies that are eventually selected within the Just Transition Portfolio are those that meet geographic considerations (in the portfolio’s case, Asia Pacific) and sector considerations (in the portfolio’s case: high emissions sectors such as Industrials, Materials, Energy, Utilities and Real Estate). These companies should also have a higher score than a broad sector average of their peers in an Asia Pacific universe on both components of the composite transition screen (transition opportunities and emissions reductions efforts).

The continued engagement and monitoring component taken as part of the holistic transition framework proposed in this paper enables a due diligence feedback loop on progress against the composite transition screen and allows the added consideration of the social element of climate transition. In this manner, companies can be continuously assessed for transition preparedness, alignment to industry (such as CBI’s and GFANZ’s principles outlined in this paper) and Asset Owner standards (such as Prudential’s framework, also outlined in this paper) as well as checking that social factors are not detractors to a portfolio company’s transition performance.

⁵ The Eastspring Just Transition Portfolio is yet to be inceptioned.

5.1.1 Coverage and ESG features

To test coverage outcomes, the composite transition screen was used on an Asia Pacific universe of securities. Coverage was compared against a Green revenue screen obtained from a third party ESG data provider and an emissions and climate commitments driven screen, also from a third party ESG data provider.

Table 3 shows a comparison of the score coverage on the same aforementioned universe, between:

- **Case A:** Companies qualifying on the composite transition screen.
- **Case B:** Data from a third party ESG data provider selecting for companies which have at least 5% green revenues, as defined as alignment with the EU Taxonomy,
- **Case C:** Data from a third party ESG data provider selecting for companies that are deemed as most exposed to transition opportunities based on estimated proportion of businesses in high-carbon operations and products and an assessment of transition management based on management quality and public climate commitments.

Table 3: Score coverage of Asia Pacific companies qualifying on the composite transition screen, a >5% revenue exposure to a Green revenues screen and companies that are deemed as low-risk/ high-transition effort using a transition score from a third-party ESG data provider.

	Case A: Composite Transition Screen	Case B: Green Revenue Screen	Case C: Emissions and commitments-based Screen
Coverage	~10% (n = approx. 1,000)	~5% (n = approx. 500)	~1% (n = approx. 100)

Note: This coverage test was run in May 2024. The information provided herein are subject to change at the discretion of the Investment Manager without prior notice.

Besides increased coverage of the composite transition screen for an Asia Pacific universe as compared to the other two test cases, the screen shows a reasonable diversification across the high emissions sectors (Figure 4) and countries (Figure 5) which are the focus of the portfolio. As the climate data landscape continues to improve and evolve, we expect the coverage of all three screens to improve over time.

