Green Finance and Investment

OECD Guidance on Transition Finance

ENSURING CREDIBILITY OF CORPORATE CLIMATE TRANSITION PLANS

OECD

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BETTER POLICIES FOR BETTER LIVES

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Foreword

To transition the global economy to a 1.5-degree world, more investments in zero-emission solutions are urgently needed, while investments in high-emission assets and infrastructures need to be phased out. Green and sustainable finance has had a tremendous impact on shifting the focus of financial institutions and investors towards clean technologies like renewable energy. However, to achieve the goals of the Paris Agreement, financial markets must also help high-carbon, energy-intensive, and hard-to-abate companies transition to net-zero emission trajectories.

In response to the perceived limitations of sustainable and green finance to support greening entire sectors and industries, the concept of transition finance has rapidly gained traction. Transition finance provides a promising avenue to be inclusive of all sectors, while also bringing companies in emerging markets and developing economies, which may not have previously had access to sustainable and green finance, into the conversation. This has led to the proliferation of diverse transition finance initiatives, both by governments and industry. The OECD Guidance on Transition Finance provides a comprehensive analysis and mapping of existing initiatives and identifies key challenges to scaling up transition finance currently faced by market actors and policymakers.

Importantly, it argues that for transition finance approaches and related financial instruments to be robust, they must be based on credible transition plans. To this end, the Guidance presents ten elements of credible corporate transition plans and highlights areas where more transparency is needed. In doing so, it can support: market actors in conducting transition finance transactions with environmental integrity; corporates in developing their transition plans; and, policymakers in developing robust policy frameworks for transition plans.

Developed by the OECD Secretariat for the *Working Party on Climate Investment and Development* of the *Environmental Policy Committee*, the Guidance builds on the OECD's extensive body of work on the subject of sustainable and green finance, as well as transition finance. It connects the dots between transition finance and sustainable finance, including climate alignment approaches, and points towards existing OECD instruments in the area of Responsible Business Conduct to successfully support corporates in their net-zero transition planning.

The Guidance aims to lay the groundwork for further OECD work on scaling up transition finance. Future OECD research could provide new insights on tailoring just transitions for high-emission sectors, and on how to incorporate climate change adaptation and resilience in corporate transition planning.

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Abbreviations and acronyms

ACT	Assessing low-Carbon Transition initiative
ADB	Asian Development Bank
APLMA	Asian Pacific Loan Market Association
ASEAN	Association of Southeast Asian Nations
AUM	Assets under management
BAT	Best-available technologies
BIS	Bank for International Settlements
CapEx	Capital expenditure
CO_2	Carbon dioxide
CA100+	Climate Action 100+
CBI	Climate Bonds Initiative
CIF	Climate Investment Funds
COP	Conference of the Parties
CPI	Climate Policy Initiative
CSL	Climate Safe Lending Network
CSRD	Corporate Sustainability Reporting Directive
DAC	Development Assistance Committee
DFI	Development finance institution
DNSH	Do-No-Significant-Harm
ECB	European Central Bank
EFRAG	European Financial Reporting Advisory Group
EMDE	Emerging markets and developing economies
EPOC	Environment Policy Committee
ESG	Environmental, Social and Governance
EU	European Union
FT	Financial Times
FY	Financial year
GDP	Gross Domestic Product
GFANZ	Glasgow Financial Alliance for Net Zero
GHG	Greenhouse gas
ICMA	International Capital Markets Association
IEA	International Energy Agency
IFC	International Finance Corporation
IFRS	International Financial Reporting Standards
IGCC	Investor Group on Climate Change
ILO	International Labour Organization
IMF	International Monetary Fund

IPCC	Intergovernmental Panel on Climate Change
IPSF	International Platform on Sustainable Finance
ISSB	International Sustainability Standards Board
JETP	Just Energy Transition Partnership
KPIs	Key Performance Indicators
LMA	Loan Market Association
LSE	London School of Economics and Political Science
LSTA	Loan Syndications and Trading Association
MAS	Monetary Authority of Singapore
MDB	Multilateral development bank
METI	Ministry of Economy, Trade and Industry (Japan)
MtCO2e	Metric tons of carbon dioxide equivalent
MSME	Micro, small and medium-sized enterprise
NCRE	Non-Conventional Renewable Energy
NDCs	Nationally-Determined Contributions
NFRD	Non-Financial Reporting Directive
NGFS	Network for Greening the Financial System
NGO	Non-governmental organisation
OECD	Organisation for Economic Co-operation and Development
OpEx	Operational expenditure
PACTA	Paris Agreement Capital Transition Assessment
Q1	First quarter
R&D&I	Research, development and innovation
RBC	Responsible Business Conduct
SASB	Sustainability Accounting Standards Board
SBTi	Science Based Targets initiative
SDA	Sectoral decarbonisation approach
SDG	Sustainable Development Goal
SEC	Securities and Exchange Commission
SFWG	Sustainable Finance Working Group
SLB	Sustainability-linked bond
SLL	Sustainability-linked loan
SPT	Sustainability performance target
TCFD	Task Force on Climate-related Financial Disclosures
TPI	Transition Pathways Initiative
TPT	Transition Plan Taskforce
UN	United Nations
UNFCCC	UN Framework Convention on Climate Change
VCMI	Voluntary Carbon Markets Integrity Initiative
WPCID	Working Party on Climate, Investment and Development
WWF	World Wildlife Fund

Executive summary

To achieve the Paris Agreement goals, all sectors of the global economy, and in particular hard-to-abate industries, must rapidly decarbonise. Recognising the contribution of finance to these goals, the Paris Agreement calls for "making finance flows consistent with a pathway towards low greenhouse gas (GHG) emissions and climate-resilient development". This has given rise to several tools and initiatives in sustainable finance, and more recently, in transition finance.

Transition finance focuses on the dynamic *process of becoming sustainable,* rather than providing a point-in-time assessment of what *is already sustainable*, to provide solutions for a whole-of-economy decarbonisation, and to decarbonise the most polluting and hard-to-abate industries today. While defining what is already sustainable has traditionally been the focus of sustainable finance initiatives, this approach is criticised by some corporates and financial market participants as being insufficient to facilitate the GHG emission reductions necessary to achieve the temperature goal of the Paris Agreement. Transition finance, on the other hand, can run the risk of sacrificing environmental integrity for inclusiveness, thus leading to greenwashing.

Based on existing initiatives and good practices, this Guidance proposes that transition finance must be grounded in credible corporate climate transition plans, in line with the temperature goal of the Paris Agreement, to be effective in mobilising investments for the net-zero transition and ensuring environmental integrity. Credible corporate climate transition plans are necessary to provide confidence to investors that corporates raising transition finance are on a credible path to net zero. This is reflected in the increasing focus on corporate transition planning as part of existing transition finance initiatives.

Existing frameworks on corporate climate transition plans share several common elements, which they cover with varying degrees of detail, prescriptiveness, and stringency, notably: setting of net-zero and interim targets, use of metrics and Key Performance Indicators (KPIs), use of carbon credits and offsets, internal coherence with a company's business plan, guidance on governance and accountability, as well as issues surrounding transparency and verification. The Guidance draws on these existing frameworks and initiatives when presenting elements of credible corporate climate transition plans.

Other important elements are not yet present or largely underdeveloped in existing approaches to corporate climate transition plans, such as: the consideration of non-climate-related sustainability impacts in transition planning; the use of specific sustainable finance tools like taxonomies as well as tools for Responsible Business Conduct (RBC) to inform transition planning; the inclusion of just transition aspects, additional mechanisms for preventing carbon-intensive lock-in; and tailored approaches for micro, small and medium-sized enterprises (MSMEs) and certain companies operating in emerging markets and developing economies (EMDEs). They may require more flexibility because they operate under challenging enabling conditions. The Guidance elaborates on these additional points when presenting elements of credible corporate transition plans.

The Guidance suggests that credible transition plans should integrate and make use of existing tools in the areas of sustainable and transition finance and responsible business conduct. The Guidance highlights areas where tools such as taxonomies, company-level metrics and targets, methodologies to assess

climate alignment, sustainability reporting standards, and others can play an important role in increasing the credibility of corporate transition plans. Similarly, the Guidance proposes that the OECD Guidelines for Multinational Enterprises and associated Due Diligence Guidance for RBC can act as a useful anchoring framework to help corporates develop different elements of their transition plans, including with respect to the assessment of adverse climate impacts.

The Guidance recognises that credible corporate transition plans, as well as transition and sustainable finance tools more broadly, are only part of the solution to reach the temperature goal of the Paris Agreement. It outlines some of the key feasibility challenges, notably in emerging markets and developing economies, but also beyond, which have broader implications for policymakers and require the use of complementary tools, and the involvement of development finance actors (including concessional financing) to support necessary improvements in the applicable enabling conditions. The Guidance suggests country platforms as one important approach to coordinate government strategies, donors, development banks, and private investors to bring about the changes that are needed in the policy and institutional environment and spur investments in low-carbon technologies and projects.

The Guidance was reviewed by the OECD Environment Policy Committee (EPOC) and Working Party on Climate, Investment and Development (WPCID). It was shared with the Committee on Financial Markets (CMF) for information. The Guidance was also submitted as an input to the work of the G20 Sustainable Finance Working Group (SFWG), to support and inform the development of its Framework for Transition Finance. Considering expected ongoing evolution of best practices and views relating to transition finance, the Guidance is intended to be revisited, revised, and expanded based on subsequent work. Elements of the Guidance could also be reflected in future OECD work and instruments on responsible business conduct, as appropriate.

1 The case for transition finance in the 'decade for delivery'

This chapter provides an overview of the OECD Guidance on Transition Finance: Ensuring Credibility of Corporate Climate Transition Plans. The Guidance is a response to the growing trend among market actors and policymakers to develop transition finance approaches to broaden the perceived niche of sustainable finance. The chapter sets out the purpose, scope, and audience of the Guidance and concludes by identifying areas for future work with respect to transition finance.

1.1. Context: Transition finance to meet global climate objectives

As net anthropogenic greenhouse gas (GHG) emissions continue to rise across all major sectors globally and emissions increases from rising global activity levels outpace emissions reductions, there is growing recognition that public and private finance in support of climate mitigation goals needs to be scaled up across all sectors and regions (IPCC, 2022[1]). Article 2.1c of the Paris Agreement calls for "making finance flows consistent with a pathway towards low greenhouse gas emissions" (UNFCCC, 2015[2]). This is a necessary step in order to achieve the Paris Agreement temperature goal (Article 2.1a) of "holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels" (UNFCCC, 2015[2]). Today, there is broad consensus that to limit the average global temperature increase to 1.5°C, global GHG emissions need to reach net zero by 2050, and be reduced by 45% by 2030 compared to 2010 levels[1] (see, for example, (IPCC, 2022[3]), (IEA, 2021[4]), (GFANZ, 2022[5]), (SBTi, 2019[6])). Moreover, global GHG emissions need to peak before 2025, with rapid and wide-reaching emissions reductions across all sectors needed during the subsequent decades until 2050 (IPCC, 2022[1]).

To keep the collective target of limiting the average global temperature increase to 1.5 °C within reach, decarbonisation measures that can bring drastic reductions in emission intensity through transformative changes of energy and production systems (D'Arcangelo et al., 2022[7]) will need to be financed across all sectors of the economy and most importantly in energy-intensive and hard-to-abate sectors[2] (IDDRI, 2020[8]). This means that finance for the climate transition must take a dynamic and forward-looking view of companies' decarbonisation journeys, covering all sectors and especially emissions-intensive ones, while avoiding static views limited to what is already sustainable today. To achieve rapid and deep reductions across sectors and geographies around the world, it is necessary to take an approach to financing the transition that is inclusive and can increase financial flows in particular in emerging markets and developing economies (EMDEs), where challenges relating to feasibility[3] of transitioning to low-emission options may be greatest and financing capacity is lower (IPCC, 2022[1]).

1.1.1. Balancing environmental integrity and inclusiveness

The emerging concept of transition finance responds to this need to be inclusive of sectors and geographies. While a consensus definition of transition finance has thus far been elusive, there are several available approaches, both market-based and regulatory, which aim to capture the concept of transition finance and have the common aim of bringing sectors and geographies into the sustainable finance conversation that have previously either been excluded from it or were not the focal point. Moreover, there are several ongoing transnational initiatives, which may in the future contribute to the emergence of a consensus definition. In this context, during the first half of 2021, the OECD reviewed and compared 12 transition finance-related taxonomies,[4] guidelines and principles developed by governments and financial actors, and a sample of 39 transition-related financial instruments, to outline the emerging concept of transition finance (Tandon, 2021[9]). The analysis highlighted commonalities, divergences, and considerations for future market development, but without proposing a definition.

Ongoing discussions and transition finance initiatives will continue to inform views on issues such as eligibility of specific economic activities carried out by corporates for transition finance. Consensus on such questions seems unlikely to be reached immediately, due to their technical complexity, their dependence on context-specific variables (e.g., country-, sector-, and corporate-specificities) and socio-political sensitivity. However, as initiatives continue to develop, markets increasingly conduct transition finance transactions, and net-zero pledges and commitments grow exponentially, investor expectations likely will begin to converge, and certain types of investments will fail to garner investor acceptance.

Moreover, while the nature of the transition may be country-specific, financial market participants operate across many jurisdictions, so core elements and criteria employed by them should have a common basis and be comparable.

1.1.2. Growing evidence points to a mismatch between high-level emission reduction targets and actionable transition plans

The growing number of net-zero commitments by various market and government actors reflects the need for robust transition finance approaches that are based on credible corporate transition plans: To date, 131 countries and territories, covering over 90% of global Gross Domestic Product (GDP) and 83% of global GHG emissions, have adopted net-zero targets and more than one-third (702) of the largest (2000) publicly-traded companies now have net-zero targets (Net Zero Tracker, 2022[10]). More than 450 financial firms from 45 countries and territories, representing over USD 130 trillion in assets, have pledged to mobilise finance to reach net-zero emissions by 2050, by virtue of being members of the Glasgow Financial Alliance for Net Zero (GFANZ) (GFANZ, 2021[11]). However, according to CDP, only about a third of the companies (4002/13100+) that disclosed through them in 2021 had climate transition plans in place (CDP Worldwide, 2022[12]). Similarly, only about 17% of CA100+'s focus companies had set medium-term targets in the second round of net-zero company benchmark assessments, even though such targets are necessary to gain a better understanding of a company's proposed transition trajectory (FT, 2022[13]). This trend is even more pronounced for micro, small and medium-sized enterprises (MSMEs) and companies operating in EMDEs. For example, a 2022 survey of SMEs in the United Kingdom found that more than three quarters of respondents did not have carbon targets in place and half did not know the meaning of the term 'net-zero' (Edie, 2022[14]). Similarly, the lack of information about corporates' emissions or transition plans is frequently cited by asset owners and asset managers in EMDEs as a deterrent to transition investment (WEF, 2022[15]).

1.1.3. Credible corporate climate transition plans to prevent greenwashing in transition finance

As the OECD's 2021 review identified, in the nascent space of transition finance there is an emerging risk of greenwashing and a need to ensure environmental integrity (Tandon, 2021[9]). Specific risks include, amongst others, the potential to create carbon-intensive lock-in when investing into technologies that present a marginal improvement but are overall still emission-intensive and long-lived, or when investing into efficiency or other types of improvements as part of existing polluting assets and delaying the transformation or replacement of those assets. By ensuring that high-level net-zero pledges translate into clear and actionable targets that can be verifiably implemented, and significantly increasing transparency, credible corporate transition plans can reduce or avoid risks related to greenwashing, lock-in and delayed action. Conversely, without credible corporate transition plans, transition finance runs the risk of becoming a way for market actors and governments to justify delayed or insufficient action, while promoting existing investments as advancing the climate transition, even if those potentially have little positive environmental impact or are even damaging in the long run.

1.2. Purpose and aims of the Guidance

To unlock the flow of financing to corporates that have credible plans to decarbonise their business models towards net zero, while mitigating risks of greenwashing and carbon lock-in, two important shifts are needed:

- Credible transition planning is mainstreamed across relevant entities, and in particular corporates (both public and private).

- The meaningful assessment of transition plans becomes part of financial market participants' core considerations, when deciding to provide finance to a corporate.

The Guidance aims to enable these shifts by supporting the mainstreaming of transition considerations in the planning and decision-making of corporates across all sectors of the economy.

To achieve this objective, the Guidance first identifies barriers and challenges to mainstreaming transition finance. They include, amongst others, a lack of clarity and coordination on guidelines, standards, and definitions, difficulties in measuring sustainability performance and relevant Key Performance Indicators (KPIs), as well as the risk of greenwashing (see, for example, results of the OECD industry survey on transition finance, (Shrimali, 2021[16]), (CBI, 2021[17]), (BNP Paribas, 2019[18])). This compounds the level of ambiguity and lack of comparability in a market that is inherently difficult to coordinate, due to the heterogeneity of the actors seeking financing and the different policy environments within which they operate.

The Guidance then presents ten elements of credible corporate climate transition plans, promoting increased transparency to support the growth of the transition finance market while ensuring environmental integrity. This Guidance helps to ensure that existing targets are credible and achievable, including by providing solutions for the proportionate treatment of companies that need more flexibility, such as MSMEs, as well as certain companies operating in EMDEs.

1.3. Framing of the Guidance

1.3.1. Working definition of transition finance and relationship with the broader sustainable finance ecosystem

In the context of this Guidance, transition finance is understood as finance deployed or raised by corporates to implement their net-zero transition, in line with the temperature goal of the Paris Agreement and based on credible corporate climate transition plans.

