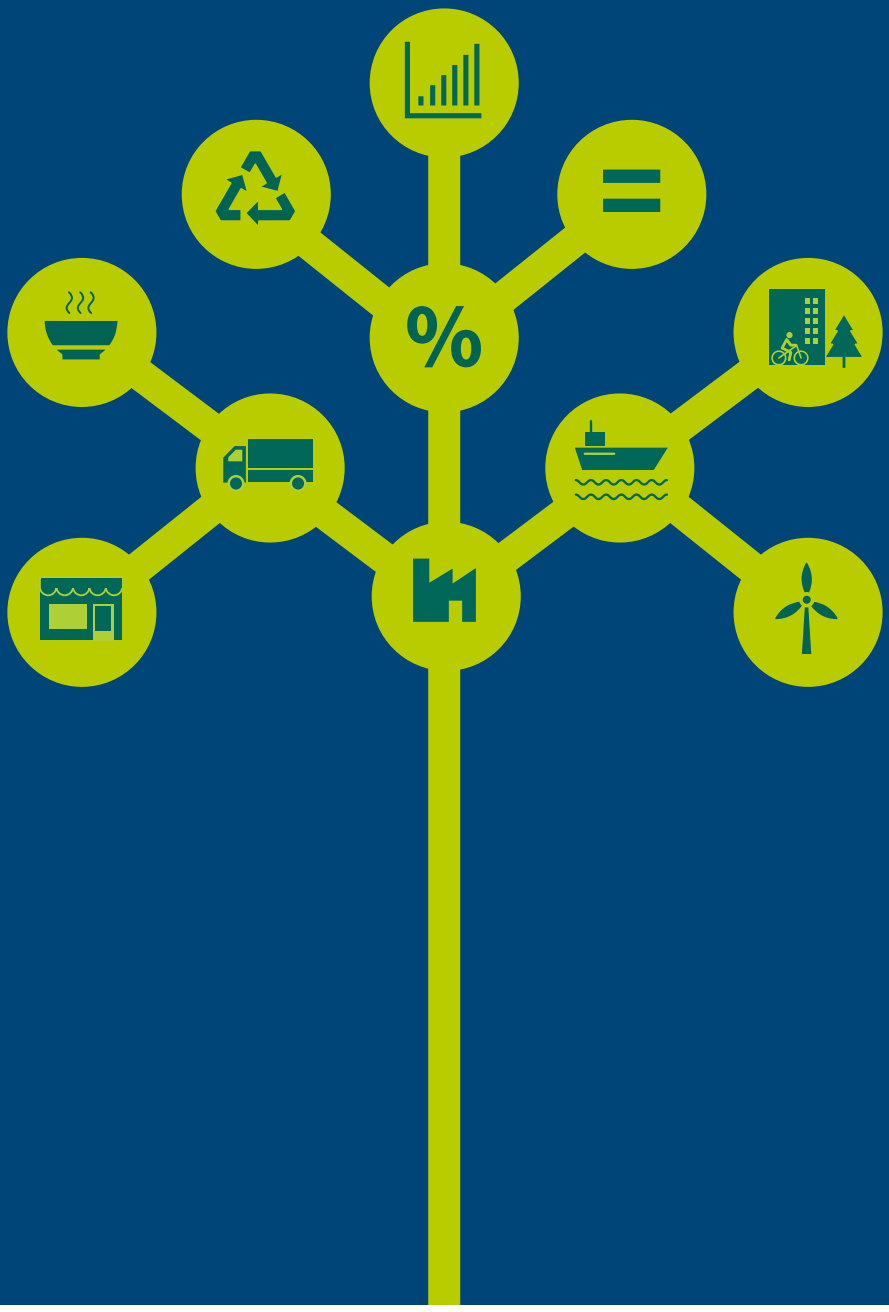
Financing Decarbonisation in the Commercial and Light Industry Supply Chain



Climate Bonds INITIATIVE

Prepared by Climate Bonds Initiative and WWF

WWF

Contents

Acronym List

ACT: Assessing Low-Carbon Transition
CAPEX: Capital Expenditure
CBAM: Carbon Border Adjustment Mechanism
CCS: Carbon Capture and Storage
CMM: Capital Markets Malaysia
CO2e: Carbon Dioxide Equivalent
COP26: Conference Of the Parties 26
DFIs: Development Finance Institutions
EE: Energy Efficiency
EIB: European Investment Bank
EM: Emerging Markets
ESCO: Energy Service Companies
ESG: Environmental, Social, And Governance
FI: Financial Institution (Used as FI Singular, Fis Plural)
FSI: The Future Supplier Initiative
GCF: Green Climate Fund
GHG: Greenhouse Gas
Gt: Gigatonnes
GTFS: Green Technology Financing Scheme
HVAC: Heating, Ventilation and Air Conditioning Systems
ICMA: International Capital Markets Association
IEA: International Energy Agency
IFC: International Finance Corporation
IPCC: Intergovernmental Panel on Climate Change
IPPU: Industrial Processes and Product Use
KPI: Key Performance Indicator (Used as KPIs Plural)
LEFASO: Vietnam Leather, Footwear, And Handbag Association
MEMR: Ministry Of Energy and Mineral Resources
MNC: Multinational Company (Used as MNC Singular, MNCs Plural)
Moit: Ministry of Industry and Trade
MSME: Micro, Small and Medium Enterprises
NDCs: Nationally Determined Contributions
OPEX: Operating Expenditure
PG&S: Purchased Goods and Services
PLN: PT PLN PT Perusahaan Listrik Negara (Persero) (State-Owned Enterprise Overseeing Electricity Generation)
PPAs: Power Purchase Agreements
PV: Solar PV (Photovoltaic)
RE: Renewable Energy
RM: Relationship Managers
ROI: Return On Investment
RUPTL: National Electricity Supply Business Plan
SBTi: Science Based Targets Initiative
SCM: Securities Commission Malaysia
SIDBI: Small Industries Development Bank of India
SMEs: Small to Medium-Sized Enterprises
SPO: Second Party Opinion
TCFD: Task Force on Climate-Related Financial Disclosures
Toe: Tonnes Of Oil Equivalent
TPI: Transition Pathway Initiative
TTB: TMB Thanachart Bank
UOB: United Overseas Bank
VCOSA: Vietnam Cotton and Spinning Association
VDB: Vietnam Development Bank
VEPF: Vietnam Environmental Protection Fund
VIP: Vietnam Improvement Program
VITAS: Vietnam Textile and Apparel Association
WTO: World Trade Organisation

Foreword

Purpose and scope of the report

Climate Solutions Partnership (CSP) is a five-year philanthropic collaboration between HSBC, WWF, and WRI which aims to scale-up climate innovation ventures and nature-based solutions, remove deforestation from palm oil supply chains, and increase sustainable production and consumption, while helping the energy sector transition towards renewables in Asia. This combination of resources, knowledge, and insight is assisted by Climate Bonds Initiative (Climate Bonds), which is working with WWF to facilitate access to finance for select companies in Vietnam and Indonesia as part of the Climate Solutions Partnership Energy Transition work.

This report was designed after engaging with financial institutions and SMEs that make up the light industry global supply chain and examines decarbonisation strategies for commercial and light industries in Indonesia and Vietnam, with a particular focus on apparel and footwear manufacturing. These sectors represent significant economic activities in both countries while also contributing substantially to their respective industry's carbon footprints.

60%

Over 60% of the country's electricity is used by industrial and commercial sectors, with 80% of it powered by coal and gas.

The decarbonisation challenge in Indonesia and Vietnam

Vietnam and Indonesia are expected to account for approximately 70% of the increase in total cumulative CO_2 emissions across the Association of Southeast Asian Nations (ASEAN) region from 2020–2030 due to their dependency on fossil fuels.[1,2] This is driven partly by an increasing demand for energy, estimated at a growth rate of 11% and 4% annually for Vietnam and Indonesia, respectively.[3] According to the International Energy Agency (IEA), Indonesia currently accounts for 1.9% of global CO_2 emissions, an increase of 156% since the year 2000; while Vietnam accounts for 0.8%, representing an increase of 548% since 2000.[4,5]

To achieve its emission reduction targets, Indonesia needs to decarbonise its industrial and energy sectors. While industrial processes and product use (IPPU) contribute fewer emissions than other sectors, Indonesia's industries still generate significant emissions from electricity and fuel consumption. Over 60% of the country's electricity is used by industrial and commercial sectors, with 80% of it powered by coal and gas. Renewable energy (RE) accounts for just 15% of the 13.4 GW total installed capacity.

The manufacturing sector

For Indonesian and Vietnamese manufacturing companies, the urgency to adopt sustainable practices is driven by two key priorities: the need to decarbonise production to maintain competitiveness within global supply chains, and the imperative to enhance energy efficiency in alignment with cost considerations and the national decarbonisation agenda. The manufacturing sector accounts for 18% of GDP in Indonesia, while in Vietnam the industrial and construction sector accounts for 45% of GDP.[6,7] Based on IEA data, the industrials sector in Indonesia and Vietnam represents 25% and 31% of total energy related CO_2 emissions, respectively.

Thus, the manufacturing industry remains an important segment of the Vietnamese economy and a contributor to greenhouse gas (GHG) emissions, primarily from the use of energy as heat in industrial processes, both in heavy industry (such as cement and steel manufacturing) and in light industry (such as food or garment production). Globally, light industry accounts for a total of 8% of total emissions with the production of food accounting for 30%, machinery (16%), textiles (8%), and vehicles (7%) as per IEA reports. Hence, a focus on decarbonising this economic sector in Indonesia and Vietnam would have a tangible impact on the overall decarbonisation in the ASEAN region.

From a technological standpoint, emissions from light industry are generally easier to mitigate than those from heavy industry, as they require lower operating temperatures. However, hard-to-abate sectors are concentrated among fewer larger players, whereas the widespread distribution of light industry across numerous manufacturing sites and companies presents a challenge to the large-scale deployment of clean technologies.