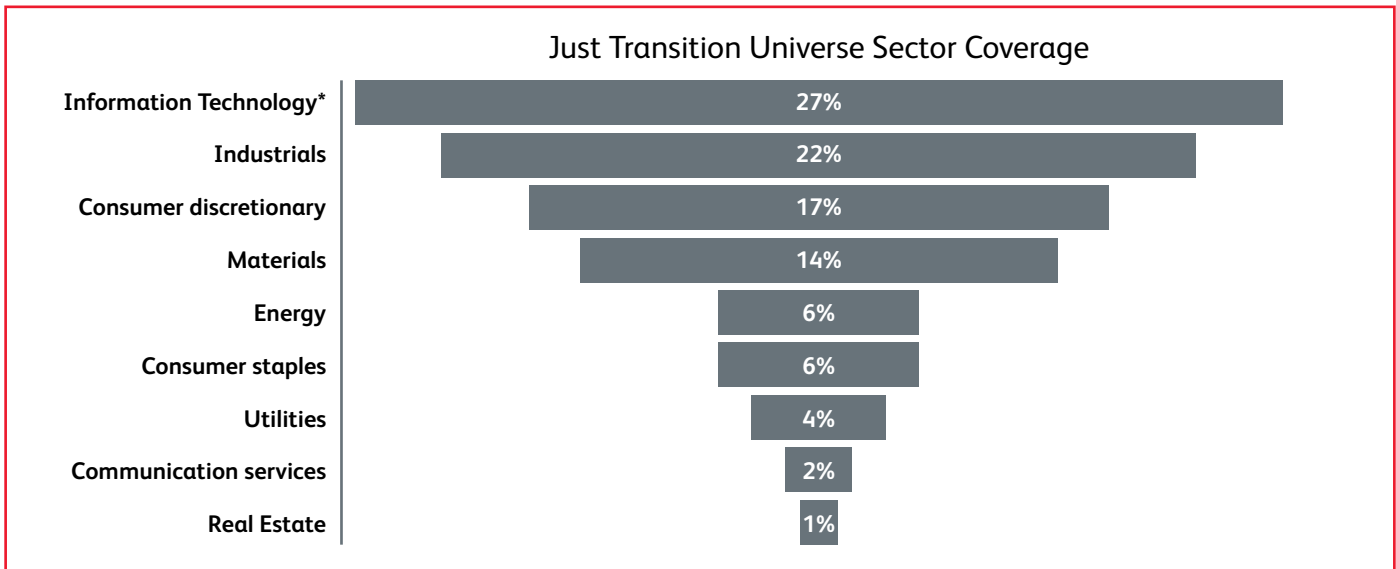


Figure 4: Just Transition Universe – Sector split across high emission sectors.

* Note: Comprises of high emission IT manufacturers e.g. semiconductor and hardware sub-sectors.

This screen was run in May 2024. The information provided herein are subject to change at the discretion of the Investment Manager without prior notice.

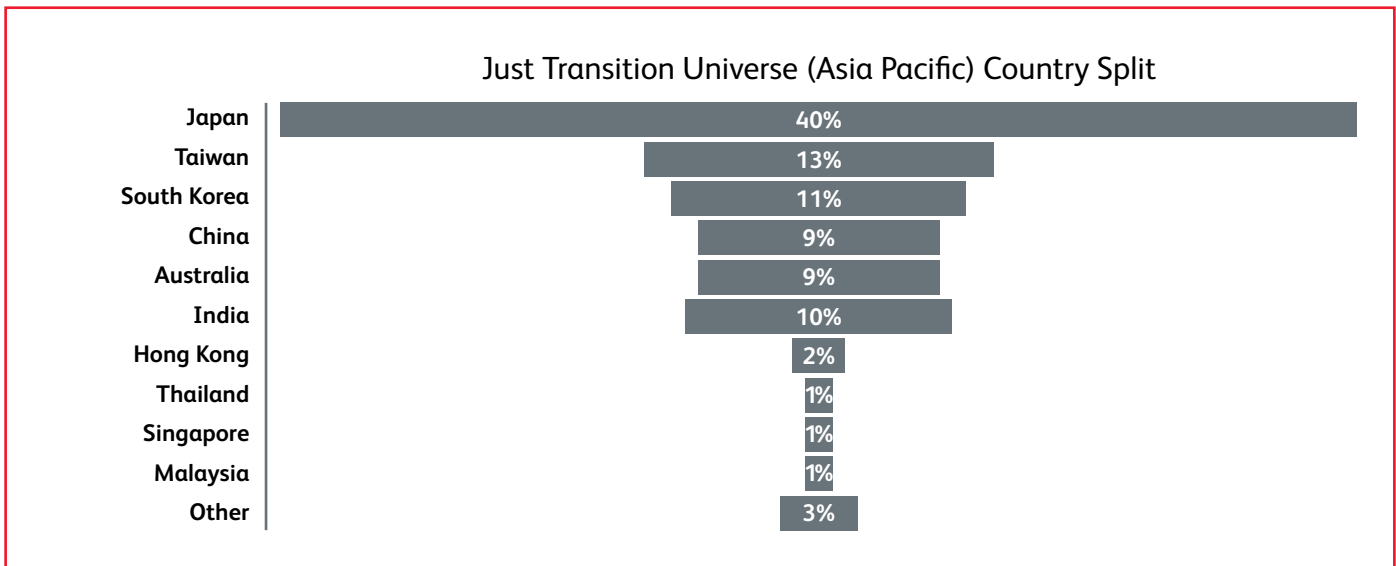


Figure 5: Just Transition Universe – Sector split across countries in the Asia Pacific.