This definition of transition finance is based on the recognition that within the broader sustainable finance discussion, a distinction could usefully be made between transition finance tools and market practices that are focused on *the process of becoming sustainable* and approaches that, for the most part, *define what is already sustainable*, by way of a point-in-time assessment. In presenting elements of credible corporate climate transition plans, this Guidance aims to provide clarity to corporates, financial market participants, and policymakers on the former dimension. Complementary work to assess alignment of finance with the Paris Agreement temperature goals is being conducted under the Research Collaborative on Tracking Finance for Climate Action, which provides an analysis of existing climate-alignment methodologies and metrics used in finance (Noels and Jachnik, forthcoming[19]).

In this framing, transition finance can be seen as one tool within the broader sustainable finance toolbox to be deployed to make finance and the real economy consistent with the temperature goal of the Paris Agreement. For example, transition finance, as defined in this Guidance, can be a useful building block for climate alignment approaches, which rely on asset- and portfolio-level methodologies to assess consistency with the Paris Agreement temperature goal (see for example, (Noels and Jachnik, forthcoming[19])). At the same time, credible corporate climate transition plans can make use of such metrics and methodologies. Importantly, both types of approaches have the same long-term temperature goal at their core and thus complement each other.

The Guidance can also usefully build on and be informed by relevant tools in the area of responsible business conduct, such as the *OECD Guidelines for Multinational Enterprises* [OECD/LEGAL/0144, annex] and related OECD Due Diligence Guidance for Responsible Business Conduct (RBC) (OECD, 2018[20]), related OECD work on key considerations for institutional investors under the *OECD Guidelines for*

Multinational Enterprises (OECD, 2017[21]), and OECD work for institutional investors on Managing Climate Risks and Impacts through Due Diligence for Responsible Business Conduct (OECD, forthcoming[22]). Moreover, the Guidance can also usefully interact with forthcoming OECD Policy Guidance on Market Practices to Finance and Strengthen ESG Investing (OECD, forthcoming[23]).

1.3.2. Mainstreaming versus labelling

The OECD's 2021 review suggests that there are diverging opinions on whether transition finance requires a dedicated label (Tandon, 2021[9]). An important starting point for the Guidance is a recognition of the need to mainstream transition considerations in the strategies of all corporate actors that need and seek to transition to net zero. Today, the growth of labelled sustainable and green financial products is contributing to increases in investments in economic activities that are already sustainable. Existing providers of green certifications, labels, and standards are now also beginning to offer similar services for transition-related financial products, such as sustainability-linked bonds (SLBs) and transition bonds (see, for example, (CBI, n.d.[24]), (CBI, 2021[17]), (ICMA, 2020[25])).

With the growing recognition that companies need to put in place credible transition plans, there are now also initiatives that provide certification for the credibility of a company's decarbonisation targets (see, for example, (SBTi, 2021[26]), (Carbon Trust, n.d.[27])). These initiatives are crucial to increase transparency and create incentives for investors and corporates, but they are only one tool in the toolbox for the global net-zero transition.

The downside of an approach that is limited to labelling and certification is that it can crowd out companies that are not able to afford certification, do not have access to or are not able to generate all the information needed to comply with the certification requirements, or operate within a policy environment that does not provide a framework that makes it feasible for them to align with such requirements. This may run counter to the objective of mainstreaming and is a criticism levelled at sustainable finance in general (see, for example, (Ameli, Kothari and Grubb, 2021[28]), (WWF, 2022[29])). Therefore, this Guidance promotes an approach that can include labelling and certification for those actors that choose to follow that route, but focuses on mainstreaming transition considerations, to the extent possible, in all relevant finance deployed or raised by corporates, including those that are not able or choose not to achieve or apply for certification.[5]

1.4. Scope of the Guidance

The Guidance does not aim to substitute for existing transition finance-related initiatives, principles, and frameworks, but rather to complement them by distilling common elements, highlighting emerging good practices, and pointing to areas where additional information by corporates can increase credibility.

The broad definition of transition finance presented above is not based on the identification of specific transition activities, nor does it propose metrics or eligibility considerations at fund- or portfolio- level. With a focus on credible corporate climate transition plans, which is emerging as a necessary element across different transition finance approaches, the Guidance provides an umbrella approach that can interact with taxonomies, roadmaps, relevant guidelines, transition and green labels, certifications, and eligibility criteria at the entity-, fund-, or portfolio-level, as well as other sustainable finance tools and frameworks.

While the transition finance concept could extend to finance substantial contributions to other environmental objectives and goals of the Paris Agreement, such as climate adaptation and resilience, or biodiversity, these other objectives are not the main focal point of the Guidance at this stage. Notably, while the Guidance focuses on corporate transition planning to align with the Paris temperature goal by decarbonising, there is also ongoing work by other initiatives (e.g., the Task Force on Climate-related Financial Disclosures and the International Sustainability Standards Board) to help corporates understand,

assess, and mitigate their exposure to climate-related risk (both transition risk and physical risk). While this work and the Guidance are related, they each require different toolkits and specific considerations.

The Guidance is predominantly focused on transition planning as it relates to non-financial corporates aligning their operations and activities with the temperature goal of the Paris Agreement. However, elements regarding credible transition plans could also be useful for public entities, including State-Owned Enterprises. Furthermore, the Guidance does not aim at tackling in detail financial market participants' transition plans, the specificities of transition risk management, nor the explicit role of shareholder engagement in transition finance, although the importance of these elements is recognised. The latter two points are only covered to the extent that they play an important role in ensuring credible corporate climate transition plans. Similarly, the Guidance touches upon financial market participants' transition plans since credible corporate transition plans are understood as being essential to inform them, but does not treat them in detail.

1.4.1. Accounting for ongoing and future developments

Beyond the question of labelling, there remains a multitude of unresolved challenges in the area of transition finance, especially with regards to eligibility of different sectors and activities, suitability of different pathways, obstacles arising from data availability from corporates, and challenges in companies' enabling conditions.[6] For example, in addition to ensuring that transition finance is available for corporates across geographies, it will be necessary to strengthen enabling conditions and remove existing barriers to feasibility. Until such a time when enabling conditions are improved and challenges with respect to data availability and other issues have been overcome, approaches to transition finance need to carefully balance the need to be inclusive with ensuring environmental integrity and avoiding emissions lock-in. To provide this balance and a more tailored and proportionate approach, the Guidance offers modifications for elements that can be particularly challenging for MSMEs, or certain types of companies operating in jurisdictions where enabling conditions might be lacking, such as in EDMEs.

The Guidance is a living document that can be updated in the future to consider new developments in the transition finance space and related discussions on how to enable the transition in all countries. In addition to setting out elements of credible corporate transition plans, the Guidance also calls for monitoring developments with respect to expectations of credible transition plans, and continuously seeking to meet the highest standards for transparency and credibility. In this context, the Guidance points to areas for further work, such as on policy incentives, tailored blended finance instruments and development of national sectoral pathways, amongst others.

In the future, extensions of the Guidance could consider:

- Other environmental and sustainable transition objectives, such as climate change adaptation and resilience, biodiversity, water, circular economy, or pollution.
- More detailed work on the possible use of the Principle of Do-No-Significant-Harm.[7]
- Additional work on ensuring a just transition.
- More detailed considerations related to criteria and tools used as part of corporate transition plans, such as the role of the *OECD Guidelines for Multinational* Enterprises [OECD/LEGAL/0144, annex] and related Due Diligence Guidance for RBC (OECD, 2018[20]) in developing and implementing corporate transition plans.

1.5. Who is the Guidance for?

The Guidance outlines key challenges in the development of the nascent transition finance space and presents the elements of credible corporate transition plans to help address risks related to greenwashing and carbon-intensive lock-in. Through this approach, the Guidance can:

- Help financial market participants (asset managers, institutional and retail investors, and banks) identify credible investment opportunities among corporates who are raising finance to implement their transition plans.
- Support corporates in developing those transition plans, including to attract the financing necessary to implement them.
- Provide useful references to policymakers or regulators that have developed or are considering developing policy frameworks for corporate climate transition plans.

1.6. Reader's Guide

The remaining chapters of the Guidance address the following topics:

- Chapter 2 provides an overview of ongoing initiatives in transition finance. Building on the OECD's 2021 review, it describes recent developments in transition finance, including relevant guidelines, taxonomies, and principles-based approaches. It examines selected financial instruments relevant to transition finance. Finally, it takes a detailed look at corporate transition plans as part of broader transition finance initiatives and gives an overview and comparison of existing non-governmental, industry-led, public, and transnational initiatives in the area.
- Chapter 3 focuses on the main challenges observed in transition finance and faced by market actors (financial market participants and non-financial corporates). It is based on a review of the literature, insights from the industry survey, and bilateral consultations. The analysis also presents three targeted case studies of non-financial corporates that have issued transition finance instruments. By looking at the main challenges faced by market actors, this chapter helps calibrate the elements presented in Chapter 4.
- Chapter 4 presents ten elements of credible corporate climate transition plans, building on existing approaches and complementing them by suggesting additional areas where further transparency is warranted to increase credibility. It takes a proportionate approach to ensure inclusiveness by offering modifications for MSMEs and microenterprises, as well as corporates that operate in challenging policy contexts and enabling environments, such as certain corporates in EMDEs.

1.7. Methodology

The development of the Guidance has benefitted from wide stakeholder input, both through the regular consultation of an Informal Reflection Group on Transition Finance[8] of jurisdictions who have either already developed transition finance approaches or are in the process of developing them; and through conducting an OECD industry survey on transition finance, targeting, amongst others, financial market participants, non-financial corporates, civil society, and academia. The results of the survey provide a basis for better understanding the challenges faced by market actors and other stakeholders in transition finance (as discussed in Chapter 3). The Guidance proposes possible solutions to help mitigate these challenges as part of the different elements that will be included in credible corporate transition plans (Chapter 4). An overview of the survey's scope and methodology is presented in Annex C.

The Guidance has also benefitted from insights of the OECD's Roundtable on Transition Finance, which was held as part of the OECD COP26 Virtual Pavilion and convened over 60 senior representatives from ministries of finance and the environment, banks, financial regulators and other key stakeholders to exchange views on transition finance (OECD, 2021[30]). Building on the OECD's 2021 stocktake analysis (Tandon, 2021[9]), the Guidance also draws on additional literature review, as well as bilateral interviews and consultations with non-financial corporates, financial market participants, and civil society institutions and associations that are active in the space.

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Notes

[1] Global net-zero carbon dioxide (CO_2) emissions will need to be reached in the early 2050s in modelled pathways that limit warming to 1.5°C (>50%) with no or limited overshoot, and around the early 2070s in modelled pathways that limit warming to 2°C (>67%). Similar reductions apply to non-CO_2 emissions (IPCC, 2022[1]).

[2] The term "hard-to-abate" generally refers to sectors that face particular challenges in their low-carbon transition, notably either due to an absence of low-carbon alternatives (as is the case in aviation, for example) or due to currently high costs of fully transitioning to low-carbon technologies and energy sources, as is the case in energy-intensive industries with high-temperature processes, such as iron and steel, cement and lime, chemicals, aluminium and other non-metallic minerals.

[3] In this Guidance, the definition of 'feasibility' follows that of the IPCC when referring "to the potential for a mitigation […] option to be implemented". In line with that definition, there are several context-dependent factors that can influence feasibility, thus enabling or constraining the implementation of different options. Factors can change over time, and they can be of "geophysical, environmental-ecological, technological, economic, socio-cultural and institutional" nature. Combining different options or strengthening enabling conditions can have an impact on feasibility (IPCC, 2022[1]).

[4] Taxonomies that are relevant to transition finance are generally green finance taxonomies with transition elements (Tandon, 2021[9]), such as the EU Taxonomy, which, for the environmental objective of climate change mitigation, contains three categories of eligibility: economic activities that are already low –or zero-emission today, enabling activities, and transition activities.

[5] Certification is not to be mistaken with external verification of plans and targets, which may be essential to ensuring that commitments and targets formulated by companies are credible and science-based and for which a proportionate approach might be suitable.

[6] In this Guidance, the definition of 'enabling conditions' leans on that of the IPCC, when referring "to conditions that enhance the feasibility of […] mitigation options." In this context, they can include technological innovation, data availability, relevant policy instruments (including of fiscal nature), institutional capacity, and the applicable regulatory framework (IPCC, 2022[1]).

[7] The Principle of Do-No-Significant-Harm is discussed in more detail in subsequent chapters of this Guidance but broadly refers to the process of not supporting or carrying out any economic activities that do significant harm to an environmental objective (such as climate change mitigation, adaptation, protection of biodiversity and ecosystems, protection of water and marine resources, pollution prevention and control, circular economy).

[8] Members of the Informal Reflection Group comprised representatives of the following institutions: the Sustainable Finance Institute Asia, the Bank of Canada; the Directorate-General for Financial Stability, Financial Services and Capital Markets Union of the European Commission; the Financial Services Authority of Indonesia; the Ministry of Economy, Trade and Industry of Japan; the Ministry of Environment of Japan; the Financial Services Agency of Japan; the Permanent Delegation of Korea to the OECD; the Monetary Authority of Singapore; the National Treasury of South Africa; the State Secretariat for International Financial Matters of Switzerland; Her Majesty's Treasury; the United States Department of the Treasury; as well as the Co-Chairs of the Sustainable Finance Working Group (United States and China).

2 What is transition finance?

This chapter provides an overview of existing approaches to transition finance and financial instruments commonly associated with transition finance, notably, sustainability-linked bonds and loans, and transition bonds. Within existing approaches, this chapter first identifies those that do not explicitly rely on corporate transition plans and are predominantly based on specific tools like national or regional taxonomies or national sectoral pathways and roadmaps. The chapter then separately identifies the growing field of transition finance approaches that revolve around corporate transition plans, including initiatives by non-governmental organisations and industry, the public sector, as well as transnational bodies. As set out in Chapter 1, in the context of this Guidance, transition finance is understood as finance raised or deployed by corporates to implement their net-zero transition, in line with the temperature goal of the Paris Agreement and based on a credible corporate climate transition plan.

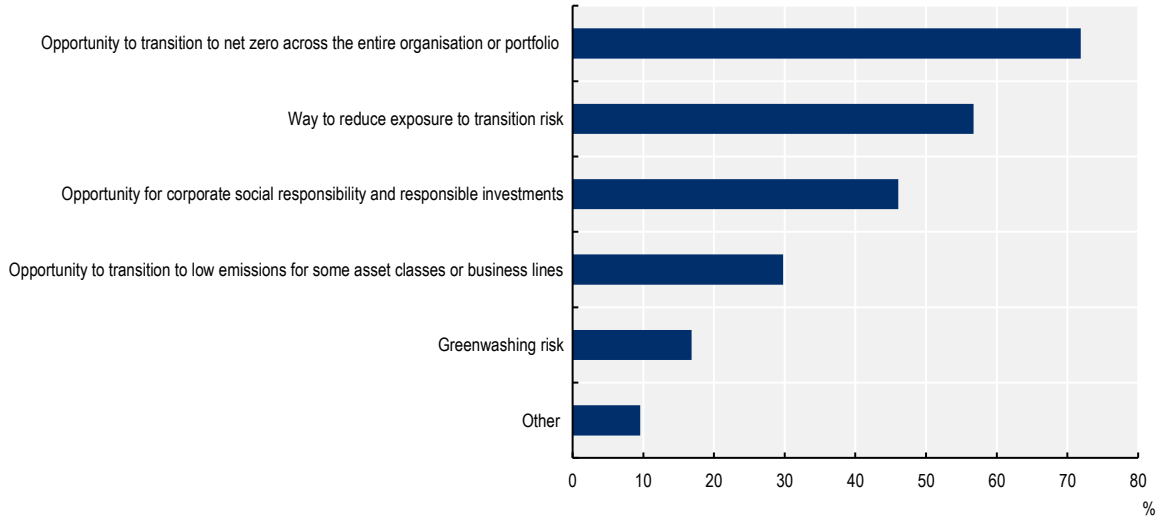
2.1. State-of-play: Existing approaches to transition finance

The exact details of the net-zero transition will be a function of each country's specific domestic context. Resource endowment, economic structure, socio-economic priorities, fiscal capacity, current emission levels, mitigation costs and potentials, as well as the socio-political acceptability of potential climate and environmental policies will impact the shape and ambition of the transition. This concretely means that activities and sectors considered as 'supporting the transition' may vary from jurisdiction to jurisdiction, as well as over time, including depending on the capacities of different countries.

In this context, delineating 'transition investments' has been an increasing focus of various national and regional public authorities, industry associations, investors, and civil society. The OECD's 2021 review of transition finance-related approaches suggests that, under existing approaches, transition finance has been generally understood as being intended to decarbonise entities or economic activities that: (i) are emissions-intensive,[1] (ii) may not currently have a low- or zero-emission substitute that is economically available or credible in all relevant contexts,[2] but (iii) are important for future socio-economic development. However, to date there is neither a consensus definition of transition finance, nor a set of technical criteria or qualifying sectors or technologies that are commonly agreed upon (Tandon, 2021[1]). Responses to the OECD industry survey on transition finance further corroborate the plurality of views in this area. Almost three quarters of respondents indicated that transition finance represents an opportunity for them to transition towards net zero across an organisation's entire investment portfolio or business model and 30% of respondents consider that transition finance presents such an opportunity for specific asset classes or business lines. Moreover, over half of respondents reported that for them, transition finance is a way to reduce exposure to transition risk (policy and legal risks, technology risks, market risk and reputational risk), while 17% indicated that transition finance could be a source of greenwashing risk (see Figure 2.1 below).

Figure 2.1. For most market actors, transition finance represents an opportunity

Respondents' views on what transition finance represents to them, as % of respondents



Note: The number of respondents for this survey question was 178; multiple answers per respondent were possible.
Source: 2022 OECD Industry Survey on Transition Finance.