As the environmental impact and energy consumption patterns are similar across the various sub sectors of the light manufacturing industry, the challenges and potential opportunities to shift to a more sustainable footprint could also be replicated. For the purposes of this report, the focus will be on the apparel and footwear industry, which is a substantial contributor to global GHG emissions, with a 2024 McKinsey report estimating the apparel industry to contribute between 3-8% of global emissions.[8]

Since hosting the G20, Indonesia has actively been positioning the country's potential as an up-and-coming player in the global supply chain and potentially a production hub for various manufacturing activities. As of 2023, the apparel and footwear industry contributes 23% of total non-oil and gas related exports and is growing as a strong hub. Similarly, Vietnam's textile and garments industry has experienced rapid growth over the last decade, becoming a prominent player in the global supply chain. In 2024, textile and garment exports are projected at USD44bn an increase of 11.26% on 2023.[9] This growth has resulted in the employment of 2.5 million workers and led to Vietnam's prominence in the global supply chain.[10]

Further analysis from disclosures of the Science Based Targets initiative (SBTi) members suggests that for the apparel and footwear industry, scope 3 emissions make up most of the emissions (of the 15 categories identified under scope 3, purchased goods and supply is the primary cause). For example, in FY21, Nike's scope 3 emissions accounted for 98.9% of total GHG emissions and for purchased goods and services (PG&S) scope 3 emissions were 88.5%.[11]

Decarbonising this sector requires investments in energy efficiency, RE, waste minimisation, and sustainable material sourcing. However, target entities in Vietnam and Indonesia are predominantly small to medium-sized enterprises (SMEs) which are hindered from designing and implementing low-emission transition strategies due to misaligned national level incentives, limited access to technical knowledge and expertise, their low-margin environment, and lack of access to financing.

In recent years, the inclusion of SMEs within the scope 3 emissions of major international brands has driven a notable shift in market sentiment and practices. Climate-related transition risks, arising from regulatory changes such as the EU's Carbon Border Adjustment Mechanism (CBAM) and evolving consumer preferences, have reshaped priorities positioning low-emission, sustainable practices as a major competitive advantage for businesses in Indonesia and Vietnam. To maintain global competitiveness, government action will be essential, while the financial sector must develop tailored financing solutions to support these strategic sustainability objectives.

Objective

WWF in collaboration with Climate Bonds undertook a market assessment of supply chain manufacturers in the apparel and footwear industry in Vietnam and Indonesia. The purpose of the market assessment was to identify the range of sustainable activities players could undertake to reduce emissions and move towards net-zero. More importantly, however, was the need to understand the challenges these sectors face and the current financing options available as well as the financing solutions required to enable the required investments.

The growth of Indonesia's economy drives the urgency for broad decarbonisation. While efforts focus on heavy industries such as cement and steel, opportunities also exist in less emission-intensive sectors such as textiles, hotels, and retail, which play vital economic roles with rising energy demands. Textiles were Indonesia's second-largest employment sector in 2022, while the hotel industry grew by 10.17% of GDP in 2023. The commercial sector consumed 7.6 million tonnes of oil equivalent (toe) in 2023, with electricity making up 87%.[12] Therefore, enhancing energy efficiency offers substantial emission reduction potential in these sectors.

Leading financial institutions (FI) in both Indonesia and Vietnam were engaged to understand their lending patterns to this industry. It was observed that most FIs are already financing larger companies within the apparel and footwear manufacturing sector. These larger entities, often integrated into global supply chains, can obtain access to sustainable financing products, including green loans and sustainability-linked financing, because of their scale, financial stability, creditworthiness and established emissions reporting capabilities. However, SMEs, which account for most of this industry, do not usually have the capacity to apply sustainability labels to their borrowing.

Note on SMEs and the commercial sector

This report will focus on the SME commercial client and apparel-footwear sectors, identifying activities and investments that stakeholders could undertake to enhance energy efficiency and reduce emissions whilst exploring sustainable financing solutions. Given varying SME size thresholds for banks, the analysis also includes the commercial clients and apparel-footwear segment to reflect their categorisation, particularly at local banks.

This report is intended for a broad range of stakeholders involved in financing and supporting sustainability efforts within the light industry supply chain. FIs, including commercial banks and development finance institutions (DFIs), are a major audience, as the findings highlight existing financing challenges and propose mechanisms to enhance access to sustainable finance, particularly for SMEs.

Entities in the light industry sector, such as apparel and footwear manufacturers, will benefit from insights into available financial products and potential solutions to overcome barriers to sustainable investment.

Anchor buyers and multinational brands are also considered, given their role in influencing supply chain financing structures and driving sustainability commitments. While regulators and policymakers are not the primary audience, the analysis may provide relevant considerations for improving the enabling environment for sustainable finance in the sector.

Report summary

This report is intended to provide guidance on decarbonisation to companies in the light industry supply chain exploring high-impact actions and opportunities, with specific focus on the apparel and garment manufacturing sector. To complement this, the report aims to provide guidance for the financial market stakeholders seeking to support this industry through appropriate financing solutions.

In 2023, the top exporters of textile footwear were China (USD13.9bn), Vietnam (USD12.4bn), Indonesia (USD3.31bn), Italy (USD3.05bn), and Germany (USD1.95bn). Garment and footwear industries are among the oldest sectors in Indonesia and so have historically played an important role in the country's economy. With the liberalisation of the export market, the industry has grown, accounting for nearly 5% of the country's exports (in 2021 figures). In 2024, Vietnamese textile and garment exports were projected at USD44bn, an increase of 11.26% on 2023. This rapid industry growth has created employment for 2.5 million workers.

2%

In 2019, the global apparel sector emitted an estimated 1.025 gigatonnes (Gt) of carbon dioxide equivalent (CO_2e), or approximately 2% of annual global GHGs, exceeding those of the shipping and aviation industries combined.

In 2019, the global apparel sector emitted an estimated 1.025 gigatonnes (Gt) of carbon dioxide equivalent (CO_2e), or approximately 2% of annual global GHGs, exceeding those of the shipping and aviation industries combined.[13] The projected growth of this industry, coupled with its environmental impacts, highlights the importance of prioritising the decarbonisation of this sector to the economies of Vietnam and Indonesia.

This decarbonisation journey will require multiple iterations and should utilise all available levers. The SBTi has provided guidance to the apparel and footwear industry to achieve this decarbonisation and suggested that each of the activities within the value chain be tiered in terms of priority of decarbonisation: extraction of raw materials, processing of raw materials, material production, finished product assembly, and finally retail, distribution, and supply chain activities.

The apparel and footwear industry in Indonesia and Vietnam comprises primarily SMEs, which struggle to access financing in both markets as reported by both FIs and SMEs. Barriers include the extensive documentation required due to the perceived technical risks of EE investments and the credit risks associated with this market segment. This is further compounded by a general lack of climate skills, knowledge, and motivation for climate action, and limited access to measurement and monitoring tools.

Climate Bonds in collaboration with WWF engaged with market players and FIs to understand the range of green financing products that exist and the innovative financing solutions that could be deployed to support this industry to invest in low-emission solutions.

The governments of Indonesia and Vietnam can support market efforts by playing a greater role in scaling decarbonisation efforts for SMEs by removing subsidies for fossil fuel energy and encouraging the adoption of RE and EE solutions. Tilting the current government micro-SME loan programmes to prioritise green initiatives would encourage the flow of capital to support decarbonisation efforts. Government could also share the costs of SME decarbonisation through providing subsidies or grants for technical assistance. It could also facilitate multi-stakeholder engagement across financial institutions, companies, multinational companies (MNCs), buyers as well as DFIs to proliferate standardised criteria and scalable green finance solutions for the sector.

1 Present situation

1.1 Necessity of industry decarbonisation strategies

The growing apparel and footwear industry faces multiple environmental challenges which extend beyond a growing carbon emissions intensity. Cotton production, for example, further exacerbates drought driven water scarcity in source countries, complicated by industrial processes contributing to pollution and waste. The processing of raw and waste material leads to polluted rivers in less developed countries, which experience challenges implementing industry waste regulations. While cheaper alternatives to cotton are available, they tend to be petroleum derivatives where the processing of synthetics leads to micro-plastic waste. The social inequalities and poor worker safety standards employed in the upstream value chain of this industry are also matters of concern.

In 2019, SBTi provided guidance to the apparel and footwear industry, in which it was suggested that the activities within the value chain activities could be tiered in terms of priority: extraction of raw materials, processing of raw materials, material production, finished product assembly, and finally, retail, distribution, and supply chain activities. In the effort to decarbonise the entire sector, emissions of all scopes must be considered as these collectively represent the total carbon footprint and environmental impact.

- **Scope 1:** emissions for direct operations, the reduction of which could involve investing in more sustainable and/or efficient equipment.
- **Scope 2:** indirect GHG emissions associated with the purchased energy from various sources.
- **Scope 3:** emissions from the entire value chain, including raw material production, manufacturing, transportation, and product use.

Table 1: **Scope 1-3 activities and solutions**[14]

Emissions	Activity	Description	Asset specifics
Scope 2	Energy efficiency	Expand EE efforts across manufacturing facilities.	Lighting Machinery Water Waste management HVAC
Scope 2	Shift to RE	Deploy RE across the supply chain.	Rooftop solar panels
Scope 1	Coal phase-out: alternative fuel source	Replace coal as an energy source for apparel manufacturing, by switching to alternative, independent off-grid low-emission fuel sources.	Interim: Bioenergy (Biomass feedstock sourced from waste and residue as an alternative fuel). Electrification (e.g., electric machines, heat pumps). Retrofitting steam boilers with alternate sustainable fuels.
Scope 3	Scale sustainable materials and processes	Increase the use of lower-carbon fibres and practices.	

To comprehensively account for all scopes of emissions in the decarbonisation of the light industry supply chain, it is essential to consider decarbonisation efforts not only from manufacturers but also from the FIs facilitating the funding of the activities.

Note on the sector focus of this report

The commercial sector, including retail and hospitality, generates high emissions primarily from the electricity consumption of buildings. In retail, lighting, air conditioning, and refrigeration drive emissions, while hotels rely heavily on electricity for heating, cooling, lighting, appliances, and laundry. Reference to retail and hospitality is limited in this report.

1.2 Energy strategies in operation at a national level

The IEA's *Renewables* 2024 report estimates that the ASEAN region will need 91GW in additional RE capacity from 2024–2030, which would require increasing total capacity to 196GW.

1.2.1 ASEAN

The IEA's *Renewables 2024* report estimates that the ASEAN region will need 91GW in additional RE capacity from 2024–2030, which would require increasing total capacity to 196GW. This represents an almost doubling of currently installed capacity, highlighting the opportunity for a steep acceleration of renewables uptake in the ASEAN region.