Note: This screen was run in May 2024. The information provided herein are subject to change at the discretion of the Investment Manager without prior notice.

We had also further investigated if companies eligible for the Just Transition Portfolio (i.e. those that pass the composite transition screen) also had other positive ESG aspects, such as a lowered emissions profile, and better social and governance ESG scores, especially when compared to a reference index with similar geographical coverage as the Just Transition Portfolio, such as the MSCI Asia Pacific Index.

As the composite transition screen aims to select for companies better positioned for a climate-changed future, and that are already demonstrating input and outcome efforts in both transition business opportunities and emissions reductions, companies qualifying for the Just Transition universe, despite comprising of higher emission sectors only, have shown a persistently lower WACI over a 3-year period compared to the MSCI Asia Pacific Index despite comprising of high emission industries (Figure 6).

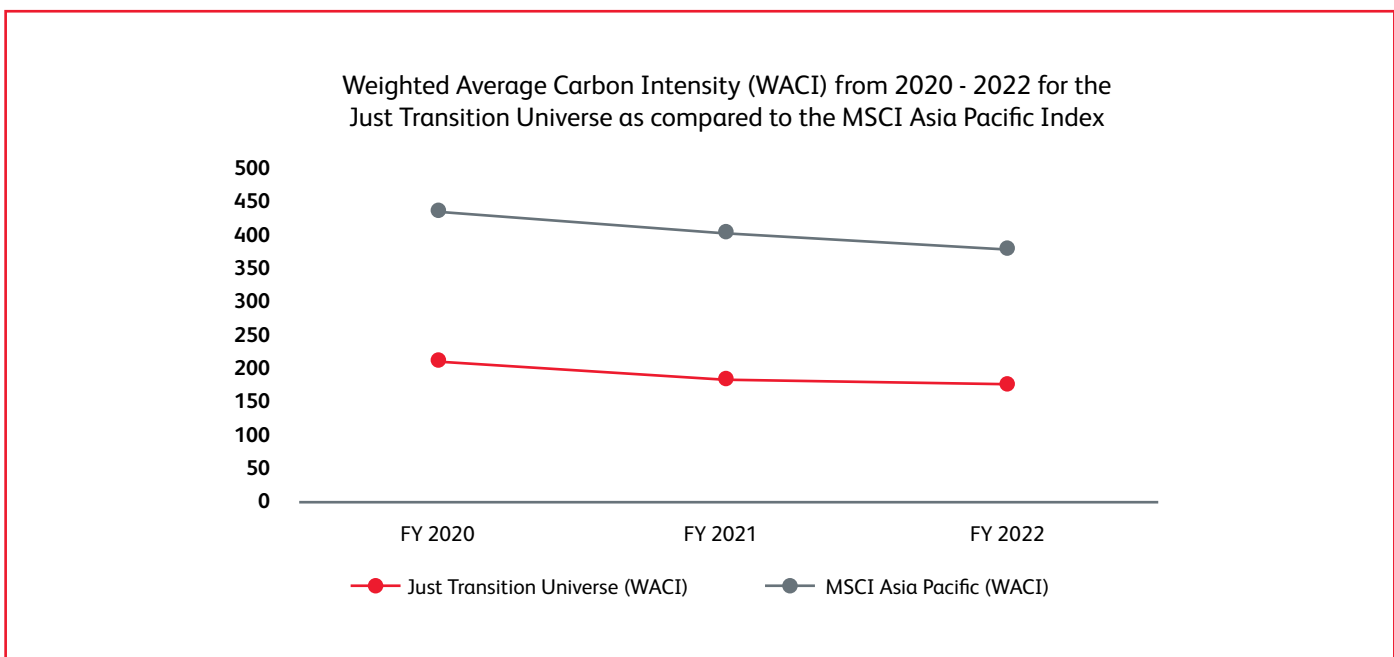


Figure 6: Three-year WACI trend of companies in the Just Transition Universe with a focus on high emission sectors, and companies in the MSCI Asia Pacific Index.