Different jurisdictions are pursuing a spectrum of approaches to identify and designate investments that align with their domestic priorities, while contributing to the net-zero transition. Table A A.1 in Annex A provides an overview and comparison of transition finance approaches that do not focus on corporate

transition plans but are based on other selected tools, and sometimes a combination of those tools to guide investment selection at activity–, or entity-level, or both. They include, notably, taxonomies, Nationally-Determined Contributions (NDCs), pathways, sectoral roadmaps, high-level guidelines and principles. For example, Japan has put in place guidelines that include dedicated sectoral roadmaps, while Malaysia has put forward a principles-based taxonomy, and Singapore a taxonomy based on a traffic light system. The ASEAN Taxonomy takes a hybrid approach, putting forward a multi-tiered framework that considers differences among ASEAN Member States and allows them to choose between using a principles-based approach, quantitative thresholds, or a combination thereof. The European Union (EU), on the other hand, has proposed a list of eligible activities, qualitative criteria, and thresholds to define which economic activities qualify for the EU Taxonomy. In 2021, multilateral development banks (MDBs) revised their Common Principles for Climate Mitigation Finance Tracking comprising eligibility criteria for climate mitigation finance, which, after a two-year roll-out period, will be adjusted to focus also on criteria for transitional and enabling activities (EIB, 2021[2]) (see Chapter 4 for further insights on taxonomies).

Existing approaches differ in their level of prescriptiveness, with criteria and thresholds-based taxonomies on the one hand, and principles or guidance on the other. They also differ when it comes to their degree of environmental ambition, with some considering alignment with Nationally Determined Contributions (NDCs) to be sufficient, while others do not rely on NDCs since these are often insufficient to meet the Paris Agreement temperature goal (Tandon, 2021[1]). Similarly, eligible investments vary across jurisdictions depending on their emissions contribution and economic significance. Some approaches also underline the need to direct capital towards new technologies (METI, 2020[3]) and cover a wider portion of the value chain (Platform on Sustainable Finance, 2021[4]). Moreover, while almost all approaches feature the 'do no significant harm' principle, only a few set out specific criteria on how to assess it. To date, as indicated by respondents to the OECD Industry Survey on Transition Finance, when identifying transition finance opportunities, market actors mainly use the International Capital Markets Association's (ICMA) Principles and Handbook, Climate Bonds Initiative's (CBI) frameworks, the EU Taxonomy or frameworks developed internally.

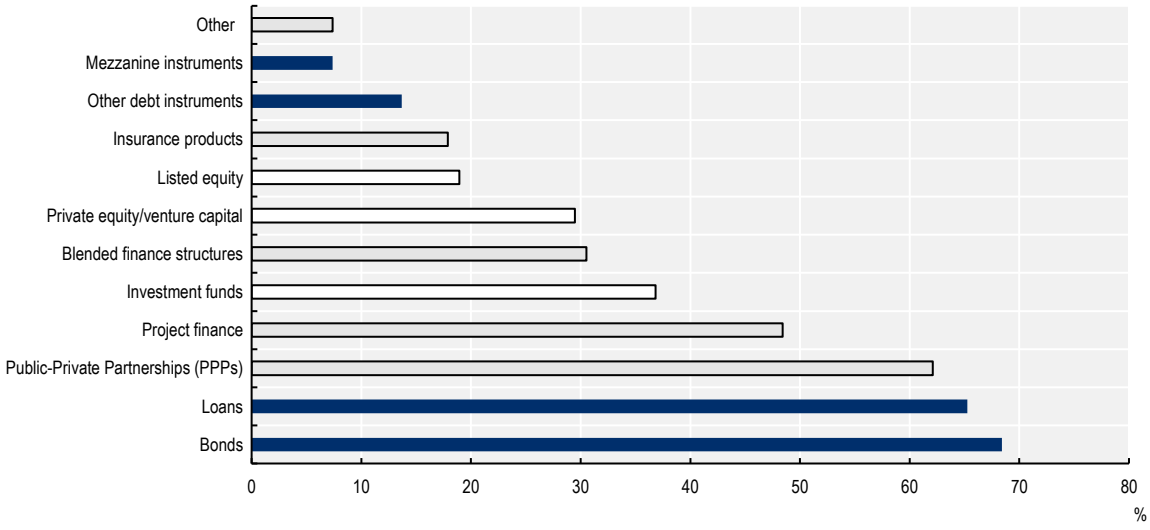
2.2. Taking stock of transition-related financial instruments

The OECD's 2021 review analysed a sample of financial instruments that are explicitly labelled, marketed, or based on literature review generally believed to provide transition financing. The analysis showed that transition finance is currently extended mainly through fixed-income instruments and notably, sustainability-linked bonds and loans (Tandon, 2021[1]) (see Glossary in Annex E for the definitions of these instruments). However, the debt market alone will not be sufficient to mobilise enough capital for the net-zero transition. Other types of general-purpose finance, such as equity investments, will also be needed. In particular, private equity and venture capital could play a much more prominent role, for example to finance breakthrough low-emission innovations. Greater use of hybrid instruments such as convertible bonds combining features of KPI-linked instruments, could also be considered (OECD, 2021[5]). Beyond the type of financial instrument deployed to raise transition finance, it is also important to note that financing terms need to reflect the specific needs of corporates seeking transition finance, for instance in terms of duration, currency, risk profile, domicile, etc.

Responses to the OECD Industry Survey on Transition Finance indicated that there is no consensus on the role that individual financial instruments do and will play in transition finance-related transactions. However, many respondents identify debt-related instruments to play the most prominent role. Over half of survey responses pointed to bonds, loans, blended finance or public-private partnerships as those mostly used (with no significant difference, in terms of preferences, across the three sets of instruments), followed by project finance (selected by 13% of responses) and investment funds (10%). Equity instruments were reported to be relevant by only 13% of responses, with 8% indicating private equity and venture capital will be most deployed and 5% selecting listed equity. Insurance products were selected by

merely 5% of responses (see Figure 2.2 below). The focus on debt-related instruments stands in contrast to views on current debt-to-equity ratios, where 62% of respondents see these as at least somewhat a material barrier to transition financing (see Figure 2.3 below). Hence, a corporate's debt levels may become a pronounced constraint to their ability to finance their low-carbon transition.

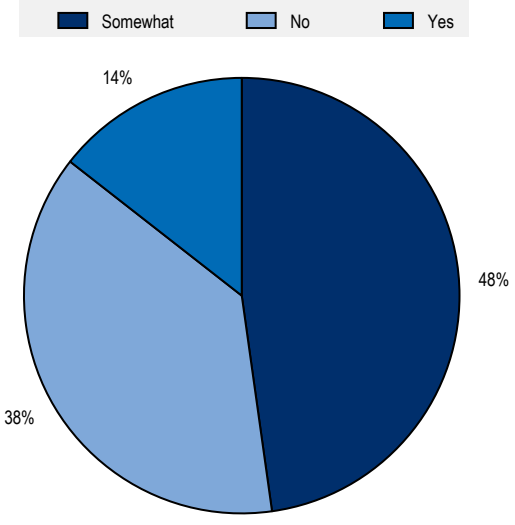
Figure 2.2. Market actors consider that debt-related instruments will be deployed over equity in transition finance-related transactions



Note: Which financial instruments or mechanisms will be most deployed for transition finance-related transitions, in your view? Debt-related instruments highlighted in blue, equity-related instruments in white, other instruments shown in grey. The number of respondents for this survey question was 95; multiple answers per respondent were possible.
Source: 2022 OECD Industry Survey on Transition Finance.

Figure 2.3. Market actors view debt-to-equity ratios as a somewhat material barrier for transition financing

Respondents' views on debt-to-equity ratios as a material barrier for transition financing, as % of respondents



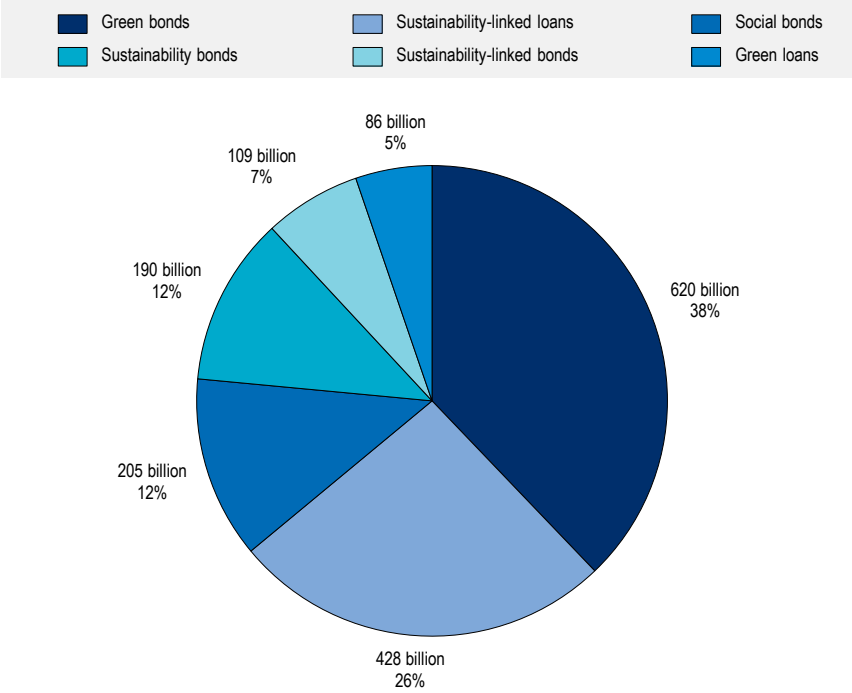
Note: The number of respondents for this survey question was 90.
Source: OECD Industry Survey on Transition Finance.

The growth of debt capital market instruments that are explicitly labelled, marketed, or generally believed to provide transition financing has been spurred by the publication of the ICMA Climate Transition Finance Handbook in 2020. The Handbook provides guidance to issuers on the "practices, actions, and disclosures to be made available when raising funds in debt markets for climate transition-related purposes, whether this be in the format of (i) use-of-proceeds instruments (green, social or sustainability bonds); or (ii) general corporate purpose instruments (sustainability-linked bonds)" (see the Glossary in Annex E for definitions). There have also been issuances explicitly labelled as "transition bonds" in the market. However, ICMA's Handbook does not propose 'transition' as a separate market segment, but rather states that a 'transition' label applied to a debt instrument "should serve to communicate the implementation of an issuer's corporate strategy to transform the business model in a way which effectively addresses climate-related risks and contributes to alignment with the goals of the Paris Agreement" (ICMA, 2020[6]). For this reason, ICMA considers that 'transition bonds' can be either green, sustainability bonds or sustainability-linked bonds issued by entities looking to align their financing strategy to their climate transition strategy and decarbonisation trajectory (ICMA, 2022[7]). Conversely, CBI proposes a 'transition' label and defines transition bonds as use-of-proceeds instruments used to finance activities or entities that are not low- or zero-emission (i.e., not green), but have a short- or long-term role to play in decarbonising an activity or supporting an issuer in its transition to Paris Agreement alignment (CBI, 2022[8]).

As Figure 2.4 below shows, the sustainable debt capital market (which amounted to USD 1.6 trillion in 2021, according to Bloomberg estimates) is dominated by green bonds (which represent 38% of 2021 issuances), sustainability-linked loans (SLLs) and bonds (SLBs) (which combined amounted to USD 537 billion in 2021 and accounted for 33% of the total), and, to a smaller extent, social and sustainability bonds.

Figure 2.4. Sustainable debt market by instrument (2021)

Total sustainable debt issuance in 2021: USD 1.6 trillion



Source: Authors based on (Bloomberg, 2022[9]).

Since 2021, CBI also started to track bonds labelled as 'transition', while acknowledging the lack of agreed standards and definitions. According to CBI, the transition bond market is still relatively new but growing, with 13 bonds from ten issuers, amounting to USD 4.4 billion in 2021 (CBI, 2022[8]). CBI is currently developing sector-specific bonds and loans standards and criteria for several sectors, namely chemicals, cement, steel, hydrogen metal and mining, carbon capture and storage, and agriculture (CBI, forthcoming[10]).

2.2.1. The growth of sustainability-linked instruments

Sustainability-linked loans (SLLs) and bonds (SLBs) are relatively new and innovative performance-based financial instruments that allow companies to raise capital for general purposes.[3] SLLs' and SLBs' financial and structural characteristics (such as the interest rate of a loan or coupon of a bond) vary depending on whether the borrower or issuer achieved sustainability performance targets (SPTs)[4] for a predefined set of Key Performance Indicators (KPIs), which can cover a range of environmental and/or social targets.[5] SLLs and SLBs represented respectively 26% (USD 428 billion) and 7% (USD 109 billion) of the total sustainable debt market in 2021 (see Figure 2.4 above) and represented the fastest growing segment.[6] Most SLB issuances (88% of total issuance by volume) came from non-financial corporates (CBI, 2022[8]). SLBs include a penalty mechanism that is triggered in the event of non-compliance with pre-stipulated SPTs (trigger event). Penalty mechanisms can include coupon step-ups (most common), premium payments upon maturity set as fixed percentage (set in basis points) of redemption amount, or obligations to purchase offsets to meet the SPT calculated as a percentage (set in basis points) of the nominal amount. In case of SLLs, the interest rate on the loan increases if SPTs are missed.

As SLBs are accessible for issuers in any sector and geography, they are often described as a promising financial instrument for issuers in hard-to-abate manufacturing industry sectors such as iron, steel and petrochemicals production, who aim to raise financing for the entity's decarbonisation. The sectoral breakdown of SLB issuances highlights the growing use of SLBs in industry subsectors. In 2021, the industry sector issued the second largest share of SLBs by volume (with the first being utilities) (CBI, 2022[8]). According to CBI, most sustainability-linked bonds (nearly 60% in Q1 2022, around USD 14 billion) target GHG or carbon emission reduction objectives. Of these targets, 77% were verified by the Science Based Targets initiative (SBTi) in Q1 2022, showing a steady increase from the previous year (CBI, 2022[11]).

The sustainability-linked instruments market has experienced fast growth in the last couple of years, notably in Europe and North America, which dominate the issuance of SLBs and borrowing through SLLs (Environmental Finance, 2022[12]). Scaling up sustainability-linked financial instruments in EMDEs, whose capital markets are often underdeveloped and where Sustainable Development Goals (SDGs) investment needs are greatest, could allow issuers to tap into new sources of finance for their transition (OECD, 2021[13]) (see Box 2.1 below for further insights on the use of sustainability-linked instruments by corporates in hard-to-abate sectors in EMDEs).

However, the sustainability-linked debt market is still nascent, and it is likely too early to assess the credibility, integrity, and real ambition of KPI-linked instruments. Central banks and asset managers emphasised the need for greater transparency and consistency in the methodologies used in sustainability-linked instruments to provide comparable and credible forward-looking metrics (NGFS, 2022[14]). Moreover, concerns have been raised on the use of composite Environmental, Social and Governance (ESG) ratings as KPIs to link the financing with, as ESG scores are currently highly dependent on the assumptions used by ESG ratings and data providers (NGFS, 2022[14]). For instance, the European Central Bank (ECB) does not consider improvements in ESG ratings or scores as acceptable SPTs for the purposes of determining the eligibility of assets as collateral in its credit operations or for its asset purchase programmes (ECB, 2022[15]). In addition, further standardisation on the KPIs and SPTs used can allow for comparability and thus potentially scale up this market. For example, while most sustainability-linked instruments are tied to

emission reduction-related KPIs, less than 20% of sustainability-linked bonds are linked to scope 3 emission reduction targets (S&P, 2022[16]).

Addressing global fragmentation of core ESG data and metrics, will be critical to address challenges that may undermine the effectiveness of sustainable finance approaches used in financial markets. In this respect, as called for by the OECD Policy Guidance on Market Practices to Finance a Climate Transition and Strengthen ESG Investing, relevant policymakers, financial authorities and central banks (where appropriate within domestic mandates) should strengthen the availability of reliable and quality ESG data and metrics in line with global baseline standards and financial authorities should use the tools available to them to support greater transparency of ESG ratings methodologies and oversight of ESG rating providers to ensure high quality and interpretability of methodologies and outputs (OECD, forthcoming[17]). Overall, further research, data and standards are needed to ensure that the sustainability-linked debt market can grow with integrity and credibility, for example on how to set credible yet ambitious targets, use sector-specific pathways and align incentives on the financial reward\penalty and on sustainability performance.

Box 2.1. The use of sustainability-linked instruments by companies in EMDEs: insights from case studies

To shed light on the potential and growth challenges of sustainability-linked financial instruments, this Guidance includes case studies on companies that raised sustainability-linked finance for their decarbonisation in hard-to-abate sectors, with examples from both emerging and developing economies (see Annex D for the rationale behind the selection of the case studies, further background and details). Insights gathered through the case studies included the following:

- Sustainability-linked instruments are relatively cost-effective to put in place for companies that have already defined and committed to reaching sustainability targets and addressing environmental impacts. Based on views expressed in the case studies, the shift towards sustainability and the desire to tap into sustainable finance is often driven by a recognition that decarbonisation is necessary to remain competitive in the long-term, compounded by pressure from both investors and consumers towards low-carbon products, operations and value chains. A long track record of verified sustainability performance and data disclosure is a major facilitator to engage investors.
- Issuance of sustainability-linked instruments contributes to mainstreaming sustainability objectives across all functions of a business and to creating synergies across teams within a company, including but not limited to operations, sustainability, corporate finance and purchasing departments. In some cases, fostering this whole-of-business approach requires changes in companies' internal practices and processes. These instruments also allow investors to gain a better understanding of and familiarity with a corporate's sustainability plan, decarbonisation strategy and how they plan to finance it.
- Sustainability-linked instruments analysed in the case studies are often used for corporate financing needs. For instance, they can be used to refinance existing traditional loans, possibly extending their tenure as SLLs typically have 5-10-year maturities and linking them to company-wide sustainability KPIs. However, interviews highlighted that the industry decarbonisation will need to rely on the development and deployment of breakthrough technologies (e.g., clean hydrogen and carbon capture, utilisation and storage), which may require project-specific and longer-term financing. This could in some cases require a mix of public (where needed and additional, at concessional terms) and private financing, as some of these investments are capital-intensive and have long payback periods. During the interviews it emerged that an

interesting model to boost the development of low-carbon technologies for industry could be one where companies play a transformational, 'venture capitalist' role, by collaborating with clean technology development companies and start-ups and eventually carrying out equity investments.