1.2.2 Indonesia

Ambition

In September 2022, a joint report by the Ministry of Energy and Mineral Resources (MEMR) and the IEA identified energy efficiency and electrification as the immediate national priorities with a near-term push to drive the growth of renewables. MEMR and IEA forecast that by 2060, solar PV will provide 50-60% of installed electricity generation as energy demand continues to grow across the country.

The Indonesian government has confirmed that the state-owned enterprise that currently oversees electricity generation, PT PLN, will take the lead in replacing outdated carbon-intensive and diesel-fuelled power plants with RE sources (JET P). Despite Indonesia's substantial RE resource potential, estimated at 418GW, the total installed capacity from such sources has only reached 13,886 MW or about 3.3% utilisation.

Policy landscape

Indonesia has a target of 23% of its electricity generation from RE by 2025.[15] As of 2023, installed RE capacity reached 15%, while coal still dominated providing 55% of the total installed capacity.

Several regulations have been implemented to further decarbonise the energy and power sectors in addition to advancing RE implementation in Indonesia. These include frameworks for energy conservation, the phase-out of coal power plants, and streamlining RE procurement.[16]Industrials in Indonesia have been encouraged to deploy rooftop solar panels to channel RE influenced by evolving regulations aimed at balancing RE growth with grid stability. The most recent change to the policy is regarding solar rooftop installations which are connected to the main grid. This change removed the 'net-metering system' which had incentivised rooftop solar panel installations; reducing electricity bills by subtracting surplus electricity generated by the installed solar panel. An alternative was introduced, shown in Table 2 below. The rationale behind the change was to ease grid management for PLN, which struggled to accommodate surplus electricity.

Table 2: **MEMR Regulation update**[17]

MEMR Reg 26/2021 (rescinded)	MEMR Reg 2/2024 (updated)
Net-metering system: incentive in form of reduced electricity charge by the amount of unused electricity generated.	Advanced metering system: no incentive in form of electricity bill reduction.
No regional quota for solar rooftop panel installation, installation limited to 100% of the user's existing connected power.	Solar rooftop panel installation subject to regional quota decided by the MEMR and PLN according to national electricity policy and plan (RUPTL).
Electricity meter installation cost incurred by user.	Electricity meter installation cost incurred by PLN.
Parallel operational cost incurred by industrial user.	No parallel operational cost for the user.

1.2.3 Vietnam

Ambition

Vietnam's decarbonisation efforts are guided by its nationally determined contributions (NDCs) under the Paris Agreement and its pledge at COP26 to achieve net zero by 2050. The energy transition commitments announced by the Vietnamese government at COP26 were ambitious targets anchored in the development of a climate change strategy to 2050, including an increase in RE installed capacity to 30% in 2030 rising to 45% by 2045.[18]

Drivers of decarbonisation in Vietnam[19]

There are two primary factors that inspire the efforts of the Vietnamese government to decarbonise.

1. Demands from international brands to reduce emissions in their supply chains. According to the World Trade Organisation, '*As industries that generate large amounts of emissions, textiles and footwear are currently under pressure from the need to green the supply chain. International brands are imposing strict regulations on reducing greenhouse gas emissions, saving energy, using environmentally friendly materials and increasing recycling*'.

2. The achievement of net-zero emissions by 2050 requires the textile industry to have a roadmap for implementation (the industry currently emits about five million tons of CO_2/year) as of 2023.

Policy landscape

Legislation formed the basis for energy efficiency regulation in Vietnam until 2022, when the introduction of the Environmental Protection Law introduced a range of new directives.[20] The most relevant elements in the context of this report include strict audits for high-energy consuming factories. The reporting of GHG inventories for sectors including energy, construction, waste management, manufacturing, and agriculture were also mandated.[21] In 2024, legislation for direct power purchase agreements (DPPAs) between renewable power generators and large electricity consumers was introduced.[22] This provided detailed instructions on direct power trading between power generators and corporate off-takers. Consumers can now bypass the national power provider and employ a direct connection through a private line or through the national grid with private power generators.

In 2024, the government updated the list of sectors and facilities emitting GHGs subject to GHG inventory, which now requires 2,166 facilities to carry out inventories, an increase of 254 facilities compared to the 2022 list.[23]

Current initiatives

Developmental financial institution initiatives

- Since 2019, the International Finance Corporation (IFC) through its Vietnam Improvement Program (VIP) has supported over 112 facilities, providing technical assistance on efficient resource management and clean energy transition to reduce GHGs.
- The World Bank in collaboration with the Ministry of Industry and Trade (MoIT) introduced the Vietnam Scaling up Energy Efficiency Project, among the offerings of which are concessional loans to facilities for energy efficiency adoption.

Collaborations

The Agency for Innovation, Green Transition, and Industrial Promotion under the MoIT is working with the Vietnam Textile and Apparel Association (VITAS), the Vietnam Leather, Footwear, and Handbag Association (LEFASO), the Vietnam Cotton and Spinning Association (VCOSA), and IDH (a sustainable trade initiative) to promote sustainable development within Vietnam's textile and footwear industries by fostering resource efficiency and circular economy models from 2024–2030.[24]

2 Financing the transition

2.1 Context and stakeholder engagement

This report explores whether access to financing is equitable across manufacturers of different sizes. It also examines financing models for other RE solutions, such as biomass or off-site power purchase agreements (PPAs), and identifies barriers to broader adoption. Market based findings mentioned reflect the views of the FIs interviewed with reference to the commercial segment of their portfolio, specifically reflecting the SME segment. Engagement in Indonesia was with regional as well as domestic banks, while in Vietnam engagement was primarily with domestic banks. This section summarises the key themes that emerged from these discussions, highlighting common barriers but with subtle differences between the Indonesian and Vietnamese markets, and the range of financing options currently available. Through this process, stakeholder perspectives were gathered on possible financing structures and instruments that could be employed to mobilise the market for these decarbonisation projects, which included risk-sharing mechanisms, vendor financing partnerships, and concessionary capital from DFIs among others.

In Indonesia, SMEs are defined as entities with sales between 2-50 billion rupiah (US120k to USD3m). In Vietnam, SMEs are enterprises with no more than 100 employees, total capital not exceeding VND100bn (USD3.8bn), and total revenue not exceeding VND300bn (USD11.5bn).

All financial institutions were either engaged in funding, or exploring opportunities to fund, energy efficiency projects.[25] In Indonesia, a common narrative emerged regarding these types of projects, however, with a number of FIs indicating that the high upfront costs for energy audit, inherent complexity, or lack of technical knowledge on implementation, high perception of risk, and difficulty in measuring improvements, all play a role in limiting the pipeline of projects in this area. As a result, this is still an activity/investment that remains difficult to finance through the current range of financial products.

Through the engagements with suppliers, energy efficiency projects are a critical activity for the decarbonisation of light industry and this report explores alternative options for funding these projects, such as the utilisation of energy service/savings companies (the ESCO model) or vendor financing. Even so, an energy audit can help with the calculation and reporting of GHG emissions, through mapping the use of purchased electricity in the facility.

A further narrative that emerged from the stakeholder engagements was the availability of, and relative risk appetite for, the financing for solar power projects by certain FIs for some borrowers.

2.2 Strategies for decarbonisation

The journey towards decarbonisation within light industry and manufacturing requires engagement from manufacturers, FIs, DFIs, and other key stakeholders.

Decarbonisation in the light industry sector can be achieved through a range of strategies to reduce GHGs and improve overall sustainability, which include the following:

- **Energy efficiency -** focusing on the implementation of energy-efficient machinery, HVAC systems, and process optimisation to reduce emissions.[26]
- **RE adoption –** covering the transition to solar PV, alternative fuels such as biomass, or other clean energy sources.
- **Electricity and fuel switching –** transitioning to lower-carbon energy sources, such as biofuels or electrification of thermal processes.
- **Enhanced carbon reporting and disclosure –** standardised GHG tracking and reporting to scope and demonstrate the emissions reductions.
- **Supply chain collaboration –** discussing the role of financing partners, technical assistance providers, and DFIs in overcoming challenges.

2.3 The SMEs perspective

Awareness and capacity building

A common point raised by several of the FIs relates to the lack of awareness by many of their clients, but particularly those in the SME bracket, regarding the availability of sustainable finance products. Many of these clients depend on knowledge sharing around the requirements, particularly on data collection and reporting, which limits the institutions' ability to extend these loans.

Several of the multinational brands interviewed, which work with Vietnamese apparel manufacturing companies, identified a lack of awareness or unwillingness for companies to invest in decarbonisation unless pressured to by the brands. The rationale given ranged from unwillingness at a group level to invest, a lack of knowledge of decarbonisation benefits, to a reluctance to change unless the benefits were very clearly laid out or guaranteed in some way.

One of the multinational brands interviewed cited increased disclosure requirements as a major driver of the decarbonisation of its supply chain. The company added, however, that this alone without clear regulations, and enforcement of regulations, would not result in sector-wide decarbonisation in Vietnam and Indonesia.

Technical capacity needs

A common issue raised by both FIs and SMEs was the lack of technical knowledge and capacity for gathering information on GHG emissions and an energy audit. This is corroborated through interviews with suppliers where a lack of internal technical expertise in identifying green projects was identified as a limiting factor in decarbonisation efforts. External assistance is often needed, either through decarbonisation assessments or through technical assistance, when exploring the eligibility criteria of projects. A taxonomy, whereby the details and criteria are clearly laid out for energy efficiency projects was identified as a potential solution to this issue.

Highly geared and risk averse

SMEs generally have high gearing levels to maintain normal business operations and as such are not willing to explore additional debt for shifting business models to be sustainable.

From a risk perspective, SMEs are hesitant to embark on low-carbon strategies such as RE and low-emission machinery solutions as their current operations are already functioning on a low-margin business model, leaving very little room for innovative and future ready investments.

High financing costs

The green financing products that are available require substantial data curation and are generally offered at market interest rates. This makes the cost of borrowing prohibitively expensive given that interest rates in Vietnam and Indonesia are already considered high by SMEs.

Several of the multinational brands interviewed noted the lack of interest from suppliers in taking any debt onto the balance sheet, with most preferring to self-finance or rely on financing from the group level company. Several noted that the small margins and strong competition these suppliers face, prevent them from actively seeking out green financing options.