Note: Screen was run as of May 2024 data (Source: MSCI). In this screen, both the Just Transition Universe and the MSCI Asia Pacific Index used in this case study have excluded companies deriving greater than 30% of their revenues from coal mining and/or electricity generated from thermal coal, in alignment with Prudential and Eastspring Investments' ESG coal exclusion policy. The information provided herein are subject to change at the discretion of the Investment Manager without prior notice.

Companies qualifying on the composite transition screen also tend to exhibit higher collective Social and Governance scores when compared to similar scores on MSCI Asia Pacific Index constituents (Figure 7).

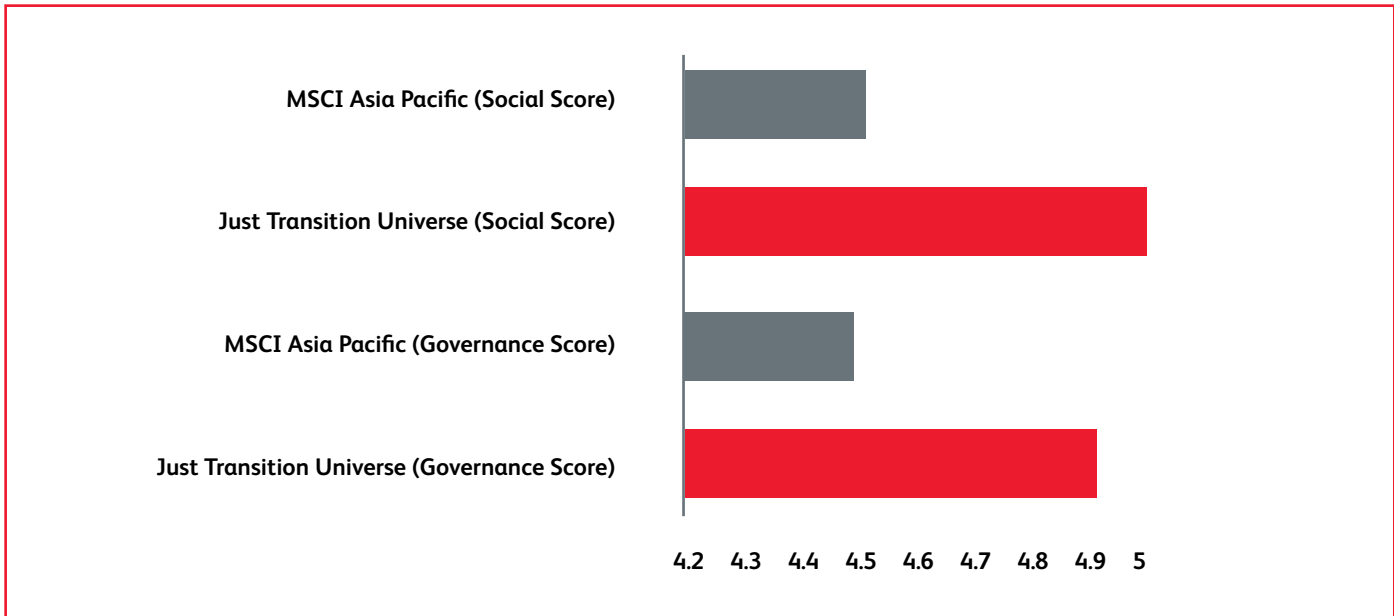


Figure 7: The Average MSCI Social and Governance score of companies in the Just Transition universe compared to the average MSCI Social and Governance score of the MSCI Asia Pacific index constituents. On the MSCI scale, the higher the score number, the better the company’s performance on the ESG indicator measured.