- The issuance of sustainability-linked instruments is based on a corporate's sustainability financing framework reviewed by Second Party Opinion providers, which encompasses all the main KPIs and SPTs the company has set. Such frameworks usually follow ICMA's Principles on Sustainability-linked Bonds and the Asian Pacific Loan Market Association's (APLMA), Loan Market Association's (LMA), and Loan Syndications and Tradition Association's (LSTA) Sustainability-linked Loan Principles, under which the company reports on the performance achieved on those targets and KPIs, often through integrated and externally verified sustainability reporting.
- While sustainability-linked financing frameworks are aligned with corporate sustainability/climate change strategies and policies (which typically include long-term targets and measures to achieve them), they are not necessarily linked with corporate transition plans and related capital expenditure (CapEx) and operational expenditure (OpEx) plans, mainly as sustainability-linked instruments are used for general purpose.
- Companies are increasingly willing and eager to get their targets verified. All the companies interviewed have done so or are in the process of validating their targets by SBTi. However, SBTi's sector-specific target setting guidance for cement, chemicals, and steel (as well as other sectors) was developed using sectoral decarbonisation approaches in line with 2°C and well-below 2°C emission pathways. Sector guidance aligned with 1.5°C pathways is currently under development for the cement, steel, and chemicals sector (SBTi, 2022[18]). Moreover, several tools, methods and initiatives guiding the development or validation of emission reduction targets or pathways exist, often tailored towards different audiences and roles – they are listed in ICMA's 2022 Climate Transition Finance Methodologies registry (ICMA, 2022[19]).
- Sustainability-linked frameworks of companies in these sectors spell out specific decarbonisation targets, which differ across sectors. This enables investors and consumers to better understand the company's decarbonisation pathways and to compare initiatives within the same subsector, although no or limited details are available at project level.

Source: Case studies and interviews (see Annex D for further details)

While sustainability-linked issuances have been dominated by non-financial private corporates, these instruments are starting to also be considered by countries. Chile issued the world's first-ever sovereign sustainability-linked bond in March 2022, a USD 2 billion issuance (S&P, 2022[20]), tied to two main sustainability-performance targets, which follows the country's updated NDC: (i) achieving GHG emissions of 95 metric tons of carbon dioxide equivalent ($MtCO_2e$) by 2030 and a maximum of 1,100 $MtCO_2e$ between 2020 and 2030 and (ii) achieving 50% of electric generation derived from Non-Conventional Renewable Energy (NCRE) sources by 2028 and 60% of electric generation derived from NCRE sources by 2032 (Ministry of Finance of Chile, 2022[21]). The World Bank recently published a framework for designing and assessing sovereign SLBs with payments linked to the performance of key climate and nature indicators. The framework outlines various options for setting and assessing the ambition and robustness of KPIs, while recognising that, due to data limitations and persistent implementation challenges, country pilots, consultations and capacity building are needed to further understand how KPIs for sovereign SLBs could be developed in practice (World Bank, 2021[22]).

2.3. Ensuring credibility and comparability

While the development of this market for transition-related financial instruments can be important, there are growing concerns, especially among financial market participants and civil society, regarding possible greenwashing by corporates issuing such instruments, as well as a lack of coordination and comparability across jurisdictions (see for example, (Shrimali, 2021[23]), (BNP Paribas, 2019[24]), (Nordea, 2021[25]), (CBI, 2021[26]), (Capitalmonitor, 2021[27])). Credible corporate transition plans, setting out the overall strategy of the corporate issuing such instruments, could help alleviate greenwashing concerns and reassure investors of the environmental integrity of the corporate issuing these instruments.

Moreover, in the context of global financial markets and multinational corporate operations and ownership structures, significant divergences in national and regional approaches can present a hindrance for the flow of investment and finance. Since such divergences can also lead to different levels of ambition in corporate and investment practices across jurisdictions, concerns around greenwashing are further compounded, leading to perceptions of increased reputational risk and inadequate stakeholder buy-in. To facilitate a smoother flow of global transition finance at the scale and pace required to achieve the temperature goal of the Paris Agreement, it is therefore crucial to bridge these cross-jurisdictional divergences and alleviate greenwashing concerns arising from existing approaches.

Efforts to bridge such differences face the need to balance the certainty and standardisation valued by financial markets with the varying capacities, domestic considerations, and priorities among countries and regions. The International Platform on Sustainable Finance's (IPSF) Transition Finance Working Group and the G20 Sustainable Finance Working Group's Framework for Transition Finance (developed for the Indonesian G20 Presidency in 2022) are examples of initiatives seeking to develop a common approach across jurisdictions.[7] As transition finance is gaining momentum, including continued efforts to develop common approaches and increase coordination, there will likely be ongoing discussions among investors, governments and other stakeholders concerning the eligibility of specific investments in different country settings. This can be expected considering the continually evolving technological and definitional state of transition investments, as well as ongoing technical discussions on how to connect domestic sectoral corporate transition plans and pathways (where those have been developed) with global sectoral pathways. Credible sectoral pathways and detailed criteria have yet to be developed for many corporate actors across most jurisdictions, which is a key challenge to scaling up transition finance and is discussed in more detail in Chapter 3.

Since transition finance is directed at the systemic transformation of a corporate's business model and operations towards low-emission pathways, providers of transition finance should be in a position to assess the economic and environmental integrity of the entire business strategy of a corporate trying to raise finance for that purpose. The most suitable instrument to convey this sort of information is a corporate climate transition plan, which sets out a company's targets, commitments, and implementation actions. For this reason, investors increasingly expect companies to develop ambitious and robust transition plans (CA100+, 2022[28]). However, only a minority of companies are to date developing them; for example, only a third of companies that disclosed through CDP Worldwide in 2021 had climate transition plans in place (CDP, 2022[29]), with difference across and within sectors. Companies in the financial services, power and fossil fuels sectors showed the highest rates of climate transition plan disclosure (with 5% of all entities in each of these industries disclosing on CDP's key transition plan indicators), whereas the transportation services and apparel industries had the lowest transition plan disclosure rates (with less than 0.3% of organizations disclosing) (CDP, 2022[29]).

For the few companies that are starting to develop standalone transition plans or incorporate relevant elements within their annual financial, climate or sustainability reporting, available disclosure is either inadequate or reveals plans that are not consistent with net-zero targets (IGCC, 2022[30]). For instance, results of the first assessment of CA100+ Net Zero Company Benchmark show that 60% of the assessed companies did not have strategies consistent with net zero, and merely 4% explicitly aligned their CapEx

with their decarbonisation objectives (CA100+, 2022[28]). Similarly, analysis by the Transition Pathways Initiative (TPI) suggests that entities operating in transition-relevant industries are not aligned with the Paris Agreement temperature goal, with over a third significantly delaying action and not planning to align their pathways until after 2040 (Miller and Dikau, 2022[31]). According to the UK Transition Plan Taskforce (TPT), publicly disclosed transition plans vary in detail and quality, hindering assessments of their credibility (TPT, 2022[32]).

2.4. Credible corporate climate transition plans can enable the assessment of corporate climate strategies and goals

2.4.1. What is a transition plan?

In the absence of credible corporate transition plans, it is challenging for financial market participants to assess the extent to which a potential transition investment is legitimate from a financial, business, and environmental standpoint. To make this assessment, it is necessary to have a holistic overview of the corporate's products and operations, and related decarbonisation trajectory across the entire entity. Various definitions of credible corporate transition plans exist, and no single definition has so far been recognised as an international standard.

However, a corporate transition plan is generally understood as a time-bound, crosscutting action plan that clearly sets out how a company intends to achieve its transition strategy (including targets, actions, progress and accountability mechanisms) and reach its goal to transform its business model, operations, assets and relationships towards low-emission, climate-resilient pathways that are aligned with the goals of the Paris Agreement (CBI, 2021[33]; CDP, 2021[34]; CPI, 2022[35]). As mentioned earlier in the text, this Guidance is focused on the decarbonisation aspect of the above definition, while recognising the importance of corporates understanding, assessing, and mitigating their exposure to climate-related risk, as well as ensuring climate resilience.

While transition plans are often conceived as tools for companies to set out their actions to mitigate the impact of climate change and decarbonise, they can cover a much wider set of considerations (e.g., climate adaptation and resilience) related to a company's transition to more sustainable pathways. For example, according to the European Financial Reporting Advisory Group (EFRAG), a transition plan is part of a corporate's overall strategy for its transition towards a climate-neutral economy, while a climate change mitigation action plan is the part of a transition plan that is specific to GHG emission reductions (EFRAG, 2022[36]). A growing number of initiatives by industry, non-governmental organisations (NGOs) and think tanks provide principles, analysis, guidance, and frameworks on what constitutes a credible transition plan and necessary disclosure. Moreover, several initiatives exist that help companies set their transition targets or develop a transition plan. Similarly, some public authorities are beginning to codify standards related to transition plans into law or providing guidance to market actors on how to develop credible plans within their jurisdictions. Transnational initiatives are starting to develop more coordinated, high-level principles that can help guide the different national or regional initiatives. Within this overall universe, some approaches focus exclusively on transition plans of either financial institutions or non-financial corporates, while others refer to both. The remainder of this chapter provides an overview of ongoing initiatives related to frameworks on transition plans, their roles, and purposes. A detailed mapping on how existing initiatives address important elements of credible transition plans can be found in Table A B.1 in Annex B.

While existing frameworks on transition plans share several common elements, few initiatives, if any, cover the following aspects in depth:

- The link between corporate transition plans and other sustainable finance and investment tools, such as taxonomies.

- Mechanisms for the prevention of carbon-intensive lock-in.
- The consideration of non-climate-related sustainability impacts in transition planning.
- Proportionate treatment for MSMEs or companies operating in challenging policy environments, such as in EMDEs.
- These important considerations and others are covered in greater detail in Chapter 4.

2.4.2. Non-governmental and industry-led initiatives on transition plans

Several frameworks, guidance and tools on climate transition plans exist, each with a specific focus, purpose, and target stakeholder (see Table 2.1 below). For instance, some provide disclosure frameworks and standards, others provide target-setting and sectoral pathways methodologies or data collection services, while others help assess, evaluate, and validate targets, plans and progress. Relevant examples of industry-led initiatives and frameworks on transition plans include those developed by the Task Force on Climate-related Financial Disclosures (TCFD) as well as the Glasgow Financial Alliance for Net Zero (GFANZ), amongst others.

TCFD's Guidance on Metrics, Targets, and Transition Plans helps organisations to prepare disclosure of "decision-useful metrics, targets, and transition plan information" and how these link with related financial risks and impacts. The TCFD Guidance's section on transition plans outlines key characteristics of effective transition plans and helps organisations to include aspects of their transition plans in their climate-related financial disclosures. TCFD identifies four main high-level elements on effective transition plans: (i) governance; (ii) strategy; (iii) risk management; and (iv) metrics and targets (TCFD, 2021[37]). Building on TCFD's Guidance as well as other industry initiatives, GFANZ is currently developing work streams on both real economy transition plans as well as financial institutions' transition plans, with a view to drive convergence on best practices and allow corporates to develop net-zero transition plans that meet the needs of financial actors (GFANZ, 2021[38]). GFANZ is a global coalition of leading financial institutions in the United Nations (UN)'s Race to Zero whose members are financial institutions representing around 40% of global private financial assets, committed to the goal of net zero by 2050. GFANZ's Guidance on Financial Institution Net-zero Transition Plans offers recommendations geared towards operationalising members' own net-zero commitments and focuses on four key approaches: (i) financing or enabling the development and scaling of climate solutions to replace high-emitting technologies or services; (ii) financing or enabling companies already aligned with a 1.5°C pathway; (iii) financing or enabling the transition of real economy firms, according to robust net-zero transition plans; and (iv) financing or enabling the accelerated managed phase-out of high-emitting assets (GFANZ, 2022[39]). In addition, while it does not explicitly focus on transition plans, the concept of climate transition financing in ICMA's Climate Transition Finance Handbook focuses mainly on the credibility of an issuer's climate-related transition strategy, commitments, and practices (ICMA, 2020[6]).

Several think tanks and NGOs have also put forward principles and guidance on transition plans. For example, CDP identifies six guiding principles and characteristics for climate transition plans (accountable, internally coherent, forward-looking, time-bound and quantitative, flexible and responsive, and complete) and eight main elements of credible transition plans, namely: (i) governance; (ii) scenario analysis; (iii) financial planning; (iv) value chain engagement and low carbon initiatives; (v) policy engagement; (vi) risks and opportunities; (vii) targets; and (viii) scope 1, 2 and 3 accounting with verification (CDP, 2021[34]).[8] In a similar vein, CBI's five hallmarks of credibly transitioning companies focus on the following elements: (i) Paris-aligned targets; (ii) robust plans; (iii) implementation action; (iv) internal monitoring; and (v) external reporting (CBI, 2021[26]).

Table 2.1. Existing initiatives and guidance on transition plans and strategies

Organisation	Type of services provided	Target stakeholder group(s)	Transition plan-related report reviewed
Validation/assessment and/or guidance/methodologies providers			
Assessing low-Carbon Transition (ACT) initiative	Services to support and assess corporate transition plans	Governments, companies, and investors	ACT Framework (ACT, 2019[40])
Climate Action 100+ (CA100+)	Set of disclosure indicators designed for investors to assess the robustness of a company's business plan and climate targets	Investors	Net-zero company benchmark (CA100+, 2021[41])
Climate Bonds Initiative (CBI)	Bond standards and certification schemes, policy engagement and analysis	Investors	Transition finance for Transforming companies (CBI, 2021[33])
Climate Safe Lending Network (CSL)	Multi-stakeholder forum to enable the banking sector to decarbonise	Banks	The Good Transition Plan (CSL, 2021[42])
Glasgow Financial Alliance for Net Zero (GFANZ)	Forum for engagement of financial institutions to accelerate the transition to a net-zero global economy	Financial institutions	GFANZ – Our progress and plan towards a net-zero global economy (GFANZ, 2021[38])
International Capital Market Association (ICMA)	Principles and recommendations for the development of international capital markets	Financial institutions, investors, and corporates (issuers)	Climate Transition Finance Handbook (ICMA, 2020[6])
Investor Group on Climate Change (IGCC)	Investors alliance with a focus on climate change	Investors and corporates	Corporate Climate Transition Plans: A guide to investor expectations (IGCC, 2022[30])
Science Based Targets initiative (SBTi)	Guidance for target-setting and target validation	Corporates and financial institutions	Science-based target setting manual (SBTi, 2020[43]) Corporate Net-Zero Standard (SBTi, 2021[44])
Transition Pathway Initiative (TPI)	Assessment tool to rate corporations' preparedness for a net-zero transition and benchmarks for corporate climate action	Asset owners	TPI state of transition 2021 (TPI, 2021[45])
Disclosure frameworks			
International Sustainability Standards Board (ISSB)	Sustainability-related disclosure standards	Investors and corporates	Draft Climate-related Disclosures (IFRS, 2022[46])
Task Force on Climate-Related Financial Disclosures (TCFD)	Disclosure Framework on climate risks and opportunities	Financial institutions	Guidance on climate related metrics, targets, and transition plans (TCFD, 2021[37])
Transition Plan Taskforce (TPT)	Development of a gold standard for transition plans	Companies	A Sector-Neutral Framework for private sector transition plans (TPT, 2022[32])
Data collection and analysis			
CDP	Collection of self-reported environmental data; scoring; analysis	Investors, companies, cities, states, and regions	Climate Transition Plan – Discussion Paper (CDP, 2021[34])
Climate Policy Initiative (CPI)	Analysis and advisory services	Governments, businesses and financial institutions	What Makes a Transition Plan Credible? Considerations for financial institutions (CPI, 2022[35])
Net Zero Tracker	Data collection and analysis on net-zero targets	Governments, sub-national entities, businesses and financial institutions	Net Zero Tracker data (Net Zero Tracker, 2022[47])

Note: This list is non-exhaustive overview. A more detailed mapping of how these initiatives address key elements of transition plans can be found in Table A B.1 in Annex B.

2.4.3. Transition plans as part of public initiatives

Several public, often government-led, proposals and regulatory initiatives are emerging at national and regional level, setting out expectations on the need for companies to develop and publish climate transition plans.