Additional costs

Several manufacturers highlighted the expense of performing an energy audit when green financing is secured. This is required by banks for verification of data or Key Performance Indicators (KPIs) attesting to the effective emissions reduction. The audit can include Environmental, Social, and Governance (ESG) scores, ESG ratings (both provided by external providers), certification etc., however, such data collection and verification increase the cost of borrowing for labelled debt.
Other investment expenses such as retrofitting existing buildings to enable installation of solar PV, for example, add to the overall cost of investments in RE solutions.

2.4 Financial institution perspective

Credit challenges

FIs struggle to assess the credit worthiness of SMEs in Vietnam and Indonesia due to the lack of documentation required for traditional banking products, such as financial records, as well as the governance and operational safeguards needed to make such an assessment.

Most domestic Vietnamese and Indonesian banks do not have dedicated products for SME financing so due to the challenges of assessing credit worthiness, SMEs and ESCOs need to provide collateral equivalent to 100% of the loan value. In Vietnam, this is usually in the form of real estate and movable assets.

In Indonesia, while a few foreign-owned banks do provide green SME products, some still require 100% collateral, and others have a third-party guarantee mechanism. As SMEs in the apparel and footwear industry tend to be labour intensive, they have fewer assets on their balance sheet to offer as collateral, which is also a challenge for the tourism and hotel industry.

Data challenges

The lack of energy audit information limits the ability of FIs to prioritise sustainability measures and distribute loans. Green loans require baseline emissions and energy audits to establish sustainability targets within a plan to demonstrate a reduction in energy utilisation through investment in new machinery. These additional verification expenses incur an additional cost of borrowing that neither the bank nor the company wants to cover.

Structural challenges

Larger regional banks do not have a separate credit evaluation process and criteria for SME clients so smaller loans are too burdensome to process or expensive to maintain on their books. In addition, when setting sustainability targets and developing KPIs, banks must obtain a Second Party Opinion (SPO) to demonstrate credibility; an additional cost that makes the transaction unaffordable, especially when the loan size is small.

Climate integration in the banking sector

In markets where more regional or international banks are present, the inclusion of climate as a financing assessment criterion is more prevalent, so labelled finance is more evident. While the financial markets of both Indonesia and Vietnam provide a regulatory landscape that defines and enables dedicated green products, their availability is also dependent on other market factors.

Credit worthiness is the primary concern with the provision of any financing product, but FIs have become subject to increased regulation and scrutiny on their lending policies with regard to the environment, which has shifted their range of offerings. Additionally, FIs recognise the importance from a reputational perspective of presenting an image of being environmentally responsible.

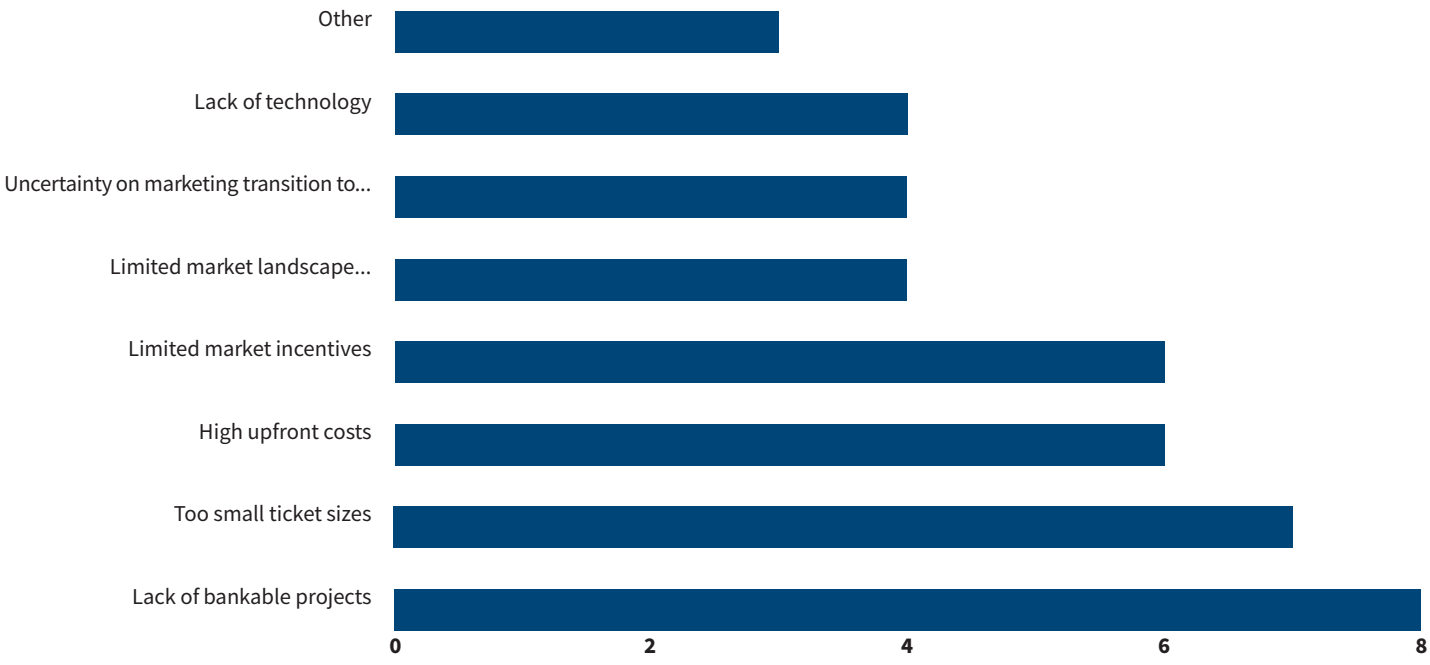
In summary, a key finding is that FIs in both Vietnam and Indonesia have different motivation factors driving decisions made when lending to the SME sector.

Figures 1 and 2 below present findings from the interim report with additional data from supplementary stakeholder engagements. They summarise the primary and secondary challenges identified, which limit the growth of decarbonisation projects in Vietnam and Indonesia, in addition to the other challenges discussed in this report.

Figure 1: **Common challenges faced by lenders.**[27]

Source: Climate Bond Initiative

Figure 2: **Secondary challenges faced by lenders.**[28]



Source: Climate Bond Initiative

2.5 Additional challenges of financing decarbonisation

ESCO availability

In Indonesia, FIs have explored partnership models (vendor financing) with solar panel manufacturers and ESCOs to roll out rooftop solar at scale. However, banks tend to favour financing international ESCOs due to concerns about the credibility and limited track record of local Indonesian energy efficiency (EE) ESCOs which lack sufficient funds. In addition, more innovative EE ESCO models do not currently exist in Vietnam and Indonesia.

Technology

For higher-grade heating, such as steam boilers, the high cost of feedstock replacement presents a barrier to investment. Biomass prices are often higher than coal due to several factors including limited supply of biomass feedstock, and the relatively low price of coal in certain countries. Feedstock replacement requires boilers to be modified or replaced, which costs USD80k–USD350k per unit. However, suppliers see no additional revenue or cost savings from this shift, making it driven solely by buyer demand, while banks remain hesitant to provide financing due to small ticket size and credit risk.

Fossil-based feedstock replacement

Some multinational brands have committed to achieve net zero by 2050, which requires suppliers to phase out coal in apparel manufacturing steam boilers, and replace it with low-emission, off-grid fuel sources, such as biomass, as an interim measure. As mentioned above, the high cost of feedstock replacement and requirements to modify or replace boilers, deters bank financing.

Energy Efficiency

EE projects are significantly more complex than RE projects, for three reasons:

1. Heterogeneous nature of projects. Unlike solar installations, which tend to be standardised and modular, EE projects are usually tailored to specific processes, equipment and operational requirements for each company and even between individual factories. This requirement for customisation increases the complexity in evaluating any financing offering and does not lend itself to programmatic lending.

2. Difficulty in measurement or lack of clear impact. Energy savings of energy efficiency projects, and the associated energy savings are not easy to articulate due to lack of data and / or methodology of assessment.

3. Upfront Costs. For EE, larger sole suppliers can invest in energy audits and measurement systems to assess and prioritise EE savings either through internal accruals or bank funding. However, smaller suppliers are struggling to invest in EE, even when the ROI of projects is high due to a lack of awareness/capability to assess EE projects but more importantly it's their reluctance to invest in upfront audit costs due to relatively high proportion of cost project.

In summary, the limitations that the market faces that deter scale can be grouped into four categories.

1.SMEs have limited capacity to fund energy audits and assess decarbonisation efforts

Energy audits require specialised expertise, detailed on-site assessments, and advanced measurement tools to identify efficiency opportunities. This makes the process of conducting one a costly undergoing, and for many apparel manufacturers, particularly small and medium-sized enterprises (SMEs), these costs can be prohibitive, limiting their ability to assess and implement decarbonisation measures. In addition, many SMEs often lack the in-house technical expertise to conduct comprehensive energy audits, forcing them to rely on expensive outside firms. This also translates into increased complexities in conducting the audits as they face challenges in identifying the inefficiencies.

In contrast, several larger companies have the in-house capability to assess their emissions as well as decarbonisation initiatives. They can prioritise their projects based on return on investment and payback periods and are therefore happy to implement projects where the ROI is high. To narrow the gap between smaller and larger corporations, it is important to provide capability development support to SMEs for them to assess and prioritise their decarbonisation efforts.

2. Banks sustainable finance solutions still focused on large corporates

As illustrated in the previous section, most sustainable finance solutions are currently targeted towards larger corporations. On the positive side, several international banks including CIMB Niaga, UOB Indonesia, SMBC Indonesia and DBS Indonesia have started developing solutions to help SMEs and commercial clients become more sustainable. However, local banks in Indonesia have not started developing specific decarbonisation solutions for SMEs and are still focused on larger corporates. Given their size and distribution reach, it is imperative for local banks to prioritise sustainable products for the SME sector.

In addition, most SME solutions are still focused on the larger SME/commercial client segment which follows a discretionary lending approach where each credit application is evaluated individually. Programmatic lending solutions for green products have yet to be rolled out by banks, although some banks are considering developing programmatic sustainable finance solutions for smaller SMEs. As banks focus on rolling out more sustainable finance solutions for smaller companies, they need to develop standardised KPIs to assess and monitor eligible clients. In addition, banks may need to train their RMs and upgrade their systems to roll out these solutions to their customers.