Note: Screen was run as of May 2024 data, (Source: MSCI). In this screen, both the Just Transition Universe and the MSCI Asia Pacific Index used in this case study have excluded companies deriving greater than 30% of their revenues from coal mining and/or electricity generated from thermal coal, in alignment with Prudential and Eastspring Investments’ ESG coal exclusion policy. The information provided herein are subject to change at the discretion of the Investment Manager without prior notice.

As of the time of this coverage and ESG feature test (May 2024), the composite transition screen has resulted in increased coverage when tested on a universe of Asia Pacific companies. The WACI and Social and Governance ESG scores of the companies selected into the Just Transition Universe also appears to be positive when compared against MSCI Asia Pacific Index constituents (excluding companies deriving greater than 30% of their revenues from coal mining and/or electricity generated from thermal coal from both the universe and Index).

This has enabled the Just Transition Portfolio to construct an Asia Pacific equity portfolio comprising of stocks from a broad starting ‘picking pool’ which are true-to-label as described within this framework. Examples of a few such portfolio companies are included in Box 4, and these companies seem to demonstrate concrete transition innovation while managing emissions reduction, even if they may not be considered ‘Green’ on conventional revenue alignment to the Green component of existing Sustainable Finance Taxonomies, and are from higher emission sectors.

Box 4: Eastspring Just Transition Portfolio Case Study Companies, as of May 2024.

Note: The information provided herein are subject to change at the discretion of the Investment Manager without prior notice.

Companies qualifying for inclusion in the Eastspring Just Transition Universe, and that can be selected into the Just Transition Portfolio, have demonstrated efforts that align with international or national best practice (i.e. adoption of TCFD recommendations and having a public climate commitment to Net Zero 2050 or at least alignment to national NDCs). These companies have taken concrete actions that underpin their climate transition goals. These might include a decreasing GHG intensity trend, tangible initiatives around energy efficiency, or the issuance of Green, Sustainable and Social (GSS) bonds or loans.

An example of some companies are:

- An electronics manufacturer in North Asia region within the universe has a pronounced low-carbon innovation focus for new businesses, that would benefit the entire infocomm and technologies sector, and increase their process efficiency. While the former would result in increased revenue over time, the latter results in near immediate savings in operational cost. These technologies include process gas reduction and circular economy initiatives for resource efficiency. The company has lodged high quality international patents in these areas and has a developed pipeline of technology application that has continually fed into some of its leading product lines. The Company has short, mid-term and long-term climate emissions reduction targets that are ahead of its domicile's NDC targets. The company has also issued a sustainability-linked bond with emissions reduction KPIs which have obtained Second Party Opinion (SPO) certification.
- Another case study within the Eastspring Just Transition portfolio shows a similar coherence between forward looking transition opportunities and actual decarbonisation performance. This company, an Energy company in South Asia, focuses on research and development (R&D) innovations that improve the environmental efficiency of their products. It has also maintained a steady R&D as well as low-carbon CAPEX over a 3 Year period (2021 to 2023). Some of its products enable the reduction of catalyst use in refining processes, innovations that result in the reduction of carbon emissions across oil-derived product manufacturing, and the creation of new green business lines through waste-to-product recycling (e.g. road material). Although the company has yet to issue a GSS bond, it has a publicly stated Net Zero commitment ahead of 2050 and well ahead of its country's NDC targets.
- A Utilities company in Asia that also qualifies for inclusion features an ambitious Net Zero decarbonisation trajectory that is steeper than its country's NDCs. The company has short, mid-term and long-term emissions reductions and renewable energy increase targets. It has adopted the Task Force on Climate related Financial Disclosures (TCFD) framework where it has implemented climate scenario analyses on its business lines. The company has also tied senior management remuneration to climate KPIs such as coal phase-out and renewable energy generation capacity. It has a strong focus on transition and climate innovation, with several patents in Carbon Capture and Utilisation as well as research and development projects in at least the demonstration phase focusing on renewable energy solutions. This has been underpinned with a steady R&D/ Sales trend over the past 2 years.