European Union (EU)

In its sustainable finance strategy, the European Commission acknowledges the need for financial institutions to improve their disclosures of sustainability targets and transition planning (European Commission, 2021[48]). As part of the 2021 Sustainable Finance package, the European Commission published a legislative proposal for a Corporate Sustainability Reporting Directive (CSRD), which will amend the existing Non-Financial Reporting Directive (NFRD). In June 2022, the European Parliament and Council reached a provisional political agreement on the CSRD (Council of the EU, 2022[49]). The CSRD would mandate companies in scope to report in compliance with European Sustainability Reporting Standards (ESRS), which are being developed by the European Financial Reporting Advisory Group (EFRAG) and would be adopted by the European Commission as delegated acts. The proposed CSRD introduces a requirement for companies to provide information about any sustainability targets set and the progress made towards achieving them, as well as the plans of the company to ensure that its business model and strategy are compatible with the transition to a sustainable economy and with the limiting of global warming to 1.5°C, in line with the Paris Agreement. EFRAG's ESRS E1 on Climate Change sets out proposed standards for disclosure requirements on transition plans in line with the Paris Agreement. These requirements call for explanations of (among others): (i) the alignment of targets with limiting global warming to 1.5°C; (ii) the decarbonisation levers identified and key actions planned, including the adoption of new technologies; (iii) the financial resources supporting the implementation of the transition plan; (iv) the locked-in GHG emissions from key assets and products and the plan to manage them; (v) the future alignment of economic activities to the Taxonomy; (vi) how the transition plan is embedded in and aligned with the overall business strategy; (vii) the progress made in implementing the plan (EFRAG, 2022[36]).

Moreover, recently there have been relevant EU-level developments on the monetary policy and banking supervision front. As part of the European Central Bank (ECB)'s overall climate strategy for banks, the ECB has recently stressed the need for banks to have Paris Agreement-compatible transition plans with concrete intermediate milestones and associated KPIs, as part of a bank's strategy-setting and business plan. The ECB also highlighted the need for transparency and appropriate disclosure of banks' transition plans (ECB, 2021[50]).

Japan

Japan's 2021 Basic Guidelines on Climate Transition Finance put forward a set of (not legally-binding) considerations on key elements transition finance issuers should disclose about their strategies, actions, and plans, in line with ICMA's Climate Transition Finance Handbook. According to the Guidelines, issuers are expected to disclose their transition strategies and plans and to execute them as part of the company's integrated reporting, sustainability reporting and statutory documents. Issuers should specify how climate change is an environmentally material part of their business activities. They should also disclose their short-, mid- and long-term targets, including the base years. There are further elements that are "optimally recommended" for issuers to have or disclose as per the Guidelines (covered in more detail in Annex A) (FSA, METI and Ministry of Environment, Japan, 2021[51]).

Switzerland

Switzerland's plan to mandate TCFD climate-related financial disclosures for larger companies across all sectors of the economy includes publishing transition plans. The plan advises firms to rely to the extent

possible on the TCFD's October 2021 Guidance on Metrics, Targets, and Transition Plans. A public consultation on the TCFD ordinance is currently underway until the summer of 2022, with the aim for it to enter into force on 1 January 2023 (Swiss State Secretariat for International Finance, 2022[52]). Listed firms with more than 500 employees, balance sheet exceeding CHF 20 million and revenues exceeding CHF 40 million in the preceding years will be expected to implement the legislation starting in 2024 for FY 2023. The legislation will not only cover the climate-related risks faced by these companies, but will also ask the firms to disclose the climate impact of their activities, as embodied in the concept of double materiality. The requirements will focus on meaningful, comparable, and, where possible, forward-looking and scenario-based disclosures.

In addition, Switzerland introduced voluntary guidelines (so called "Swiss Climate Scores") that reflect what it considers best practice transparency on the Paris Agreement-alignment of investment products (Swiss State Secretariat for International Finance, 2022[53]). The Scores include indicators of the current state (e.g., portfolio emissions and exposures to fossil fuels), as well as forward-looking indicators, including based on portfolio alignment metrics. The indicators will provide investors with decision-useful information on climate aspects to help them choose financial products that best fit their preferences. At the entity level, Switzerland is regularly assessing the climate-alignment of its financial market based on the Paris Agreement Capital Transition Assessment (PACTA)[9] methodology.

United Kingdom

The United Kingdom is also moving towards making publication of transition plans mandatory. Initially, this will require asset managers, regulated asset owners and listed companies to publish transition plans that consider the government's net-zero commitment, as per TCFD-aligned disclosure requirements, on a comply-or-explain basis. The United Kingdom government has set up a high-level Transition Plan Taskforce (TPT), with a two-year mandate, bringing together industry, academia, NGOs and regulators to develop a 'gold standard' for transition plans and associated metrics, coordinating with international efforts under the Glasgow Financial Alliance for Net Zero (GFANZ) and other global bodies. At the time of drafting, the TPT was consulting on the definition of a transition plan. The UK Government's working definition of a transition plan is that it "sets out how an organization will adapt as the world transitions towards a low-carbon economy" (UK Government, 2021[54]). According to the TPT, a transition plan of listed companies and financial institutions should include: (i) high-level targets the organisation is using to mitigate climate risk, including greenhouse gas reduction targets (e.g. a net-zero commitment); (ii) interim milestones; and (iii) actionable steps the organisation plans to take to achieve its targets (TPT, 2022[55]). The TPT will develop a Sector-Neutral Framework, Sectoral Templates, and accompanying Guidance for Preparers and Users of Transition Plans (TPT, 2022[32]).

United States

In March 2022, the United States' Securities and Exchange Commission (SEC) proposed a rule (currently published for consultation) change to standardise registrant companies'[10] climate-related disclosure, in order to provide investors with consistent, comparable, and decision-useful information for making their investment decisions. In addition to disclosure about climate-related risks, their material impact and risk management processes, the SEC proposes disclosure on climate-related targets or goals and transition plans for issuers that have adopted such targets or plans (SEC, 2022[56]). According to the SEC, a transition plan to mitigate or adapt to climate-related risks may be an important element of a corporate's climate-related risk management strategy, especially if it operates in a jurisdiction that has made commitments under the Paris Agreement to reduce its GHG emissions. Under the SEC's proposed rule, companies that have adopted transition plans would be required to discuss how they plan to mitigate or adapt to identified physical and transition risks and may also discuss how they plan to achieve climate-related opportunities. The proposal also requires updating disclosure related to transition plans each fiscal year by describing the actions taken during the year to achieve the plan's targets.

2.4.4. Transnational initiatives related to transition finance and transition plans

G20 Sustainable Finance Working Group (SFWG)

Under the Indonesian G20 Presidency, the G20 Sustainable Finance Working Group (SFWG) is developing a high-level transition finance framework and is pursuing work to strengthen the credibility of financial institution commitments (G20, 2022[57]). The framework for transition finance will relate to five main elements: (i) identification of transitional activities and relevant investments; (ii) reporting of information on transition activities; (iii) developing transition finance instruments; (iv) policy incentives; and (v) measuring and mitigating negative social and economic impacts.

International Platform on Sustainable Finance (IPSF)

The IPSF is a multilateral forum that aims at deepening international cooperation and coordination on relevant initiatives to scale up sustainable finance, notably in the areas of taxonomy, disclosures, and standards and labels. In 2022, the IPSF established a working group on transition finance, which is conducting analysis on how existing sustainable finance alignment approaches (such as taxonomies, labels and portfolio alignment metrics, as well as corporate strategy and disclosure) already take into account transition considerations. Following this analysis, the IPSF is developing Transition Finance Principles at activity-, entity-, and portfolio-level for jurisdictions that are considering including or strengthening transition finance considerations within their sustainable finance frameworks. The principles are split between “principles for robust transition targets” and “principles for demonstrating the ability to deliver”. The former covers climate temperature goals, the setting of credible targets, inclusiveness, and compatibility with social goals. The latter looks at the information that is needed to ensure credibility, internal governance, external engagement, reporting, and performance (IPSF, forthcoming[58]).

International Sustainability Standards Board (ISSB)

In 2021 the IFRS Foundation Trustees announced the creation of a new standard-setting board, the International Sustainability Standards Board (ISSB), to deliver a comprehensive global baseline of sustainability-related disclosure standards that provide investors and other capital market participants with information about companies’ sustainability-related risks and opportunities. In March 2022, the ISSB published draft proposals on general sustainability-related disclosure requirements and climate-related disclosure requirements (IFRS, 2022[59]). As part of the latter, the ISSB proposes a range of disclosures about entities’ transition plans, including information on how it is responding to significant climate-related risks and opportunities, information regarding climate-related targets of transition plans, as well as quantitative and qualitative information about the progress of such plans (IFRS, 2022[46]).

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Notes

[1] The exact activities covered vary across approaches and can range from energy-intensive manufacturing activities, such as steel, iron, aluminium, and cement, to hard-to-abate transport such as aviation, to investments in fossil-based energy production.

[2] Interpretations of the concept and implications of economic viability vary across approaches, with different views on the relative importance of economic competitiveness, compared to technological viability. For example, the approach set out by the Climate Bonds Initiative clearly states that technological viability is more important than economic competitiveness (Tandon, 2021[1]). This is further discussed in Chapter 3.

[3] It is worth noting that analyses comparing market volumes of SLB debt with other thematic debt should be conducted only for illustrative purposes, since SLBs are used for general financing purposes whereas funds raised by green, social and sustainability bonds are earmarked for specific uses (CBI, 2022[8]).

[4] Key Performance Indicators (KPIs) are quantifiable metrics used to measure the performance of selected indicators. KPIs have corresponding Sustainability Performance Targets (SPTs). SPTs are targets under which issuers commit to making measurable improvements in key performance indicators over a predefined timeline. SPTs should be ambitious, material and where possible benchmarked and consistent with an issuer's overall sustainability/ESG strategy.

[5] In June 2022, ICMA published a registry of approximately 300 illustrative key performance indicators (KPIs) for Sustainability-Linked Bonds, classified by sector, split into core and secondary indicators, with references to global benchmarks for the KPI definition and targets calibration (ICMA, 2022[19]).

[6] The issuance of SLBs has become more attractive since the European Central Bank decided in 2020 to accept them as eligible collateral for Eurosystem credit operations and also for outright purchases for monetary policy purposes, provided they comply with all other eligibility criteria (ECB, 2020[60]).

[7] Other examples include but are not limited to the PRI/World Bank Implementation Guide for Sustainable Investment Policy and Regulation Tools – Taxonomies of Sustainable Economic Activities, and IPSF/UNDESA 2021 input to G20 SFWG (UN DESA and IPSF, 2021[62]).

[8] CDP's annual collection of corporate environmental data includes most of these elements.

[9] PACTA is a methodology and tool which measures financial portfolios' alignment with various climate scenarios consistent with the Paris Agreement (2DII, 2018[61]).

[10] Registrant companies are those that register a class of securities with the Securities and Exchange Commission (SEC).

3 Key challenges in transition finance

This chapter identifies key challenges in transition finance, drawing on insights gathered through the OECD Industry Survey on Transition Finance, bilateral stakeholder consultations, and literature review. Scaling up financing for the transition across all sectors globally requires transition finance approaches to consider and respond to the current challenges and barriers that are encountered by market actors in this space. In this context, the challenges of corporates in emerging markets and developing economies (EMDEs) and micro, small and medium-sized enterprises (MSMEs) deserve special attention. The chapter concludes that credible corporate climate transition plans and increased transparency by corporates can address some key challenges, while others have additional, broader implications for policymakers and would require the use of complementary tools, including through the involvement of multilateral development banks (MDBs).

3.1. Ensuring inclusiveness across sectors and geographies

Even though the costs of low-carbon technologies continue to decrease, the feasibility of implementing them is dependent on different factors, and notably on constraints arising from institutional, economic, socio-cultural, technological, ecological, and geophysical environments (IPCC, 2022[1]). These factors fundamentally affect the potential to implement different mitigation options, and this potential varies between sectors and regions of the world. Not all mitigation options may always be economically or institutionally feasible, especially in EMDEs, even though many are likely to be technologically feasible. In this context, the Intergovernmental Panel on Climate Change (IPCC) considers the main factor limiting their implementation to be institutional capacity and finds that feasibility challenges are highest in emerging economies, at least over the short- to medium-term (IPCC, 2022[2]).

Considering the immediate need to reverse national and global emission trajectories, available opportunities to sharply reduce emissions will be essential to exploit through transition finance, as a broader range of mitigation options gradually comes within striking range for many corporates and as governments continue to improve enabling conditions to remove existing barriers. To reduce feasibility challenges and risks, corporates can and should pursue a multi-technology approach to mitigation; the IPCC confirms that "pathways relying on a broad portfolio of mitigation strategies are more robust and resilient" (IPCC, 2022[2]). For example, the literature confirms that the net-zero transition of the industry sector will require a portfolio of solutions, ranging from energy efficiency improvements in production processes, shifting the power and heat supply from fossil fuels to renewables and renewables-based electrification, switching to low-carbon and renewable feed stocks, and deploying carbon capture use and storage, to increasing the reuse and recycling of materials (OECD, forthcoming[3]). At the same time, it will be essential to avoid investments in emission reduction opportunities that have the effect of locking in emissions. Such investments slow down the adoption of net-zero alternatives, and result in assets needing to be replaced before the end of their lifetime, when net-zero alternatives become commercially available. One example is unabated fossil fuel infrastructure, which, according to the IPCC, will with very high likelihood lock in emissions and slow down the implementation of net-zero alternatives by further compounding existing feasibility risks (IPCC, 2022[1]).

3.2. Key challenges

To provide guidance on credible corporate climate transition plans for global investors and financial institutions, this report considers existing common practices and recommendations from the range of initiatives relating to transition plans, as set out in Chapter 2 and Annexes A and B. This section outlines the most common challenges faced by financial market participants and corporates that are not fully addressed by existing transition finance approaches and where additional transparency is needed to ensure comparability and avoid greenwashing. It also highlights challenges that require further policy intervention by governments, regulators and MDBs. To help overcome these challenges, it provides suggestions to policymakers on how to fill current gaps arising from deficiencies in enabling environments. This discussion provides context for Chapter 4 and the elements of corporate climate transition plans that will ensure credibility – as these elements aim to mitigate some of the challenges laid out below.

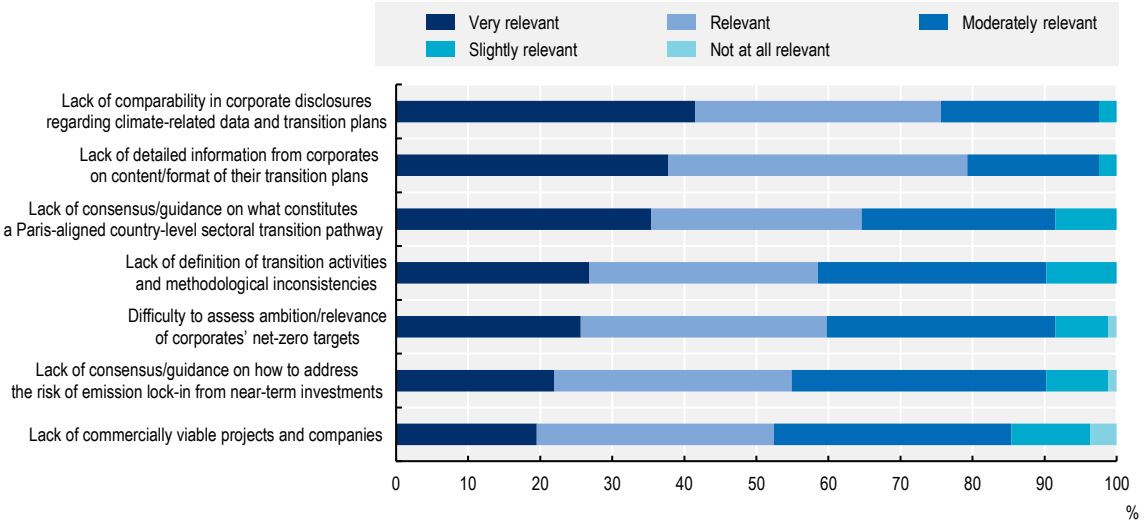
3.2.1. Lack of granular and comparable corporate disclosure and forward-looking data on climate and climate transition planning

Responses by financial market participants to the OECD Industry Survey on Transition Finance indicate that a lack of detailed information from corporates on their climate transition planning is the main obstacle preventing them from identifying companies they could finance in line with their net-zero targets. As part of the survey, 79% of financial market participant respondents indicated that this lack of information was a

relevant or very relevant obstacle. Similarly, 76% of respondents from financial markets found a lack of comparability in corporate disclosure of climate-related data and transition planning to be a relevant or very relevant obstacle. The lack of commercially viable projects or companies was cited by 52% of financial market respondents as relevant or very relevant, which was the lowest combined number among the different obstacles cited (see Figure 3.1).

Figure 3.1. Information gaps and a lack of comparability of relevant data are key obstacles to identifying companies that are committed to a credible net-zero transition

Financial market participants' views on obstacles to identifying companies or projects committed to a transition along low-emission pathways and towards Paris Agreement temperature goals, as % of respondents



Note: Responses by financial market participants. The number of respondents for this survey question was 156.
Source: 2022 OECD Industry Survey on Transition Finance.