3.Financing for Energy Efficiency ESCO solutions is still lacking

Funding for EE ESCOs seems limited in Indonesia due to low collateral, higher complexity of projects and performance risk of solutions that banks are uncomfortable with.

Most of the EE ESCO companies featured in leased SME decarbonisation solutions are international companies where the parent company guarantees loans to the Indonesian subsidiary. Some innovative solutions are being explored by banks to improve funding to local EE ESCOs, including funding projects once they are generating cash flow. However more needs to be done to increase funding for local EE ESCOs. This could include leveraging guarantees from energy efficiency vendors and a government ESCO accreditation/certification process that make it easier for banks to assess EE ESCOs.

In contrast, there is ample funding for RE ESCOs in Indonesia. Several large companies are operating in this space and can provide leased rooftop solar solutions for up to 25 years where the client has no upfront capital costs pays a variable electricity rate that is 10-15% lower than their existing rate.

Case study: Hospitality industry

Industry structure: The hotel industry has several similarities with the apparel and footwear sector. Both sectors are in the light industry, where the decarbonisation efforts have a smaller ticket size and are distributed among many hotel locations. Moreover, while each hotel chain is managed by a single brand, each individual hotel is often owned by a separate entity. In this case, the hotel brand has a sustainability policy that each individual hotel is highly recommended to adopt. However, the ultimate decision to invest is made by each hotel owner. This is like the apparel and footwear sector, where each supplier needs to invest individually to meet the sustainability expectations of the MNC buyer.

Priorities and challenges: In line with the brand policy, the individual hotel profiled is focused on a) Energy savings
b) Reduction of water usage and
c) Reduction of plastic. However, the hotel already has significant debt and is not able to take on additional debt to fund these initiatives. Conducting a comprehensive energy audit is also not feasible due to the upfront cost of the audit.

Financing solution: Given the financial constraints of the hotel owner, the absence of a comprehensive energy audit, and the lack of in-house expertise to implement decarbonisation solutions, the hotel owner felt that a guaranteed solution through an ESCO targeted at high priority initiatives would be most suitable for the company. The company has engaged an EE ESCO to replace old chillers and air conditioners. The ESCO provides guaranteed savings as well as a leased equipment solution, which removes the need to take on additional debt.

4. Awareness and motivation challenges

SMEs don't have the technical knowledge and awareness levels to decarbonise. Although aware of the importance of decarbonising and the risk to their position in the global supply chain, the challenge is where to start and how to finance it at low cost. Energy audit and GHG emissions calculations are the typical baseline measurements to allow them to prioritise but there is a cost associated to these exercises.

However more importantly it was clearly demonstrated that SMEs in both Indonesia and Vietnam were not aware of the range of tailored financing products that are available to support decarbonisation efforts.

Case study: Apparel sector

Company profile	Large China based sportswear supplier with factories in Indonesia, China, Vietnam and Cambodia.	Medium sized footwear supplier with primary presence in Indonesia
Decarbonisation target	Company is an SBTi signatory with group level decarbonisation targets for 2030 and 2050. Targets developed by management in consultation with MNC buyer.	No SBTi commitment. Current decarbonisation efforts primarily based on target mandated by MNC buyer
Implementation approach	• Baseline emissions/energy audit was calculated by an external consultant followed by internal capability building to assess, measure and monitor decarbonisation projects • Prioritisation based on Return on Investment (ROI). ROI for both RE and EE is high enough that no subsidy is needed • Minimum buyer decarbonisation target for RE already met	• Have not conducted a detailed energy audit or used an external consultant as cost of audit is too high (>10% of total project cost) • View decarbonisation projects as a cost mandated by buyer as opposed to investments • Acknowledge need for help to assess and prioritise decarbonisation projects • Some suppliers provide to multiple off-takers
Financing approach	• Used ESCO for RE rooftop leased solution as terms were attractive (25 years with good pricing) • EE solutions being funded from internal accruals as ticket size of projects is relatively small	• Looking for external finance for decarbonisation projects from banks and/or ESCOs

3 Types of financing solutions

3.1 Background

SMEs are a segment of the real economy that find a lack of financing a key impediment to growth. SMEs usually operate with very tight margins and as such sustainability and low carbon strategies need to make economic/financial sense before their owners are open to them.

Nonetheless it is for these very reasons that SMEs need to pivot given their vulnerability to transition risks like regulatory changes and shifting investor and customer demands on international brands. This is even more critical for SMEs in developing countries like Vietnam and Indonesia that make a major contribution to employment and national GDP.

Given the financing constraints mentioned above, improving access to SME green financing requires a set of solutions that reduce the credit risk as well as funding cost for SME green loans thereby improving both access to finance and cost of financing. This requires multiple stakeholders including banks, DFIs, regulators and multinational buyers to work together to develop innovative solutions for this sector. In addition, leasing solutions through ESCOs need to be developed as guaranteed off-balance sheet solutions work well for SMEs given balance sheet constraints and lack the skills to assess and implement decarbonisation solutions.

3.2 Potential solutions

3.2.1 Sustainable banking products

Table 3 below summarises key findings from the market engagement providing an overview of sustainable financing products.

Table 3: **Sustainable finance product summary**

		Sustainable finance products					
Country	**Entity name**	**Green loans or green project financing**	**Green mortgages**	**Renewable energy**	**Sustainability-linked loans**	**Energy efficiency upgrades**	**Supply chain financing**
Indonesia	**Bank 1**	✓	✓	✓	✓	✓	✓
	Bank 2	✓		✓	✓	✓	✓
	Bank 3	✓	✓	✓	✓	✓	✓
	Bank 4	✓		✓	✓	✓	✓
	Bank 5	✓	✓	✓	✓	✓	
	Bank 6	✓	✓	✓	✓	✓	✓
Vietnam	**Bank 1**	✓		✓			✓
	Bank 2	✓		✓			
	Bank 3	✓	✓	✓			✓
	Bank 4	✓		✓	✓	✓	
	Bank 5			✓			

All banks surveyed offer at least one sustainable finance product, with RE and green product financing the most popular. However, while most banks appear to have a comprehensive solution set for sustainable finance, interviews highlighted that most of these solutions are geared towards large corporates. The need to customise each deal as well as develop associated sustainability KPIs makes the products more suitable for larger ticket size deals.

As mentioned, even when green solutions are available for SMEs and other corporates, often they cannot access these solutions due to high collateral requirements (sometimes over 100%) and monitoring conditions and the savings from getting a green loan cannot justify this. As a result, green financing solutions for SMEs need to focus on how to reduce these barriers.

Globally, certain banks have started deploying innovative solutions to address these issues which could be explored by Vietnamese and Indonesian banks too:

1. Leverage guarantee schemes to reduce risk: Given the high credit risk of SMEs, the use of guarantee schemes can help reduce the risk and hence reduce collateral requirements for green financing. For example, Korea Development bank as part of the Green Climate Fund provides a USD100m guarantee for banks in Indonesia to lend to SMEs for EE solutions.[29] In another example, one of the banks interviewed purchases credit insurance to reduce collateral requirements for smaller companies to obtain sustainable loans.

2. Obtain buyer support: Given that the many SMEs are suppliers to large multinational corporates (MNC) that are driving the decarbonisation process, there were several examples of the MNC doing due diligence on what equipment is most suitable to reduce emissions and providing the necessary guarantee to get the loan to buy the equipment. This solution typically works when the supplier is a sole supplier to the MNC and often they come as the tier one company, while tier two companies are likely to supply to multi-buyers and hence face greater challenges.

3. DFI financing: Several DFIs, including IFC, want to increase green financing for SMEs. DFIs often do this by lending to banks who then use their local knowledge to on-lend the proceeds to the target segment. Several banks are in active discussions with DFIs to access such facilities, which can reduce their funding costs, provide risk sharing features, and access capacity building programmes to upskill SME clients. However, often this follows with strict requirements such as modifying their environmental and social processes infrastructure within the existing system.

4. Vendor performance guarantees: Vendor guarantees are being used by some banks to mitigate performance risk associated with EE solutions. In some cases, the guarantee is provided by the company installing the product. An example of this is lighting efficiency solutions provided by Signify in Indonesia where Signify guarantees the savings associated with their solutions.[30] However, this does not fully mitigate the risk of the corporate customer, whose repayment capability still needs to be assessed by the bank.

5. Lending to ESCOs to develop leasing solutions: For EE and RE solutions, smaller companies often prefer leased solutions with guaranteed savings. Leased solutions can address balance sheet constraints and limited internal capacity for implementation. Lending to ESCOs therefore helps SMEs to decarbonise. For RE rooftop solar solutions, there are several large corporations with ample financing providing financially attractive leasing solutions. For EE ESCOs there are several solutions where banks are enabling leased solutions for clients. An example is the cooling as a service solution by DBS Indonesia where DBS provides funding to Kaer Indonesia to lease cooling equipment to corporates[31] [32].

Recognising that ignorance of sustainable practices is a key limitation for SMEs, a few banks in ASEAN have introduced awareness/outreach programmes to engage with SME clients on potential low emission strategies and investments.

Buyers can develop collaborative platforms with financial institutions to create solutions: The Future Supplier Initiative (FSI), facilitated by The Fashion Pact in collaboration with the Apparel Impact Institute, Guide House, and DBS Bank, introduced a blend of financial security, technical expertise, and economic incentives. The collective financing model addresses some of the barriers that prevent many textile factories from reducing resource consumption or implementing RE solutions. Case Study – DBS and Enterprise Singapore's ESG Ready Programme[33]

The DBS and Enterprise Singapore ESG Ready Programme supports SMEs to decarbonise their operations and strengthen sustainability capabilities.

This is primarily done through engagement focusing on:

- Capacity building and training. To create foundational knowledge (measuring carbon emissions and designing sustainability roadmaps) and confidence to implement, and supports access to financing and alignment to international certifications/standards.
- Emissions assessment. To establish a baseline carbon footprint.
- Preferential financing solutions. Access to green loans and supply chain financing for eligible projects.
- Reporting. Technical assistance to publish sustainability reports.