5.2 Active shareholding, Reporting and Review

As summarised in Figure 3, Section 4.1.2 a Just Transition investment approach should include monitoring and engagement across the investment lifecycle on transition, including social elements. Key indicators should also be reported to clients for transparency and continued alignment of investment motivations.

Taking a company-level approach to transition analysis, as opposed to an activity-based approach can position an investor to:

1. Encourage investee companies to continue to integrate low-carbon improvements into business practices and initiate productive conversations that integrate both transition and capital management in the short to long term.
2. Communicate to investee companies to disclose and track social indicators connected to climate transition, such as (but not limited to) the presence of upskilling programs, and turnover trends.
3. Have targeted discussions on the use and incorporation of climate scenario analysis and/or carbon pricing in line with regulatory and/or market driven developments in climate change.
4. Encourage investee companies to publicly report on actions that they may already be doing as part of their climate transition business models and turn these into public climate commitments such as Net Zero commitments with verification by bodies like the SBTi if necessary.

Collectively, the four elements above can help an investor benefit from a future repricing of transition risks and opportunities in the capital market as it forms an additional core component of the due diligence process over time. Engagement also protects shareholder rights and interests, allowing the investor to voice concerns (where necessary), and reinforce positive practice. In doing so, this can align the interests of investors with those of the portfolio company's management.

Accordingly, the measures of success of the Just Transition approach should encourage that transition alignment in the portfolio construction, monitoring and engagement phases that collectively flow through to client (Asset Owner) reporting. Indicators of success include reporting on general improvements in directionality against the composite transition screen scores/ score components and documenting regular engagements with companies in the portfolio throughout the entire holdings period.

Reporting should be conducted regularly, at least annually, over the fund's lifecycle. Finally, considering the constantly evolving landscape pertaining to climate transition, regular reviews on the scope of ESG and climate metrics due to new or available data should be considered.

6 Variations to the framework

Climate transition is a consistently evolving field. Therefore, engagement and monitoring are essential and should be leveraged to monitor that alignment to the transition principles outlined in this paper are adhered to over time. It also acknowledges the need for certain markets and sectors to have adequate preparation time to translate action into best practice disclosure, while allowing for common but differentiated responsibilities approach under the Paris Agreement.

The composite transition screen is designed to have two components that together form a transition score. These components involve the transition opportunities screen and the emissions reduction efforts screen. Companies selected for a portfolio must score better than the broad average of their sector peers on the composite screen with reasonable disclosure on underlying screen components. As mentioned in Section 4.2, it is essential to continuously monitor that both elements of the component screen show the same directionality. The screen is flexible to enable modifications which may help an Asset Manager's achieve various specific outcomes within their own transition strategy such as (but not limited to):

- **Increase alignment to no carbon/ emissions-lock in for capital markets portfolio in accordance with CBI's guidance on Transition finance for transforming companies framework:** Continuous monitoring should check that companies that are scoring poorly on one element of the screen while doing well on the other element are not included in a portfolio created from the screen to avoid the chance of emissions lock-in. For sectors like the power generation sector, this can serve as a data-proxy indicator, helping Asset Managers to exclude companies that are expanding fossil fuel capacity while trying to also transit to renewables. Such directionality trends for each element of the composite score should be monitored and become a point of engagement throughout the portfolio's lifecycle.
- **Increase weighting of, and emphasise a more rapidly decreasing trajectory of the carbon reduction component of the screen for sectors such as Oil and Gas which perform flaring to increase the likelihood of selecting for companies that are taking greater steps in reducing Methane (CH₄) and Nitrous Oxide (N₂O) emissions as these usually have higher GHG potency factors than carbon dioxide:** Higher importance can be placed on rapid cuts in CH₄ and N₂O emission by increasing the weightage of the emissions reduction component within the composite score over time, particularly for high emission fossil energy-based sectors. Additionally, CH₄ and emission reduction targets can also be used as concrete engagement elements with companies should these specific criteria be key to the transition strategy

In general, as companies selected by the screen should already score well on both screen components as compared to their industry peers, these companies are likely willing, and on a positive trajectory to align to climate transition efforts. Engagement should encourage them to disclose such efforts consistently and publish how they are tracking against international best practices such as CBI sector targets where it aligns with their core businesses, their public climate targets (e.g. Net Zero 2050) and their country NDCs.