3.2.2. Variation in countries' net-zero commitments and NDCs

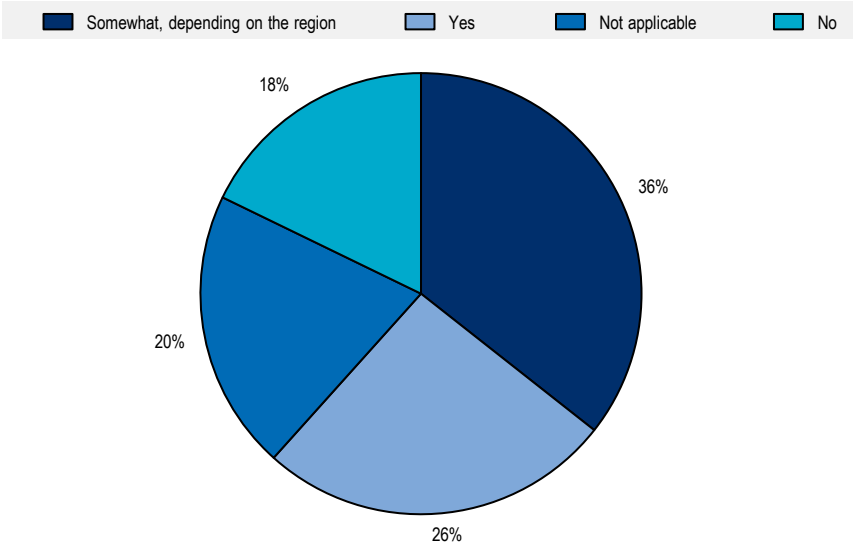
The exact nature of the net-zero transition will be country-dependent, as it will be influenced by domestic socio-economic circumstances, geography, and capacity to leapfrog.[1] This variability is reflected in the significant variation and diversity of existing net-zero targets along several key dimensions, such as their legal status, terminology, coverage, sectoral scope and timeframe (Jeudy-Hugo, Lo Re and Falduto, 2021[4]). The International Energy Agency (IEA) estimates that the pledges announced by parties to the Paris Agreement at the COP26 UN Climate Change Conference, together with the announcements made before then could be enough to hold the rise in global temperatures to 1.8°C by 2100 (IEA, 2021[5]). However, there continue to be significant divergences between NDCs and the available global pathways associated with meeting the temperature goal of the Paris Agreement (UNFCCC, 2021[6]).[2]

Some transition finance approaches, such as the one put forward by the TCFD, recommend that transition plans include a description of the temperature goal that was selected for alignment purposes, providing 1.5°C as one possible option (TCFD, 2021[7]). This allows for companies operating in jurisdictions with different regulatory mandates -- or varying sectoral decarbonisation strategies in place -- to raise finance, without having to adhere to a common temperature goal aligned with the Paris Agreement. While this approach is inclusive, it raises the question of whether a common benchmark is needed to ensure the alignment of transition plans with the temperature goal of the Paris Agreement. Without such a common point of reference, there is a risk of greenwashing (Shrimali, 2021[8]), which is an obstacle to growing this

nascent market. This is confirmed by 62% of financial market respondents to the OECD Industry Survey on Transition Finance, who stated that they hesitated to provide transition financing generally, or for specific regions, because of insufficient clarity on how to assess credible corporate alignment with a pathway that is in line with the Paris Agreement's temperature goal (see Figure 3.2 below). Moreover, flexibility with respect to targets makes it more challenging for international investors and financial institutions that operate across borders to compare plans across jurisdictions and come to a clear view on an entity's environmental integrity. Conversely, having a common benchmark will reduce the variables international investors and financial institutions need to consider when assessing environmental integrity, while also increasing comparability across jurisdictions.

Figure 3.2. Financial market participants may hesitate to provide transition financing due to a lack of clarity on how to assess credible corporate alignment with a pathway that is in line with the Paris temperature goal

% of respondents



Note: Responses by financial market participants. The number of respondents for this survey question was 73.
Source: 2022 OECD Industry Survey on Transition Finance.

Information on the extent to which a corporate's transition plan is aligned with net-zero commitments and related NDCs in the corporate's jurisdictions of operation still can be useful to assess possible transition risks and opportunities linked to future changes in policy. However, disclosures on these elements do not provide a consistent benchmark for comparing climate ambition and environmental integrity across corporates and across jurisdictions. They are therefore complementary elements that can be useful for corporates and financial market participants but cannot substitute for a net-zero target and related transition planning in line with the temperature goal of the Paris Agreement.

3.2.3. Lack of national sectoral pathways

To date, only few countries have set sectoral emission limits or carbon budgets to meet their net-zero targets (Jeudy-Hugo, Lo Re and Falduto, 2021[4]). Similarly, even in jurisdictions where net-zero targets have been adopted, determination of a national emission budget and its disaggregation by sector and translation into sectoral plans and implementation roadmaps has in most cases not been definitively

undertaken and widely recognised, and in many cases has not yet been attempted (see, for example, (Jeudy-Hugo, Lo Re and Falduto, 2021[4]), (WRI, 2019[9]), and (WRI, 2021[10])).

However, clear national sectoral targets and pathways, in line with the temperature goal of the Paris Agreement, are necessary to guide corporate transition planning and investor decision-making in a manner that accounts for the local context and conditions. This is confirmed by the OECD industry survey, where 69% of respondents stated that the lack of such pathways is a key obstacle to identifying companies committed to a Paris-aligned transition trajectory. Similarly, 17 out of 20 non-financial corporates that responded to this question view the lack of sectoral pathways and roadmaps as the main obstacle to developing a credible transition plan that is aligned with the Paris Agreement's temperature goal.

To help fill this gap, there are several private sector initiatives that provide training and services to support companies in assessing their alignment with global emission pathways as well as setting relevant targets (see Box 3.1). However, these initiatives are mostly not tailored to specific country contexts and their policy environments, and are not always accessible to companies in EMDEs, especially not MSMEs. The development of robust targets and decarbonisation pathways for different sectors, and guidance on their translation into corporate-level pathways, will likely require effective coordination between governments, donors, and the private sector (OECD, forthcoming[11]), such as through relevant country platforms.

Box 3.1. From global- to corporate-level emission pathways

When setting emissions reduction targets, companies face the technical challenge of deriving corporate-level transition pathways from available scientific evidence on global GHG emissions pathways that align with the temperature goal of the Paris Agreement.

Several methods for deriving sector-specific decarbonisation pathways exist, with the most widely used ones being the sectoral decarbonisation approach (SDA) and the absolute contraction approach, developed by the partners of the Science Based Targets initiative (SBTi) (CDP, World Resources Institute, WWF and UN Global Compact) (SBTi, 2021[12]). Such methodologies allow to derive sector-level benchmarks, based on which performance of individual companies can be assessed and targets can be set. Many international initiatives are providing guidance, knowledge, training, and services to help companies set and/or assess their targets, decarbonisation strategies and transition plans. For example, SBTi helps companies set science-based decarbonisation targets; TPI, an asset-owner-led initiative, assesses corporates' performance and preparedness for the transition to a low-carbon economy; and ACT, a French initiative, helps companies set and assess their strategies and plans to transition towards low-carbon pathways. SBTi, TPI and ACT mainly apply the SDA approach (ACT, 2021[13]; SBTi, 2015[14]; TPI, 2022[15]). It is worth noting that such approaches focus on global pathways and thus may not always sufficiently integrate region- or country-specific considerations, which is a key limitation (Noels and Jachnik, forthcoming[16]).

The SDA allocates the carbon budget to different sectors, to consider inherent differences among sectors, such as their mitigation potential, the concentration of emissions in the value chain, the sector's expected growth, etc. The SDA mainly builds on IEA's global sectoral scenarios, notably the Energy Technology Perspectives and more recent models in some cases. The current version of the SDA used in SBTi's sector-specific guidance supports 1.5°C targets for power generation (and soon for other sectors as well), while the methods for other sectors rely on well-below 2°C pathways from the IEA. The SDA relies on the convergence principle, as it assumes that all companies in a sector will converge towards a common emission intensity in 2050. The SDA thus works well for homogenous sectors, such as power generation, iron and steel, aluminium, cement, pulp and paper, passenger and freight transport, and buildings. Within each sector, companies can derive their emission reduction targets based on their relative contribution to the total sector activity and their carbon intensity relative to the

sector's intensity in the base year. The ACA is a cross-sector method that applies a unique absolute emissions decrease rate to all sectors, in line with global decarbonisation pathways. It is mostly used to set targets by companies for those sectors where the SDA approach is not applicable, i.e., for heterogeneous sectors.

Note: There are currently different understandings and interpretation of what net-zero is with nuances in the terminology used by different actors (e.g., in terms of coverage of GHG emissions and other dimensions). (Jeudy-Hugo, Lo Re and Falduto, 2021[4]) provides detailed explanations of the differences in terminology around net-zero (see in particular Box 2.1).

3.2.4. Enabling conditions

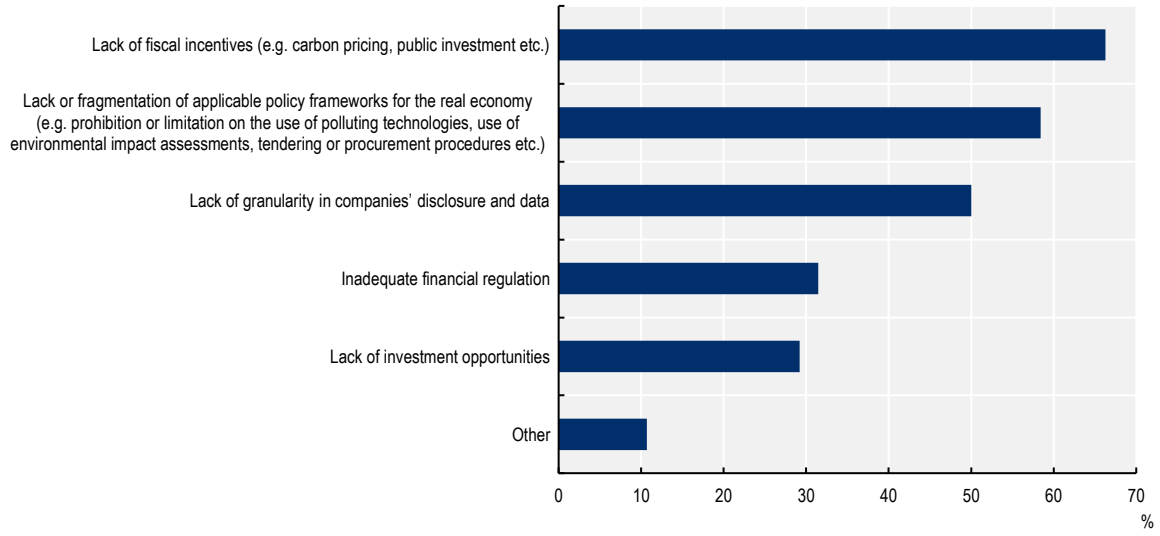
According to the IEA, energy investments will need to increase urgently in all EMDEs and especially in India, sub-Saharan Africa, and Southeast Asia. By 2030, energy investments in EMDEs should make up more than 40% of global energy investments to be in line with the IEA's Net Zero by 2050 Scenario. This amounts to USD 1 trillion in annual spending on clean energy by 2030, compared to today's investment volumes, which in 2020 amounted to USD 150 billion (IEA, 2021[17]). The reasons for this investment gap are manifold. For example, a survey among ASEAN Member's confirms that they include funding hurdles, technology capacity gaps, technology availability, general lack of awareness as well as data gaps, preventing countries from transitioning their economies towards low-emission pathways (ASEAN, 2021[18]). Similarly, as shown in Figure 3.3, respondents to the OECD Industry Survey on Transition Finance consider that there are several gaps and drawbacks in the enabling environment, i.e., the policy, legal and institutional framework at country or regional level, which would need to be addressed to fully support a low-emission transition. In addition to a lack of granular disclosure and data by companies, respondents also cite a lack of fiscal incentives, such as inadequate carbon pricing or public investments, and a lack or fragmentation of the applicable policy frameworks for the real economy as major gaps. Applicable policy frameworks for the real economy may include the prohibition or limitation of the use of polluting technologies, relevant environmental impact assessments, as well as tendering and procurement procedures.

Affordability

Since the financing challenge will vary significantly by technology, sector and region, sources of finance will differ depending on project attributes and the technology development stage. New technologies in particular will require high upfront capital investment and might have new unmitigated risks and near-term competitive disadvantages. For example, using the full range of available technologies to decarbonise the chemical industry could cost as much as USD 500 per tonne of mitigated CO_2 until 2050, which might be a deterrent for some companies in the sector (Saygin and Gielen, 2021[19]) In this context, certain low-carbon technologies may have a smaller impact in terms of emissions reductions but have faster returns on investment, while others may have a high estimated impact on emissions but do not have a business case under current conditions. Therefore, pilot projects and early development stages of breakthrough technologies (for example electric steam cracking), as well as technologies that are still at early stages of commercialisation, will often require public investment and technical support beyond private capital to increase technological readiness and support commercialisation (IEA, 2021[20]).

Figure 3.3. What are the main drawbacks and gaps in the enabling environment that should be addressed to fully support a low-emission transition?

% of respondents



Note: The number of respondents for this survey question was 169; multiple answers per respondent were possible.
Source: 2022 OECD Industry Survey on Transition Finance

Policy and institutional framework

As mentioned earlier in this chapter, institutional and economic feasibility can be seen as two of the key bottlenecks to rapidly putting in place necessary mitigation response options. This issue extends across sectors and is prevalent in energy (production and use), urban planning, buildings, and transport (IPCC, 2022[21]). This was confirmed by respondents of the OECD industry survey who cited a lack of fiscal incentives (including through appropriate carbon pricing) and a lack or fragmentation of applicable policy frameworks (including political acceptance, legal and administrative capacity and procedures) as the top two drawbacks in the enabling environment to be addressed to fully support the net-zero transition (see Figure 3.3). Combined, these two reasons are considered by respondents to be four times more important than a lack of investment opportunities. This points to the strong need to increase fiscal incentives, including through carbon pricing and tools like Carbon Contracts for Difference (see, for example, (Climate Friendly Materials Platform, 2020[22]), (ERCST, 2022[23])), and the need to reduce administrative and institutional bottlenecks, and streamline permitting granting procedures for low-carbon projects (OECD, 2018[24]).

The literature recognises that a lack of adequate carbon pricing and continued inefficient fossil fuel subsidies, especially in EMDEs, are key factors that reduce, for example, the competitiveness of clean energy (OECD, forthcoming[11]). This compounds existing affordability hurdles related to near-zero or net-zero technologies. Moreover, carbon border adjustment mechanisms will likely increase the cost of exports from countries that use emission-intensive energy sources and technologies, due to the carbon embedded in end products (OECD, forthcoming[3]). This would decrease the competitiveness of those goods and increase the need for domestic policy intervention to level the playing field between net-zero and emission-intensive technologies and sources of energy. Policy and institutional capacity will thus have a key role to play as an enabling factor for the scaling up of net-zero solutions (IPCC, 2022[2]). Like discussions around national net-zero targets and pathways, technical assistance, together with donor and investor

coordination, such as through country platforms, can help increase this institutional capacity to transition. This type of support could be particularly impactful for MSMEs in the relevant jurisdictions.

3.2.5. Asset stranding and risk of carbon-intensive lock-in

Asset stranding and risk of lock-in are two sides of the same coin and are two of the main factors contributing to risks of greenwashing in transition finance. Asset stranding refers to the devaluation of assets, due to changes associated with the net-zero transition, before the end of their economic lifetime. It can encompass several different factors, including economic stranding, as a result of changing relative costs and prices, physical stranding, as a result of physical climate impacts such as floods and droughts, and regulatory stranding, as a result of changing policies (see, for example, (Carbon Tracker, 2017[25])). Carbon lock-in is the result of fossil fuel infrastructure or assets (existing or new) delaying or preventing the transition to near-zero or net-zero alternatives. This risk may be increased when private investors or financial institutions have a stake in those assets, as they will have an incentive in continuing the asset's operation until the end of its useful life. There are several possible solutions to circumvent these problems and early retirement of high-emission assets and infrastructure is one of them (WRI, 2021[26]).

Navigating economic feasibility

Existing assets in EMDEs often do not employ best-available technologies (BATs), despite being relatively young (13 years on average in Asia, compared to a lifetime of up to 50 years, for example, for coal plants). While the concept of 'Best-available technology' or 'Best-available technique' (BAT) to prevent and control industrial emissions and pollution has different interpretations across the world, the EU definition is the most widely referenced one. According to that definition, BAT generally refers to techniques that can be implemented at scale, "under economically and technically viable conditions, taking into consideration the costs and advantages" (OECD, 2020[27]). BAT-associated environmental performance levels are based on "the range of emission levels obtained under normal operating conditions using a best available technique" and are fundamentally based on the performance of existing installations (OECD, 2020[27]).

When existing assets are retrofitted or redesigned, there is a tendency to opt for BATs. However, these are often still emission-intensive solutions, as BATs are backward-looking, consider only existing installations, and focus on implementation at scale, thus leaving out necessary near-zero and net-zero solutions. Therefore, it is important that retrofitting of existing assets and infrastructures also enables them for the future use of near-zero or net-zero emission technologies, such as renewable and low-carbon fuels, which would not yet be reflected in BATs. This is necessary to avoid future asset stranding, even if technologies like renewable hydrogen are not fully commercially available for all project developers yet (OECD, forthcoming[3]). Considerations regarding economic feasibility can support the decision to plan for the use of transformative technologies, if costs projected over the lifetime of the asset take into account negative environmental externalities, the materialisation of future transition risk due to policy changes, and subsequent additional investment needs associated with a switch to a near-zero or net-zero alternative. These costs of re-investment can be avoided by strategically planning retrofitting and redesign in a manner that enables the future use of near-zero or net-zero technologies. However, especially in EMDEs, such an approach may also require the use of concessional finance (OECD, forthcoming[11]).

Preventing carbon-intensive lock-in

In April 2022, the IPCC clearly concluded that "the continued installation of unabated fossil fuel infrastructure will 'lock-in' GHG emissions". Abatement in this context is defined as an intervention that can "substantially reduce the amount of GHG emitted throughout the life cycle; for example, capturing 90% or more from power plants, or 50-80% of fugitive methane emissions from energy supply" (IPCC, 2018[28]). Whether or not investments in fossil fuel infrastructure, including the deployment of emissions abatement technologies across existing infrastructure, should be part of transition finance approaches continues to be the subject of intense debate among policymakers, industry, and civil society. Therefore, considering the broad recognition that there is a need to prevent carbon-intensive lock-in (and subsequent asset stranding), existing approaches to transition finance have attempted to put in place broadly three types of safeguards to try to prevent carbon-intensive lock-in.