Lastly, a research report based on stakeholder engagement in the UK has identified the following intervention tools for banks to support their SME clients:[34]

- A Green Building Tool by Lloyds Bank that is an interactive digital tool that calculates the emissions from a building and provides ideas on how to reduce emissions.
- NatWest has developed a Carbon Tracker Tool which is an application that allows SMEs to calculate their carbon footprint. Tools of this nature address the challenges of SMEs measuring and monitoring their carbon emissions and providing accurate data.

The recommendations are summarised below and could be applied to SMEs in Vietnam and Indonesia.

Opportunities for banks	Opportunities for buyers
Raise awareness among SMEs of the financial implications, both for opportunities linked to net-zero leadership and costs of inaction	Connect SMEs to the practical tools, resources, and vendors needed to enable climate action.
Assess the climate related financial risks of an SME and actively support them to mitigate these risks.	
Reward SMEs via climate standards in their own supply chains, for example, requiring suppliers to report on GHG emissions or set reduction targets.	Reward supplier SMEs taking climate action with better business e.g., bigger and longer-term contracts or a preferential status.
Develop traditional and non-traditional financial products and services that facilitate and incentivise net zero transitions.	
Connect investors, large corporations and small business clients with experts that can support the transition of the business, including the provision of tools to measure and report emissions footprints.	
Raise consumer awareness by amplifying communications efforts to share SMEs' sustainability achievements	

3.2.2 Energy Service Company (ESCO) solutions

ESCOs provide an alternative option in how energy is delivered and managed, one that moves away from traditional asset ownership towards an approach that allows businesses to access comprehensive energy solutions without the need for substantial upfront capital investments. By outsourcing energy management, companies can focus on their core operations while benefiting from reduced energy costs, improved sustainability, and enhanced resilience.

The most common ESCO financing model is a shared savings agreement. This is a subscription-based model where energy supply is outsourced to a third-party provider. The provider owns and maintains the energy infrastructure, delivering energy services or outcomes such as efficiency improvements, reliability, or RE integration then sharing in the savings with the facility owner. The savings are usually shared for 10 to 12 years, after which time the facility owner takes full control of the equipment and the incentives.[35]

This model eliminates the need for upfront capital investments as the ESCO assumes the debt for investments in RE installations.

Another approach involves the manufacturer taking on a capital expenditure loan to invest in an RE source. In this case, the repayment of the loan is offset by energy bill savings achieved by going off-grid and generating electricity independently[36].

Manufacturers could also lease the installations for smaller regular payments. Under a lease arrangement, maintenance of the infrastructure is the responsibility of the ESCO. In this situation, the ESCO would obtain a loan and ensure that recievables (lease payments) covered maintenance and financing costs. This model could be deployed by SMEs with weaker credit ratings who may be unable to secure cost efficient bank financing.

Through ESCO models, SMEs can secure financing without collateral. ESCO models can also address some of the other limitations experienced by SME's such as technical expertise to understand energy efficiency machinery or RE sources, installation, and ongoing maintenance.

Case Study: United Overseas Bank U-Energy financing scheme[37]

United Overseas Bank (UOB) is a Singaporean regional bank with branches in Southeast Asian countries.

UOB has designed an integrated platform for businesses to connect with U-Energy partners, and ESCOs to simplify the adoption of EE projects for building owners. Financing options are also made available on this platform. Services include project consultation, sustainable design, energy audits, and end-to-end implementation and management of energy-saving retrofits.

Energy efficiency options:

- Air conditioning and HVAC
- Chiller
- Elevator
- Energy and power management systems
- Lighting control
- Solar projects

Contracting Options

- Direct purchase
  - Own the equipment or system
  - Financed through internal cash flows of UOB green loan
- Energy-as-a-Service
  - No upfront capital or financing required
  - Guaranteed or shared savings scheme through long-term energy performance contract with U-Energy's ESCO partners
  - Maintenance and replacements managed by ESCO
  - Option to buy out equipment during or after contract.

3.3 Innovative solutions

3.3.1 The role of transition plans

Climate reporting encompasses both mandatory and voluntary requirements that vary based on an organisation's jurisdiction and scale. Traditionally, the emphasis has been on quantifying and disclosing GHG emissions. However, growing demands for greater strategic transparency have expanded reporting expectations beyond emissions data to include a comprehensive transition plan which is a structured framework outlining how an organisation intends to decarbonise. Investors and lenders are increasingly asking for such plans as part of their due diligence. Climate Bonds provides guidance on what to include in transition plans (Appendix 1), and how they should be assessed (Appendix 2). Historically, transition planning has been the domain of large corporations, particularly those with extensive supply chains. However, as these corporations work to decarbonise, their SME partners are increasingly required to align with sustainability expectations. SMEs are often part of larger value chains for which they are a source of Scope 3 emissions. Developing their own transition plans will enable them to remain competitive and demonstrate sound strategic planning. With transition plans in place, SMEs can provide the information required to access green financing.

In the 2023-2024 fiscal year, the IFC committed over USD1.6bn in climate financing in Vietnam

3.3.2 Role of development finance institutions

DFI financing can be accessed by manufacturers to adopt sustainable practices and reduce carbon emissions. In the 2023-2024 fiscal year, the IFC committed over USD1.6bn in climate financing in Vietnam, including long-term financing to support green projects across various sectors.[38]

DFIs typically channel support through local or regional financial institutions (addressed above). However, in Indonesia many local banks struggle to meet the compliance requirements established by DFIs. As a result, enterprises seeking decarbonisation funding are limited to engaging with the handful of FIs that have successfully qualified as DFI intermediaries.

One way to address this bottleneck is through capacity building and technical assistance programmes that develop the local capabilities in terms of disclosure and reporting, project evaluation, risk management and technical expertise.

Case Study: Vietnam Development Bank[39]

The Vietnam Development Bank (VDB) provides preferential loans for projects that mitigate climate change impacts, including RE and EE improvements. Capital amounting to around USD1.8m is available under a re-lending programme supported by the European Investment Bank (EIB).

VDB has received support from the Green Climate Fund to develop its capacity for screening and evaluating potential projects in line with international standards.

VDB noted the need to update and align internal processes for screening projects, which involved additional capacity building for staff and an improvement to VDB's internal policy framework.

Case Study: The Vietnam Environmental Protection Fund

The Vietnam Environmental Protection Fund (VEPF) provides financial support for environmental protection projects through preferential loans and grants. Eligible projects can receive grants covering up to 50% of total expenses, provided they meet specific criteria and secure at least 50% counterpart funding from the project owner.

Case Study: Tata Cleantech (India)[40]

Tata Cleantech is a joint venture between Tata Capital Limited and International Finance Corporation (IFC), World Bank Group and has obtained funds from the Green Climate Fund (GCF). It offers concessional loans at an interest rate of 9% to 10%. Loan tenures vary according to the length of the Power Purchase Agreement (PPA) term and the creditworthiness of the customer. Most of the projects financed by the fund focus on funding of ongoing operational costs of a business.

Non-collateralised loans: In January 2021, Tata Power announced its partnership with Small Industries Development Bank of India (SIDBI) to offer financing for MSME customers in the rooftop solar segment without any collateral at an interest rate of less than 10%, with a loan approval time of seven days and disbursement in four days. This loan product is available exclusively for Tata Power customers for both on- and off-grid applications.

Risk-sharing mechanisms

Risk-sharing mechanisms are extended by DFIs to increase access to capital. The DFI agrees to absorb first losses, enabling participation by commercial lenders at affordable rates for the borrower.[41]

Risk sharing mechanisms include:

- **Credit guarantees.** Reduce risk to lenders by providing assurance of repayment. Guarantees can extend to a part of or all of the loan value. Borrowers obtain access **to lenders and lower borrowing costs.**
- **Export credit financing.** Financing typically offered by export credit agencies to support the purchase of equipment or technology. This **can include** insurance or guarantee mechanisms, which are increasingly being tilted towards green technologies.[42]

Innovative financing structures:
Innovative financing structures can provide sustainable, flexible, funding solutions that address specific financial or policy goals.

- Revolving fund loans. These are loan programmes, often created by governments or DFIs, where repayments are reinvested into the fund and recycled into future loans. Loans are often below-market rate and can be used to promote policies and provide flexible, low-interest financing, perhaps with longer tenors than traditional loans. The revolving fund model is designed with the specific objective of maintaining a capital base for long-term use.

Case Study: Thailand Central Bank

With the support of the Central Bank, Thailand banks offer concessional loans for the instalment of roof top solar panels to SMEs with favourable terms to encourage greening of SMEs.

For example, TMBThanachart Bank (TTB Bank) is a large domestic bank offering a fixed interest rate loan for up to eight years with no interest cost for the first six months, and staggered interest rates for the remaining term of the loan.[43]

3.3.3 Anchor buyer support solutions

Multinational brands are under increasing pressure to decarbonise their supply chains. Discussions with multinational brands revealed that support for exclusive (tier 1) suppliers was perceived as strategically valuable. Support for those supplying multiple brands (tier 2 suppliers) was viewed with caution due to the competitive advantage it could offer to rivals. Supply chain support could include:

- The provision of targeted support such as funding comprehensive energy audits and GHG inventories.
- Direct offering of tailored financing schemes specifically for decarbonisation projects.
- Financial support for technical assistance and capacity building initiatives
- Long-term purchasing contracts that provide certainty and long-term financial security Collective action among the Multinationals to work with the tier 2 companies and support a joint decarbonisation programme.

Funding of energy audits
By funding manufacturers, either through supply chain engagements or by partnering with entities providing technical assistance, multinationals can improve the bankability of decarbonisation projects for financial institutions. Comprehensive and externally verified data on energy consumption, savings, and a clear scope of operational efficiencies on projects can present credible business cases and offer financial institutions an opportunity to achieve sustainability targets with verifiable results. The multinational obtains the transparency required to accurately disclose its supply chain emissions, showcase its commitment to sustainability initiatives, and contribute to the resilience of its supply chain.