7 Conclusion

Achieving the aims of the Paris Agreement requires a step-up in transition financing and investments. However, the diverse landscape has led to multiple, often varied, interpretations across the capital stack. Current regulator and industry guidance has focused mainly on transition (mostly Green) financing and emissions-reduction based transition investment. This has resulted in a lack of focus across capital markets on channelling capital at scale towards climate transition in a just manner.

The Eastspring-Prudential climate transition whitepaper provides a lens for investors to align capital market investments with the climate transition principles promoted by industry standard setters such as GFANZ and CBI. It uses a composite bottom-up screening methodology within a composite transition screen to define a portfolio of companies that are actively adjusting their business models to a climate-changed future. This approach can help capital market investors select companies that are better prepared for climate transition on both transition opportunities and emissions management fronts, and that can potentially benefit from the future repricing of climate-risk in the capital markets.

This paper uses the Eastspring Just Transition Portfolio as a case study which aims to demonstrate that the framework results in adequate coverage for high emitting sectors in an Asia Pacific universe, and a better WACI, Social and Governance scores as compared to the MSCI Asia Pacific Index constituents (based on MSCI data as of May 2024). Resultant companies that can qualify for inclusion in the Just Transition Portfolio also seem to demonstrate concrete action in transition innovation and emissions control.

The framework can be applied at the issuer level and is therefore applicable for capital market portfolios comprising of listed equities and/or general corporate bonds.

8 Glossary

Asset Manager	An entity that manages investment portfolios on behalf of Asset Owners by making investment decisions, executing trades, and monitoring performance according to the Asset Owner's objectives and risk tolerance.
Asset Owner	An entity that manages investments of its own or for others, either directly or through external managers. This includes institutions such as pension funds, foundations, family offices, insurers, and sovereign wealth funds.
Carbon/ Emissions lock-in	The situation where existing investments in carbon-intensive infrastructure (e.g., long-lived fossil fuel dependent assets) create barriers to transitioning to low-carbon alternatives.
Climate Transition / Transition	The process of meeting the Paris Agreement goals, and in the process, necessitating changes for companies, communities and countries to adapt to a climate-changed future across all markets and sectors. This paper focuses on climate transition from the lens of the capital markets.
Composite Transition Screen	A screening methodology proposed in this whitepaper, that facilitates the identification of companies that are already aligned or progressing towards aligning with a Paris Aligned future from a broad universe of securities.
Decarbonisation	The process of reducing or eliminating greenhouse gas emissions, primarily carbon dioxide, from economic activities to mitigate climate change. This can involve transitioning to renewable energy sources, improving energy efficiency, and implementing carbon capture and storage technologies.
Environmental, Social and Governance (ESG)	A framework used to understand how a company is managing risk and/or opportunities on environmental, social, and corporate governance issues
Hard-to-abate	Sectors or industries where it is particularly challenging and costly to significantly reduce greenhouse gas emissions due to technological limitations and/ or the lack of readily available low-carbon alternatives.
Just Transition	The process of achieving the goals of the Paris Agreement in a fair and inclusive way across sectors and markets. This should consider elements of (but not restricted to) of the common but differentiated responsibilities under the Paris Agreement, recognition that high emission sectors (in addition to Green sectors), form a key part of the climate transition, and that social aspects such as workers' rights and livelihoods, should be considered.
Mispriced assets	Assets whose market value are underpriced or overpriced and does not accurately reflect their true risk and return potential at the point of assessment. This could arise due to challenges around data definitions and availability.
Nationally Determined Contribution (NDC)	A commitment made by each country under the Paris Agreement to reduce its greenhouse gas emissions and adapt to the impacts of climate change. NDCs are reviewed and updated every five years.
Net Zero	A state in which all greenhouse gas emissions emitted into the atmosphere are balanced by its removal from the atmosphere.

9 Appendix

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