The first type of safeguard to prevent lock-in is to 'future-proof' emission-intensive assets. This approach requires ensuring that the newly built or retrofitted asset or infrastructure is enabled for the future use of near-zero and net-zero technologies. Such an approach was taken by the European Commission as part of the Recovery and Resilience Facility and the Commission proposal on a complementary delegated act under the EU Taxonomy (European Commission, 2021[29]; 2022[30]). In both cases, natural gas assets and infrastructures can be financed, if they comply with several conditions, including being enabled for the future use of renewable and low-carbon gases, as well as complying with a lifetime emission limit that would in theory ensure blending and switching to such gases during the lifetime of the gas plant. These conditions are useful in the case of long-term performance-based instruments, where the asset must comply with certain conditions and meet KPIs (such as a pre-defined level of blending with renewable or low-carbon fuels) at specific points in time but will be difficult to implement in the case of shorter investment cycles and without additional conditions and guarantees to ensure blending happens at the right moments. The result of insufficient abatement would likely be carbon-intensive lock-in, based on IPCC findings on new unabated fossil fuel infrastructure (IPCC, 2022[1]).

The second type of safeguard, aimed at ensuring that the switch of the emission-intensive asset or infrastructure to a near-zero or net-zero technology materialises, is for the asset or infrastructure owner to make additional commitments to invest into or allocate funds for research, development and innovation (R&D&I). For example, in the case of a Japanese company's transition bond issuance, the company commits for the proceeds of the bond to be used for demonstration studies for ammonia and hydrogen co-firing of thermal power plants, including the construction of a large-scale hydrogen supply chain, in order to support the future switch from coal (METI, 2022[31]). For fossil gas infrastructure, a comparable approach could be to invest into the production of renewable hydrogen or enter into contractual agreements with producers. This approach increases buy-in by the asset owner, can bring down technology costs if R&D&I efforts are effective, and can thus increase the likelihood for the switch to happen. It also supports the development and scaling up of new technologies. However, it does not guarantee that the new technology will ultimately be implemented, and therefore may not be sufficient to ensure implementation.

A third option is the introduction of sunset clauses and gradually more stringent criteria. This approach is incorporated in the European Commission's proposed complementary delegated act and in ongoing work for the ASEAN Taxonomy. Under this approach, the activity is only counted as a transition activity until a specific date (e.g., 2030) and must comply with a new set of more stringent criteria thereafter. In isolation, this approach could also lead to lock-in, since infrastructure assets will be built before the sunset date and presumably will continue to operate, unless they are stranded. Moreover, calibrating the correct date for sunsetting is challenging, as it would need to be set in a manner that complies with the IPCC finding that global emission need to peak before 2025 (IPCC, 2022[1]). On the other hand, such an approach can provide an additional impetus to financial market participants and corporates for whom labelling an investment as 'transition' is important, to continue improving the performance of emission-intensive assets until such a point where they have near-zero or net-zero emissions. If criteria and sunset clauses are based

on pathways in line with the Paris Agreement temperature goal, and enabling conditions are strengthened in parallel, then such an approach can provide visibility to financial market participants and corporates and allow them to gradually improve their performance. However, since this option fundamentally relies on investor and corporate appetite to, respectively, use and qualify under a 'transition label', it will likely be insufficient to encourage a whole-of-economy transition, unless combined with other methods. The ASEAN Taxonomy Board recognises this issue and is intending to use sunset clauses as part of a package of methods, which may include enhanced disclosure, to obtain better decarbonisation outcomes.

If used in isolation, these methods have a lower likelihood of success in preventing carbon-intensive lock-in. But a combination of these approaches, together with the possible early retirement of high-emission assets (see Box 3.2), could help prevent carbon-intensive lock-in and as a result also minimise the risk of asset stranding.

Box 3.2. Financing mechanisms to accelerate the early retirement of coal assets in developing countries: emerging initiatives and models

Coal is the most emission-intensive fuel today, yet it is still significantly used in electricity generation. The IEA's Net Zero Scenario envisages that no additional investments are made for new unabated coal plants, the least efficient coal plants are phased out by 2030, and the remaining coal plants still in use by 2040 are retrofitted to significantly reduce their emissions (IEA, 2021[32]). The IPCC projects that the global discounted value of unburned fossil fuels and stranded fossil fuel infrastructure will amount to USD 1-4 trillion from 2015 to 2050 on a trajectory that limits global warming to around 2°C, and it will be higher if global warming is limited to nearly 1.5°C (IPCC, 2022[1]). Phasing out coal in the power sector requires halting the construction of new plants combined with managing the decline in emissions from existing plants (e.g., through retrofitting with CCUS or co-firing with low-emission fuels such as biomass or ammonia) or retiring them entirely (IEA, 2021[32]). The challenge of managing early coal retirement is particularly complex in EMDEs, especially in India, People's Republic of China (China) and some Southeast Asian countries, where coal is the cornerstone of the electricity supply and coal-fired power plants are relatively young (in Asia, on average 13 years) (IEA, 2021[33]).

A key challenge to speed up early retirement is that 93% of coal plants globally are insulated from competition from renewables by long-term contracts and non-competitive tariffs (Bodnar et al., 2020[34]), which risk locking in highly polluting energy supplies. Early retirement requires a range of financial mechanisms that are tailored to plants of different types and ages, as well as to the varied market structures within which they operate (IEA, 2021[32]). At present, public entities such as governments and MDBs are the main drivers of initiatives to finance early coal retirement (Christoph, Mengdi and Ulrich, 2022[35]). For example, the Energy Transition Mechanism is an initiative led by the Asian Development Bank (ADB) to accelerate the transition from legacy coal to clean energy, by creating two complementary multi-million-dollar funds financed by governments, MDBs, private investors, philanthropies, and long-term investors. One of the two funds will be used to buy legacy coal power plants and retire or repurpose them within 15 years, which is earlier than if they remained with their current owners. The other fund will use proceeds from the asset's sale and other sources to invest in renewable energy plants and enabling infrastructure such as grids and storage. ADB recently completed a pre-feasibility study that included financial and technical analysis in three pilot countries (Indonesia, the Philippines, and Viet Nam). A full feasibility study is underway to determine the financial structure of the ETM, identify coal plants for inclusion in the pilots, and design just transition activities (ADB, 2021[36]). Such mechanisms would be designed for specific countries to be effective and based on a country's energy needs and nationally determined contributions (Kanak, 2021[37]). Similarly, the Climate Investment Funds (CIF) launched the nearly USD 2.5 billion Accelerating Coal Transition investment program, an initiative to advance a just transition from coal power to clean energy in emerging

economies, starting with South Africa, India, Indonesia, and the Philippines. This program will combine concessional financing with technical assistance to de-risk and pilot investments to support the coal transition, including by providing capacity, repurposing or decommissioning coal assets, and creating social protection programs for coal-dependent communities (CIF, 2021[38]).

Country platforms are also emerging as a potentially important model to unlock finance to support EMDEs' transitions to low-carbon and resilient development paths. In 2020, the G20 endorsed the 'G20 Reference Framework for effective Country Platforms', recognising the importance of continuing to implement existing country platforms and encouraging the development of new ones (G20, 2020[39]). The country platform model could address some of the issues of the current international climate finance landscape (ODI, 2022[40]). Moreover, current initiatives for a just transition away from coal are still new and small-scale and remain incomplete (Muller and Robins, 2021[41]). Initiatives covering some key elements of country platforms already exist, and others are being developed. An example is the Just Energy Transition Partnership (JETP) in South Africa, which committed to decarbonise its coal-dependent electricity sector. To support South Africa's efforts in early retirement of coal plants, building cleaner energy sources and supporting coal-dependent regions, in 2021 the United States, Germany, France, the United Kingdom and the EU pledged to mobilise USD 8.5 billion over the next three to five years (UK COP26, 2021[42]). In 2022, G7 Leaders recognised and supported partnerships such as JETPs and affirmed their intent to move forward in negotiations on JETPs with Indonesia, India, Senegal, and Viet Nam (G7, 2022[43]).

As initiatives to finance early retirement accelerate, increasing attention is devoted to the role of DFIs and MDBs in supporting this transition, overseeing the process and mobilising financing from private investors through blended finance (Kanak, 2020[44]). This raises the need to ensure additionality and impact of concessional financing provided (OECD, 2018[45]), as any use of public funds to compensate owners and secure early retirements on climate grounds needs to be carefully assessed to ensure that funding is focused on assets that are unlikely to be retired on their own (IEA, 2021[32]). While both concessional and non-concessional development finance can be part of blended finance structures, the use of concessional resources requires particular care, given its scarcity, and its allocation should be based on transparent and competitive processes (OECD, 2018[45]; Bodnar et al., 2020[34]). Governments', development finance institutions' and MDBs' resources could usefully focus on addressing the severe economic and social consequences of the early retirement of high-emitting assets for all the actors in the supply chain, namely workers, communities, utility companies and other local businesses, and governments, to name a few.

3.3. Way forward: A whole-of-economy approach, in line with the Paris Agreement

Since the transformation of the global economy to meet the temperature goal of the Paris Agreement requires deep emission cuts across multiple sectors, and the avoidance of greenwashing to provide confidence to investors, credible corporate climate transition plans will be key. A credible plan will be centred on the entity's projected emissions performance, pathway and target, the proposed steps to be taken to achieve this, including an analysis and justification of alignment with the temperature goal of the Paris Agreement. Such a plan will be integrated into the company's overall strategy to increase climate-related opportunities, balance costs, mitigate risks of carbon-intensive lock-in and prevent asset stranding. Chapter 4 describes in more detail the elements of credible corporate climate transition plans.

At the same time, some challenges, notably related to the enabling environment, require additional intervention at the level of policy, regulation, technical assistance, and capacity-building. Capacity-building at the level of firms, local administrations, and government, as well as policy changes to improve the

enabling conditions for mitigation options is necessary to increase the economic and institutional feasibility of those options, especially in EMDEs. This can be done, for example, by supporting the development of national strategies and sectoral pathways and targets that are in line with the temperature goal of the Paris Agreement. Conversely, investments and policies that decrease feasibility, such as inefficient fossil fuel subsidies and investments into new or existing unabated fossil fuel assets and infrastructure, require definitive reorientation. Country platforms are one important approach that can help to coordinate government strategies, donors, MDBs, and private investors, as well as manage the provision of technical assistance and capacity-building, in order to put in place the necessary changes in the policy and institutional environment to spur investments in existing low-carbon and innovative transformational technologies.

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Notes

[1] The concept of leapfrogging in the context of sustainable development refers to accelerated development that is notably marked by the skipping of less efficient and polluting technologies, through the faster adoption of more advanced ones. The adoption of solar energy technologies instead of creating fossil fuel infrastructure is one such example, which aims to avoid replicating the environmentally harmful development trajectories that were followed by advanced economies.

[2] It is important to note that NDCs analysed as part of the latest UNFCCC synthesis report do not consider announcements made at COP26, since only NDCs submitted by 12 October 2021 were included in that report.

4 Elements of credible corporate climate transition plans

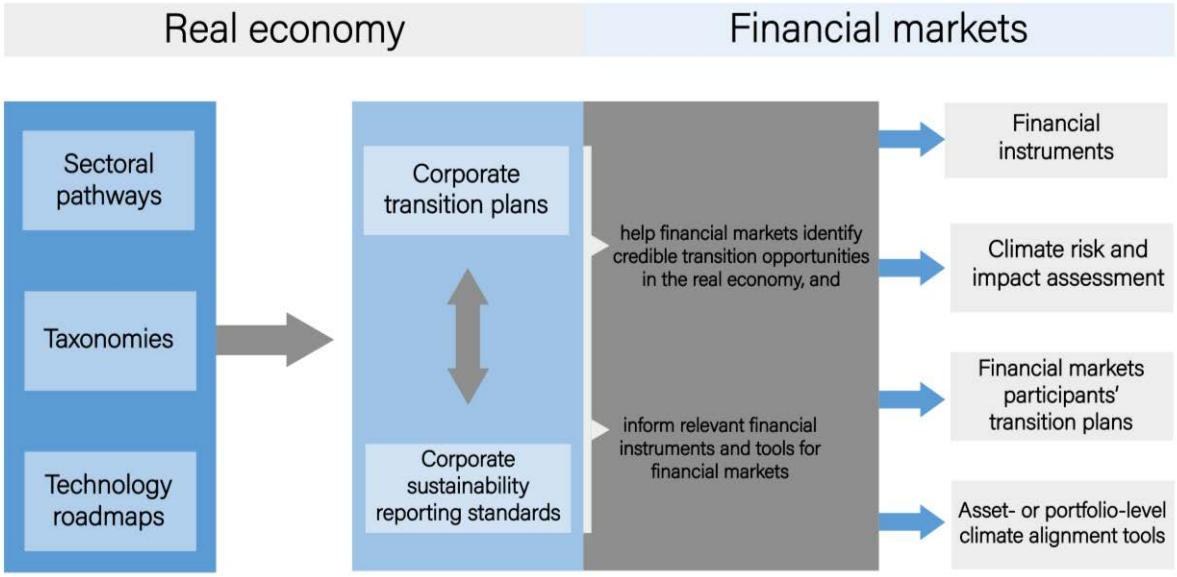
This chapter presents ten elements of credible corporate transition plans, building on the review of existing approaches to transition plans in Chapter 2 and the challenges encountered by market actors that are identified in Chapter 3. Most existing transition plan approaches cover the following elements: net-zero and interim targets; performance metrics and Key Performance Indicators (KPIs); carbon credits and offsets; actions towards implementation; internal coherence with the company's business plan; governance and accountability; and transparency and verification. Other elements are largely underdeveloped in existing approaches but are elaborated in this Guidance. They include: consideration of non-climate-related sustainability impacts; integration of corporate transition plans with other sustainable finance tools and tools for Responsible Business Conduct (RBC); just transition aspects; information on prevention of carbon-intensive lock-in; and, where appropriate, tailored approaches for micro, small and medium-sized enterprises (MSMEs) and certain companies in emerging markets and developing economies (EMDEs).

4.1. Transition plans as part of the broader sustainable finance toolbox

An important starting point for the Guidance is the recognition of existing tools and frameworks, both in transition and sustainable finance. Tools like taxonomies, sectoral pathways, technology roadmaps, and reporting standards are all relevant to and can increase the credibility and comparability of corporate transition plans. Conversely, credible corporate transition plans can minimise the risk of greenwashing in transition finance approaches and transactions by helping to ensure that there is a credible whole-of-entity transition strategy in place, supporting the issuance of relevant financial instruments. In this sense, the Guidance builds on and connects different tools and frameworks, including existing transition and sustainable finance approaches, and helps promote and ensure credible corporate transition plans to minimise the risk of greenwashing in transition finance.

The most relevant tools are shown in Figure 4.1 and discussed further below. Figure 4.1 does not aim to present an exhaustive list of all tools and frameworks that exist in sustainable finance. Instead, it focuses on those on the real economy side that can help increase the credibility of corporate transition plans, and the ones on the financial markets side that can most benefit from such plans.[1] They include (i) sectoral pathways; (ii) taxonomies; (iii) technology roadmaps; and (iv) corporate sustainability reporting standards. Sectoral pathways, taxonomies, and technology roadmaps are important inputs for the development of credible corporate transition plans. Corporate sustainability reporting standards form an integral part of corporate transition plans, as they deal with key elements of disclosure that also form part of credible corporate transition plans: All credible corporate transition plans will include elements that are also required, with varying levels of stringency or prescriptiveness, by existing sustainability reporting standards (for example, performance metrics and KPIs). Conversely, only a sub-set of sustainability reporting standards, such as the one being developed by the European Financial Reporting Advisory Group (EFRAG) at EU-level, requires the development of corporate transition plans. Corporate transition plans and the related corporate sustainability disclosure, in turn, are crucial inputs for financial market participants, as they make the link between the real economy and financial markets that is needed to help market actors identify credible transition investments, and develop relevant financial instruments, climate alignment tools, etc.

Figure 4.1. Overview of relevant sustainable and transition finance tools and frameworks



Specifically, they can inform financial market participants and financial markets in the following ways:

- The adoption of credible transition plans by corporates can help enable the financing of decarbonisation actions by providing financial market participants with confidence in the corporate's commitment to decarbonise. Hence, the corporate will be able to issue sustainable debt or raise equity, in the form of sustainability-linked bonds or loans, transition bonds, green bonds or loans, or other instruments, backed by a credible whole-of-entity strategy.
- Credible corporate transition plans facilitate the assessment by financial market participants of climate-related financial risk stemming from proposed actions, or inaction, of corporates who may be exposed to transition risk. It also allows financial market participants to assess the climate-related investment opportunities available for different corporates.
- Elements of credible corporate transition plans can be useful building blocks for measuring asset- or portfolio-level climate alignment through dedicated tools and methodologies. This is further explored, for instance, in (Noels and Jachnik, forthcoming[1]). The Net-Zero Asset Owner Alliance's Target Setting Protocol also recognises this connection when stating that portfolio alignment will be achieved through a mixture of capital reallocation, best-in-class, and investing in climate solutions, alongside, for example, the use of sectoral pathways (UNEP, 2022[2]).

4.1.1. Sectoral pathways

Sectoral pathways offer sector-specific trajectories for reducing emissions and consider the specific technological advances and hurdles of different sectors. Sector-specific decarbonisation pathways are often based on underlying scenarios, such as the International Energy Agency (IEA) or One Earth Climate Model scenarios (see, for example, (Teske et al., 2020[3]), (TPI, 2022[4])). For instance, the Net Zero Asset Owner Alliance have developed sectoral pathways to support their 5-year intermediate targets on the pathways towards 1.5°C (Teske et al., 2020[3]).