Direct investment by apparel brands

Brands can provide direct funding to suppliers to invest in projects that help achieve sustainability benefits. This is crucial for them to meet their own sustainability commitments

Case Study: H&M Group's Green Fashion Initiative

H&M Group (H&M) actively supports decarbonisation within its supply chain by providing assistance to its suppliers including favourable terms and sharing technical expertise. Three initiatives are highlighted below:[44]

1. Since 2022, H&M Groups Green Finance Initiative (GFI) has financed 17 supplier investments in technologies and processes with the collective potential to cut 50 kilo-tonnes of CO_2e annually within H&M's supply chain. Projects supported by GFI include:

- Phase out of coal and other fossil fuel boilers by US Apparel in Pakistan.
- Energy efficiency projects
- Electrification of processes, heat pumps, and thermal heat storage solutions.
- Installation of RE systems.

2. H&M is among the major fashion brands collaborating on The Future Supplier Initiative, facilitated by The Fashion Pact in partnership with Apparel Impact Institute, Guidehouse, and DBS Bank. The FSI is a collective financing model supporting decarbonisation in the apparel sector.

3. H&M has an in-house team of energy experts that offers free audits to identify energy saving measures and increase energy efficiency in the factories working with H&M Group. Using in-house experts reduces costs, compared to the use of external consultants, and builds expertise that H&M Group can share with its suppliers.

Sustainable trade finance

Brands can support suppliers in adopting sustainable practices by offering favourable financial terms in trade financing. For example, the PVH Sustainable Supply Chain Finance Program provides incentives to suppliers to exceed human rights and environmental standards by offering access to trade finance with better rates and terms.

Case Study: BNP Paribas

In 2016, BNP Paribas collaborated with sports company PUMA and IT platform provider GT Nexus to offer financial incentives for PUMA suppliers to improve environmental, health and safety, and social standards.

PUMA works with more than 300 external manufacturing partners, mostly based in Asia, and distributes its products in more than 120 countries. The company wanted to set up a supplier financing programme to support the implementation of PUMA's social and environmental standards.

BNP Paribas discounts (or increases) the suppliers' invoices according to both PUMA's credit standing and PUMA's supplier rating, which is calculated based on how a supplier performs against Puma's social and environmental standards. [45]

2. Regulatory support could help scale solutions

The governments of Indonesia and Vietnam can play a greater role in supporting private sector initiatives by scaling decarbonisation efforts for SMEs. Examples of actions could be:

1. Removing subsidies for fossil fuel energy and encouraging the adoption of RE and EE solutions.
2. Tilting the current government micro-SME loan programmes to prioritise green initiatives to encourage the flow of capital to support decarbonisation efforts.
3. Share the costs of SME decarbonisation through the provision of subsidies or grants for technical assistance.
4. Facilitate multi-stakeholder engagement across FIs, companies, multinational companies, buyers and DFIs to proliferate standardised criteria and scalable green finance solutions for the sector.

Case Study: Green technology financing scheme

In Malaysia, a green technology financing scheme (GTFS) was introduced in 2018 The scheme targets financial investments into:

- The production of green products
- The utilisation of green technology
- Projects related to energy efficiency and/or energy performance contracting.

Targeted at six sectors:

- Energy
- Water
- Buildings
- Transport
- Waste
- Manufacturing

GTFS offers financial support for example a rebate of 2% p.a. interest/profit rate subsidy for the first seven years with 60% government guarantee on the financing. The scheme published clear eligibility criteria for each of the targeted sectors to improve screening and evaluation.[46]

A supportive policy ecosystem would enable the market to develop RE solutions within the grid system or through independent off-grid solutions. Policy change could enable growth of ESCOs providing financial or operating leases whilst realigning DFI priorities to prioritise SMEs. Financial sector regulators could work with FIs to create more supportive tools and financial products for SMEs.

4 Outlook

SMEs in Indonesia and Vietnam including those operating in the apparel and footwear industry face serious obstacles in accessing green finance. The international brands and buyers who are the customers of such SMEs must credibly reduce scope 3 emissions to fulfil their own decarbonisation objectives. The incentive is there for them to support supply chain SMEs to adopt energy efficient processes and low-carbon technologies to reduce their environmental impact and enhance resilience.

With the right mix of education, innovation, and partnership, green finance can be made more accessible and attractive to SMEs.

First, stakeholders must collaborate to support SMEs through awareness programmes and technical guidance and knowledge on the importance of investing in climate action for long term economic stability.

Second, banks can develop financial products that are better suited to the needs of smaller enterprises such as lower-cost loans with simplified documentation and reduced collateral requirements.

Finally, public-private collaboration will be crucial. Capital is available to support green and sustainable initiatives, but the risk appetite is not necessarily compatible with investments in EM. Governments, DFIs, and FIs can collaborate to make investments more attractive to broader sources of capital. This can be done through a combination of guarantees, risk-sharing, vendor financing, and national taxonomies. Priority should be given to developing a pipeline of credible green investment opportunities. This will require support for both banks and SMEs to build technical expertise, enabling them to identify, assess, and deliver appropriate projects.

Appendix 1

Transition plan guidance

Introduction

The main steps in drafting a credible transition plan can be framed by Climate Bonds Triple A framework of ambition, action, and accountability and the corresponding hallmarks. These hallmarks are fully aligned with and build on the thematic guidelines from ICMA as well as the disclosure requirements from the Task Force on Climate-Related Financial Disclosures (TCFD), among others.

Figure 3: **Climate Bonds 'Triple A' framework**[47]

Assessment of a transition plan can be further broken down into the five hallmarks of a credible transition:

1. Performance targets
2. Robust plans
3. Implementation plan
4. Governance
5. Disclosure

Performance targets

These set clear, measurable, and ambitious targets for change ensuring targets cover the short, medium and long term with significant near-term emissions reductions. Targets should be specified by year, using either absolute emissions or emissions intensity.

These targets should align with recognised, science-based sectoral decarbonisation pathways such as those provided by SBTi, TPI, the IEA, IPCC or Climate Bonds. Targets should ideally address all material activities and emissions scopes of the company, as illustrated by the materiality of emissions scopes by sector. For sectors with large scope 3 emissions, these should be included where possible.

Analysis in practice: performance targets – Company 1 (food distribution sector)

Hallmark 1: Performance targets

Targets should be aligned with a sector specific, 1.5°C pathway, cover the short, mid, and long term, and include scope 1, 2, and 3 emissions.

Emissions reduction targets

Company 1's energy efficiency roadmap, which outlined 13 energy saving and management opportunities that can be implemented in the short and long term, with an emission reduction target of 60.7 CO_2e each year. Additionally, Company 1 provided a detailed breakdown of targets with timeframes and related emissions savings.

Recommendation:

Company 1 should set performance targets that quantify its environmental goals for the short, medium, and long term, relating to all (scope 1, 2 and 3) material GHG emissions from its operations.
Company 1's mitigation performance targets should be aligned with the sectoral pathway(s) by 2030 at the latest, in recognition of the need to nearly halve global emissions by 2030.

Internal capacity targets

Company 1 also has a long-term target to improve its internal technical capacity in self-implementation of energy efficiency and management, to optimise the performance of energy use and operating costs at company 1's facilities.

Additional note

In addition, Company 1 could consider establishing performance targets which address biodiversity, adaptation and resilience, pollution prevention and control, and just transition.

Further reading: Climate Bonds, 'Guidance to Assess Transition Plans' available at:
https://www.climatebonds.net/resources/reports/guidance-assess-transition-plans

Robust plans

Develop a vision that aligns future activities, assets, and business models with the performance targets, identifying, and costing, the main levers of change that will enable the transition from current operations.

A robust plan includes a feasible financial plan detailing the financial implications of the transition, with the associated costs and how it will be financed, including the impact to the financial position of the company in terms of revenues, cash flows, and balance sheet.

Finally, the company should have a time-bound plan of actions detailed for each lever of change, including interim milestones and metrics for tracking and monitoring.

Analysis in practice: robust plans – Company 2 (hospitality sector)

Hallmark 2: Robust plans

The company needs to have a coherent narrative for the future business model and asset base, identifying changes from the status quo, and actions to achieve this vision.

Existing plan

The company's roadmap indicated a vision that aligns future activities, assets, and business model with its emissions reduction target. The company has developed a table with each of the envisioned activities for potential energy savings mapped out, with required investment amounts and indicative payback periods.

Company 2 has also gone into further detail on projects specifics, detailing the technical implementation that will achieve the stated targets. Linking the assets specifically to energy savings and emissions reduction aids transparency and gives FIs clarity over the intended use of potential loan funds.

Technical training

The company identified the need for capacity building and awareness among the technical and hotel management teams, centred on business sustainability and environmental impact management. The company has gone further into detailing the training programmes it intends to deliver, which provides greater clarity on the implementation of the transition plan at all levels of the organisation.

Recommendations:

Company 2 can further enhance its roadmap and planned activities (e.g., its energy management system, building system retrofit etc.), with a specific timeline for implementation, including interim milestones and metrics that can be tracked and monitored.

In addition, the performance targets should be integrated into the action plan to ensure alignment. This plan should be linked to a feasible financing plan, which is an improvement the company is in the process of including.

Further reading: Climate Bonds, 'Guidance to Assess Transition Plans' available at:
https://www.climatebonds.net/resources/reports/guidance-assess-transition-plans

Action/implementation plan

As noted previously, a credible transition plan must include concrete and time-bound action plans for each identified lever of change, detailing the specific steps the company will take to implement its vision and achieve its performance targets.

The action plan section will then detail the status of implementation, particularly as it relates to near-term and interim milestones, including the identified metrics and indicators to assess delivery of the plan.

Where interim milestones or metrics are not yet met, the company is recommended to disclose the reasons for unmet goals and detail the corrective actions being taken to address such shortfalls.

Analysis in practice: implementation plan – Company 1 (food distribution)

Hallmark 3: Action

Plans need to be 1.5°C-aligned, cover all material sources of emissions, and include respective financing plans.

This hallmark is concerned with ensuring the targets and subsequent plans are accomplished, with reasonable assurance that the clear action plan already being implemented is in support of the interim performance targets.

Recommendations

The company has not yet begun implementing the plan, but once started, it is recommended that performance against interim targets is detailed, stating clearly the metrics that will be used to determine alignment. The entity should identify and disclosure its material sources of emissions and develop interim targets together with its strategy for 1.5°C alignment.

Should there be any deviation from interim targets, it is recommended that the reasoning be explained, and corrective measures be detailed.

Should there be a change in metric or methodology, it is imperative for credibility that this change be documented and substantiated.

Further reading: Climate Bonds, 'Guidance to Assess Transition Plans' available at:
https://www.climatebonds.net/resources/reports/guidance-assess-transition-plans

Governance

Analysis in practice: governance

Hallmark 4: Governance

Transition needs to be driven, owned, and monitored by senior leadership, with ongoing re-evaluation and re-calibration.

The company has not disclosed its internal processes for ensuring the entity-wide changes are delivered. These systems should cover the internal monitoring, accountability mechanisms, and leadership systems that will drive the implementation of the transition plan.

Recommendations

It is recommended that the entity outline the responsibility of its board in setting and monitoring the delivery of the roadmap/transition plan, including any changes to the roadmap, to correct for any under-performance or missed milestones, plus a regular assessment at least every five years, to reflect changing operating conditions and market developments (such as those in the retail and commercial sector).

It is recommended that the company develop the necessary internal governance systems to enable effective board oversight and ensure the board signs off performance targets and plans.

Further reading: Climate Bonds, 'Guidance to Assess Transition Plans' available at: https://www.climatebonds.net/resources/reports/guidance-assess-transition-plans

Disclosure

The final consideration for a credible transition plan is disclosure surrounding the targets, plans, governance, and reports as they relate to the company's transition plan in the previous hallmarks.

Analysis in practice: disclosure Company 2

Hallmark 5: Disclosure

Transition KPIs and underlying methodologies need to be disclosed, and receive independent verification.

Company 2 has disclosed key information surrounding its energy efficiency plans and roadmap for achieving the required decarbonisation.

Disclosures are important for internal and external stakeholders to understand how the entity plans to become a low-carbon entity. As such, it is recommended that reporting follows the same norms as regular financial reporting whereby disclosure includes all information that if omitted or incorrect would impact the statement's reliability.

Recommendations

It is recommended that disclosures take place annually using a consistent methodology and comparable metrics such as absolute or intensity GHG emissions.

It is recommended that the company's GHG emissions disclosures and transition plan be assessed by an independent party.

Further reading: Climate Bonds, 'Guidance to Assess Transition Plans' available at: https://www.climatebonds.net/resources/reports/guidance-assess-transition-plans

Table 4: **The transition plan checklist**[48]

Transition plan checklist			
Prerequisite steps			**Check (Y/N)**
Step i		Calculate the entity's baseline emissions: scopes 1, 2 and 3	
Step ii		Entity's transition risk assessment	
The planning stage			
Hallmark 1: Performance targets	**Step 1**	**Select a common sectoral decarbonisation pathway**	
		Transition pathway of the entity is benchmarked or aligned with named science-based guidance (one of the following)	
		Climate Bonds	
		SBTi	
		TPI	
		ACT	
		Other (Please mention)	
	Step 2	**Selection of performance targets**	
		Key Performance Indicators (KPIs)	
		KPI 1	
		KPI 2	
		KPI 3	
		Selection of Sustainability Performance Targets (SPTs)	
		Short-term target (next three years)	
		Mid-term target (until 2030)	
		Long-term target (until 2050 or net zero)	
Hallmark 2: Robust plans	**Step 3**	**Detailed transition strategy and action plan**	
	Step 4	**Financial plan for transition**	
	Step 5	**Governance mechanism: roles and responsibilities defined to oversee the transition strategy**	
	Step 6	**Board approval**	

Transition plan checklist			
Prerequisite steps			**Check (Y/N)**
The implementation stage			
Hallmark 3: Implementation/action	**Step 7**	**Execution of the plan**	
		Delivery of the interim milestones	
		Rolling out of capex and opex plans	
		Decommissioning activities (if planned)	
		Supplier engagement (if planned)	
		Training senior executives and board members	
		Corrective measures if any gaps are identified	
Hallmark 4: Internal monitoring	**Step 8**	**Internal monitoring set-up**	
		Board-level oversight and governance systems are set up	
		Recalibration and feedback mechanism	
Hallmark 5: External reporting	**Step 9**	**External Reporting**	

Appendix II

Corporate transition assessment

FIs play a crucial role in accelerating the transition to a net-zero economy by directing capital toward companies with credible and ambitious decarbonisation strategies. However, assessing the maturity, ambition, and credibility of corporate transition plans remains a challenge. To address this, FIs need a structured methodology to categorise corporate transition efforts, enabling consistent tracking and effective capital allocation.

A recent study highlighted USD600bn 'addressable opportunities' for banks and FIs globally to fill a gap for financing and investment in the transition, with an annual USD44bn revenue opportunity through 2030 funding requirements for low-carbon transition.[49]

Based on Climate Bonds' methodology, this section provides **a classification system** that FIs can use to assess corporate transition plans based on the following:

- **Commitment and ambition:** clear and science-aligned net-zero commitments.
- **Targets and delivery strategies:** well-defined short-, medium-, and long-term emissions reduction targets with actionable decarbonisation levers.
- **Governance and implementation:** strong board oversight, accountability, and integration into corporate strategy.
- **Performance monitoring:** evidence of implementation, financial commitments, and emissions reductions.

Transition Strategy Toolkit to accelerate the pace and scale of transition finance

Climate Bonds, in collaboration with Capital Markets Malaysia (CMM), an affiliate of the Securities Commission Malaysia (SC), launched an interactive Transition Strategy Toolkit in April 2024, that is aimed at supporting efforts towards the global net-zero goal by leveraging transition finance among mature and mid-tier corporates.[50] The toolkit is designed to offer corporations in ASEAN seeking to attract private capital for their transition needs with insights on building credible science-based climate transition plans that are aligned to the Paris Agreement or respective national climate targets.

A corporate transition classification system

The classification system presents **a five-tier maturity scale** for corporates based on the ambition and credibility of their transition plans. The categories reflect a company's **progress toward a 1.5°C-aligned transition**, moving from no action to **fully aligned net-zero performance.**

Category	Description	Key characteristics
5. Net zero	Companies that have reached and maintained net-zero emissions.	• No reliance on offsets for scopes 1 and 2. • Science-based emissions reduction aligned with a 1.5°C pathway. • Strong governance and transparent reporting.
4. Aligned	Companies with emissions currently on track with a 1.5°C sectoral pathway.	• No reliance on offsets for scopes 1 and 2. • Short-, medium-, and long-term targets are all aligned with a relevant scientific pathway • Emissions reductions verified against credible benchmarks. • Implementation of a full set of decarbonisation levers.
3. Aligning	Companies that have developed a **credible** transition plan but have not yet achieved full alignment with a 1.5°C pathway.	• Short-term targets are aligned, but medium- and long-term are uncertain. • Active decarbonisation efforts but slower implementation. • Governance structures in place but limited external validation.
2. Committed	Companies that have **made public commitments** but lack clear implementation plans.	• Net-zero pledges without well-defined pathways. • Targets set but not necessarily science-based. • Some governance structures in place, but weak implementation.
1. No action	Companies with **no transition plan or public commitment** to decarbonisation.	• No emissions reduction targets. • No governance mechanisms in place for transition. • High transition risk and exposure to climate-related regulatory pressures.

Key assessment indicators

The classification system is anchored on five key indicators, which collectively determine the credibility and effectiveness of a company's transition plan.

Key indicators for assessing corporate transition plans:

Indicator	Criteria for a strong transition plan
A. Commitment	• Public commitment to achieving net-zero **aligned with a 1.5°C sectoral pathway**. • No new investments in fossil fuel expansion.
B. Emissions targets	• Science-based **short-, medium-, and long-term targets**. • Comprehensive emissions inventory covering s**copes 1, 2, and 3**.
C. Delivery strategy	• Clearly defined **decarbonisation levers** (e.g., electrification, CCS, circularity). • Feasible, economically viable, and measurable actions. • No overreliance on offsets.
D. Governance	• Board-level responsibility for transition strategy. • Defined climate-related financial planning and risk assessment.
E. Performance and implementation	• Annual progress tracking and third-party verification. • Corrective actions for missed targets. • Full alignment with science-based benchmarks.

Guidance notes for use of the classification system to assess a corporate

To effectively assess and determine the transition categorisation of the corporate business activity, which could be at different stages of transition maturity, Climate Bonds proposes a three-step methodology to determine the overall categorisation at the corporate level.

1. Assign a point score to each category.

0. Unclassified' or '1. No action	0 points
2a. Committed - pledged	1 point
2b. Committed - short-term targets only	2 points
3a. Aligning – short-term+ plan	4 points
3b. Aligning – full plan	6 points
4. Aligned	8 points
5. Net zero	10 points

2. Assess each business activity separately to determine which transition category it falls into based on its compliance with the indicators for each category.

3. Calculate a weighted-average score for the corporate, weighting individual business activity category scores by either their share of the total revenue or emissions of the corporate, with the weighted-average score determining the category for the corporate.

To reinforce the credibility of corporate transition assessment, FIs are encouraged to lever the following guidance:

1. All indicators must be met by a corporate or its business activity for a category to be classified in that category.
2. Annual (re)assessment of corporates is required by financial institutions.
3. No timeframe is imposed for a corporate's speed of progress through the categories, however, the FI's own transition targets should reflect a movement of its corporate exposures up the transition categories over time at sector, product, and portfolio level.
4. Corporates may be reclassified downwards through the categories if indicators that were formerly met are found not to comply after subsequent assessment.

A framework for action

The Corporate Transition Classification System provides a structured and scalable framework for FI to assess corporate transition plans.

It enables financial institutions to:

- Differentiate credible corporate transitions from superficial commitments.
- Align capital allocation with climate-aligned business models.
- Manage transition risks and regulatory compliance effectively.

Key takeaways for financial institutions:

- **Use the classification system** to categorise corporate clients and investment portfolios.
- **Engage with companies in lower tiers (1–2) to push for credible transition plans.**
- **Prioritise capital allocation to companies in tiers 3–5, ensuring alignment with 1.5°C pathways.**
- **Develop sector-specific engagement strategies** for high-emission industries.
- **Integrate sustainability-linked finance instruments** to drive corporate accountability.

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Climate Solutions Partnership

Climate Solutions Partnership (CSP) is a five-year philanthropic collaboration between HSBC, WWF, and WRI which aims to scale-up climate innovation ventures and nature-based solutions, remove deforestation from palm oil supply chains, and increase sustainable production and consumption, while helping the energy sector transition towards renewables in Asia.

Climate Bonds Initiative

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