Sector pathways are particularly important for hard-to-abate sectors where net-zero options are not always immediately feasible or available. They offer a reference point for environmental ambition and credibility. For example, Germany implemented annual emission reduction targets for key sectors, including energy, transport, industry, and agriculture, in its proposed pathway to net-zero emissions (Jeudy-Hugo, Lo Re and Falduto, 2021[5]). However, broad sectoral scope and emissions coverage for economy-wide sectoral pathways is still lacking, with several countries having unclear sectoral scopes for emissions (Jeudy-Hugo, Lo Re and Falduto, 2021[5]).

4.1.2. Technology roadmaps

Moreover, sectoral pathways can inform sectoral technology roadmaps at national, regional, or global level. They are roadmaps developed for specific sectors, which provide an indication of which technologies could be used to achieve emission reduction targets along a decarbonisation pathway for the sector in question. For instance, Japan's Ministry of Economy, Trade and Industry has been developing comprehensive technological roadmaps, describing transition and innovative technologies that contribute to net zero on a pathway to 2050 for a number of hard-to-abate sectors, such as chemicals and steel. These roadmaps are publicly available and cover seven industries to-date (METI, 2021[6]).

4.1.3. Sustainable, green and transition taxonomies

Sustainable, green and transition taxonomies are definitions for sustainable finance that aim to be comprehensive classification systems (OECD, 2020[7]). They can either be primarily focused on defining "green" economic activities which are aligned with a temperature or other environmental goals or focused on transition activities which improve upon what is currently in place, or a combination of both. With respect to transition activities, different approaches have been employed to strengthen their environmental

credibility within taxonomies. The transition feature in taxonomies often refers to two types of activities: (i) activities that are currently transitioning towards a net-zero status, with the ultimate objective of being green, and (ii) activities that are enabling (activities in) the economy to transition towards sustainability (NGFS, 2022[8]). For example, the discussion paper of the Singaporean Green Finance Industry Task Force on their taxonomy includes the condition that no green alternative can exist for the activity to be considered a transition activity (MAS, 2022[9]). Other approaches are less stringent; for example, the Malaysian taxonomy requires companies to demonstrate commitment and willingness to transition to sustainable operations (Bank Negara Malaysia, 2021[10]). Lastly, under the EU Taxonomy, a number of conditions should, according to the legal framework, apply to transition activities, namely: (i) there can be no technologically and economically feasible low-carbon alternative; (ii) the activity has to have emission levels that correspond to the best performance in the sector; (iii) it cannot hamper the development and deployment of low-carbon alternatives; and (iv) it cannot lead to lock-in of carbon-intensive assets (EU, 2020[11]).

Both green and transition taxonomies can be used by financial market participants to assess the environmental credibility of corporates' planned capital expenditures, expenditures on research, development and innovation, as well as, to a lesser extent, operating expenditures as part of their transition strategies. This can also help them compare levels of ambition within and between economic regions and sectors. Similarly, taxonomies can be used by corporates to set internal targets, support capital and business planning towards their net-zero targets and provide confidence to financial market participants. These measures are important because they offer insight into whether corporates are deploying sufficient financial means to achieve the climate objectives set out in their disclosure and related transition plans.

One emerging issue in this area is the lack of international comparability of climate alignment approaches, due to the diversity of approaches and underlying methodologies that are being used by different jurisdictions. This was acknowledged by the G20 Sustainable Finance Working Group in 2021 as part of their high-level principles for the future development of alignment approaches. Moreover, taxonomy developers in EMDEs face the challenge of aligning with the principles or criteria of existing taxonomies while also needing to align with local regulations that reflect their own development paths and growth models, which are often at earlier stages of transition (NGFS, 2022[8]). Work is ongoing at international level to enhance coordination and comparability across national and regional taxonomies, such as through the IPSF's Common Ground Taxonomy (European Commission, 2022[12]) or the joint IMF-World Bank-OECD-BIS operationalisation guidance of the high-level principles for sustainable finance alignment approaches (IMF-World Bank-OECD-BIS, forthcoming[13]). These international coordination efforts can strengthen the usefulness of taxonomies as part of corporate transition planning by increasing their comparability at global level.

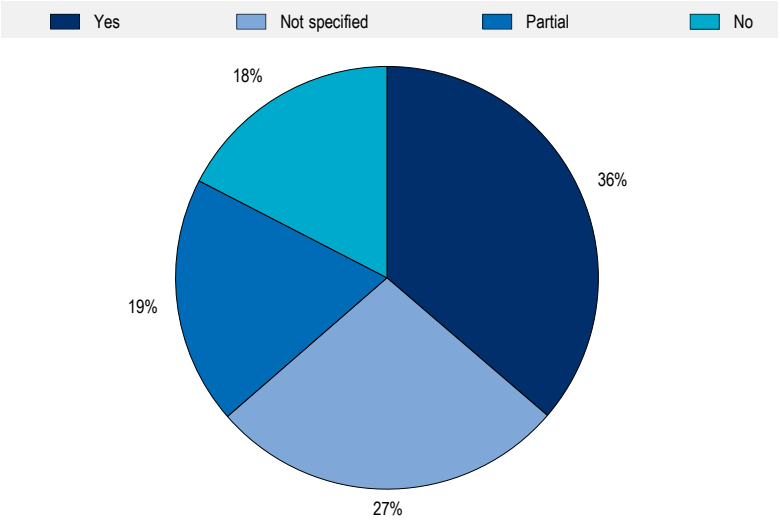
4.1.4. Corporate sustainability reporting standards

Sustainability disclosure or reporting standards can deliver a global baseline of sustainability-related information for financial markets on companies' sustainability-related risks and opportunities (IFRS, 2021[14]). Reporting standards on sustainability are currently being developed by the International Sustainability Standards Board (ISSB), in order to provide financial market participants with information about companies' sustainability-related risks and opportunities. These reporting standards aim to offer an overall framework for companies to disclose their environmental information, relevant for financial market participants. Other sustainability-related frameworks have been developed, such as the Sustainability Accounting Standards Board's (SASB) framework, which offers both a sector-neutral and sector-specific guidance, aiming to set standards for sustainability accounting (SASB, 2020[15]). Beyond these global initiatives, there are national-level reporting standards being developed, such as through the EU's Corporate Sustainability Reporting Directive (CSRD) (European Commission, n.d.[16]) or the proposed climate-related disclosure by the United States Securities and Exchange Commission (SEC) (U.S. SEC, 2022[17]). These frameworks outline how companies should report on sustainability and environmental

issues. Companies can utilise these frameworks to offer standardised sustainability reporting within their transition plans, maximising comparability.

In this context, company-level metrics and targets are essential to assess and compare climate-related risks and opportunities, as well as manage company performance against targets (TCFD, 2021[18]). To measure and track decarbonisation performance, either absolute greenhouse gas (GHG) emissions or GHG emission intensity can be considered. Moreover, within this measurement, consensus seems to be moving towards reporting against all GHG emission scopes to the extent possible, in order to offer a fair assessment of a corporate's performance, and despite the existing challenges associated with reporting scope 3 emissions (see, for example, (SBTi, 2021[19]), (IFRS, 2022[20]), (Noels and Jachnik, forthcoming[1])). However, companies' practices regarding reporting on scope 3 emissions and including them in emission reduction targets still vary significantly. For example, only around 36% of the emission reduction targets of largest publicly traded companies analysed by the Net Zero Tracker cover scope 3 emissions (see Figure 4.2 below) (Net Zero Tracker, 2022[21]). Similarly, recent analysis of climate-related strategies and targets of 25 multinational companies shows that while scope 3 emissions accounted on average for 87% of total emissions of the assessed companies, only 8 of them disclosed a moderate level of detail on their plans to address them (New Climate Institute and Carbon Market Watch, 2022[22]).

Figure 4.2. Coverage of scope 3 emissions in corporate emission reduction targets



Note: This is based on Net Zero Tracker's data collection of 2000 large publicly traded companies' emission reduction targets (considering the whole spectrum of targets, i.e., net-zero, zero-carbon, climate-neutral, etc.). Out of the 2000 companies analysed, 1041 have a target in place. This chart illustrates the coverage of scope 3 emissions of targets in place. Their data collection is based on companies' claims.
Source: Authors based on (Net Zero Tracker, 2022[21]).

Naturally, for other environmental objectives different metrics will be more appropriate. Setting industry standards for the use of metrics and calculation methodologies for different environmental objectives could enable greater clarity for investors and comparability within sectors to assess environmental ambition.

4.2. Ten elements to ensure credibility

As set out in Chapter 2 and Annex B, several initiatives by industry, NGOs and think tanks provide principles, analysis, guidance and frameworks on what constitutes a credible corporate transition plan, such as (ACT, 2019[23]; CA100+, 2021[24]; CBI, 2021[1]; CDP, 2021[2]; CPI, 2022[3]; GFANZ, 2021[25]; ICMA, 2020[26]; IFRS, 2022[21]; IGCC, 2022[27]; SBTi, 2021[28]; TCFD, 2021[37]). Based on literature review of such

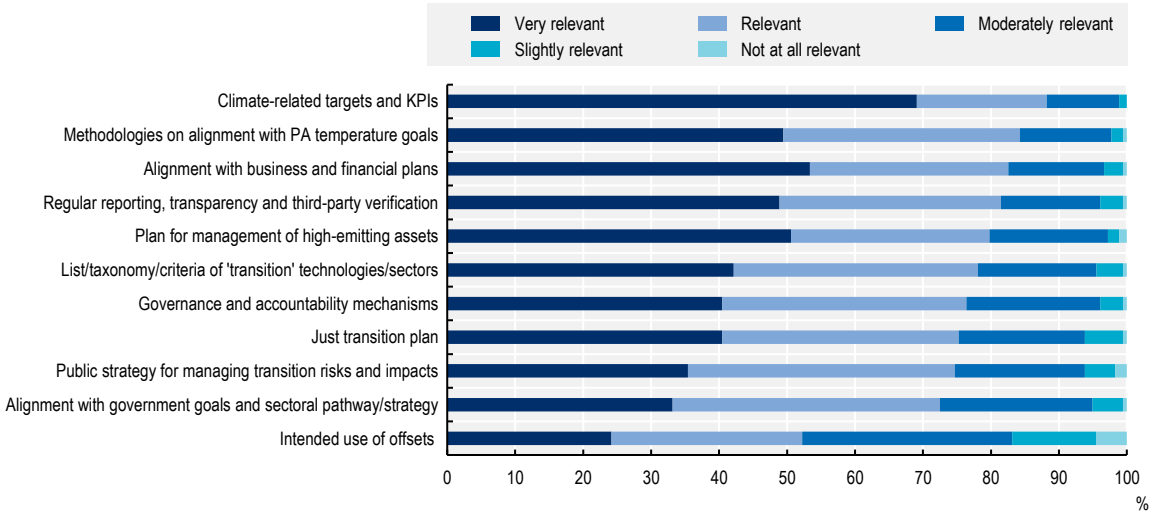
initiatives, insights from the dedicated OECD Industry Survey on Transition Finance and additional consultations and interviews with public and private sector experts, this section provides guidance on the elements of corporate transition plans that are crucial for both corporates and financial market participants to drive meaningful progress towards net zero in a transparent and credible manner.

Transition plans are useful for corporates to explain their goals, commitments, actions and progress towards climate action and sustainability, as well as how they maintain financial performance and competitiveness during their transition. Credible corporate transition plans also allow financial market participants to have a sufficiently robust basis to make informed investment decisions, thereby reducing the risk of greenwashing, and to better manage their own transition risks while harnessing transition opportunities. It is worth noting that, while this Guidance focuses on non-financial corporates, financial market participants are also increasingly called upon to design and implement their own transition plans towards achieving their net-zero commitments (GFANZ, 2021[23]; IGCC, 2022[24]). Financial market participants' transition plans necessarily relate to corporate transition plans and the credibility of the former will hinge on the credibility of the latter.

The list of ten elements of credible corporate transition plans presented below builds on emerging practices and approaches for transition finance and transition plans and identifies further elements where additional information and transparency is warranted. It draws on and complements different elements presented by existing initiatives, as listed above, and laid out in Chapter 2 (notably, CPI, CBI, TCFD, ISSB, CDP, GFANZ, ICMA, CA100+, and SBTi). The degree of relevance of these elements has been tested through the OECD Industry Survey on Transition Finance, whose results show that on average 77% of respondents considered the proposed elements of credible transition plans as either relevant or very relevant (see Figure 4.3 below). This approach can also act as an umbrella for existing tools and frameworks relevant to transition finance (such as taxonomies, roadmaps, pathways, and sustainability reporting standards), as it can connect these elements in one clear transition plan, accessible to financial market participants for making investment decisions. By identifying elements where additional transparency is warranted, compared with existing approaches, the Guidance can also inform corporates seeking to establish credible transition plans, and policymakers seeking to develop or strengthen existing transition finance approaches and approaches to corporate transition plans.

Figure 4.3. Relevance of key elements of credible transition plans

Respondents' views on the degree of relevance of various elements of credible transition plans, as % respondents



Note: The number of respondents for this survey question was 178.
Source: 2022 OECD Industry Survey on Transition Finance.

4.2.1. Element 1: Setting temperature goals, net-zero, and interim targets

To be credible, a corporate transition plan will clearly set out and explain its net-zero target and associated interim targets. These targets will be in line with the global temperature goal of the Paris Agreement. It will specify how the corporate aims to concretely achieve those targets through tangible decarbonisation actions (see further guidance as part of the subsequent elements presented in this section). Targets will clearly specify the underlying assumptions and methodologies, and in particular how they relate to the selected global temperature goal (see also Box 3.1 in Chapter 3 for further information). Explaining how climate scenario analysis was used to set targets (including underlying assumptions and limitations), whenever feasible, also brings credibility to corporate transition plans (TCFD, 2021[18]).[2]

Setting net-zero and interim targets based on science, meaning, in a manner consistent with the IPCC Special Report on Global Warming of 1.5°C, to ensure no or limited overshoot of 1.5°C globally above pre-industrial levels, is crucial to ensuring credibility. Practically, this requires global net anthropogenic CO_2 emissions to decline by about 45% from 2010 levels by 2030, reaching net zero around 2050, including similar deep reductions for non-CO_2 GHG emissions (IPCC, 2018[25]).

The exact target dates for achieving net zero may vary by sector and jurisdiction, as achieving net zero by 2050 globally can entail different levels of effort by different sectors and industries, and commitments by national jurisdictions vary. For example, according to the IEA, emissions from electricity should reach net zero globally by 2040, while heavy industry would not fully reach net-zero even by 2050, with "more than 90%" of production across heavy industry being "low-emission" at that point (IEA, 2021[26]). Similarly, while some countries have adopted net-zero targets that are more ambitious than 2050, such as the Swedish target of 2045 (Government Offices of Sweden, 2022[27]) or Finland's target of 2035 (OECD, 2021[28]), others have adopted targets for after 2050, such as China's 2060 or India's 2070 targets (Climate Action Tracker, 2022[29]). The IEA estimates that the pledges announced at the COP26 Climate Change Conference, together with the announcements made before then, if implemented in full, may be sufficient to hold the rise in global temperatures to 1.8°C by 2100 (IEA, 2021[30]). As such, these targets may collectively be consistent with limiting the increase in global temperatures to below 2°C.[3] In order to account for this variety and allow for proportionality, companies could use an IPCC reference scenario that is consistent with limiting warming to below 2°C, if they cannot, in their assessment, use 1.5°C as their benchmark. The lack of a national net-zero target, or the setting of a target with a later date (i.e. after 2050), or the lack of sufficient enabling policies to incentivise company decarbonisation may be factors that could prevent some of the companies operating in those jurisdictions from being able to comply with a 1.5°C trajectory. At a global level, complying with a 2°C trajectory would require reaching net zero by around 2070 (IPCC, 2022[31]). It is important for companies that choose a below 2°C scenario to provide a reasoned and detailed justification to explain why being consistent with a 1.5°C scenario is not possible for them, to avoid greenwashing and allow investors to evaluate the level of environmental ambition considering all the relevant evidence.

To allow investors to situate the company's activities within the relevant national policy context, the plan will include an explanation as to how the plan's targets compare to the relevant NDC and national net-zero target, if any. Where the ambition and stringency of the relevant NDC and national net-zero target is inconsistent with the plan's net-zero target and associated temperature goal, the plan will recognise this and provide an explanation of how the risks associated with this discrepancy are addressed.

Importantly, according to the IPCC, pathways limiting warming to 1.5°C and pathways limiting warming to 2°C both project a peak in global GHG emissions by 2025 at the latest and "assume immediate action" (IPCC, 2022[31]). To avoid carbon-intensive lock-in, credible near-term interim targets will reflect this peak and need for immediate action, irrespective of which of the two pathways is chosen. This has been reaffirmed at the 2022 OECD Ministerial Council Meeting, where Ministers and Representatives of OECD Members and non-Members stated that they "are committed to developing and implementing ambitious climate actions aimed at achieving net-zero greenhouse gas emissions by 2050, including through deep

emissions reductions in this critical decade to keep a limit of 1.5°C temperature increase within reach" (OECD, 2022[32]).

More generally, any robust long-term transition goal will be accompanied by interim (e.g., 3/5-year) quantifiable, detailed and time-bound targets, including and explanation of the methodologies and assumptions used to derive them (Jeudy-Hugo, Lo Re and Falduto, 2021[5]). Given the need to reduce emissions urgently in this decade and to avoid lock-in, it will be important for transition plans to avoid back-loading important investment decisions that are necessary for the company's decarbonisation strategy (IPCC, 2022[31]). Instead, the focus must be on emission reductions in this decade.

4.2.2. Element 2: Using sectoral pathways, technology roadmaps, and taxonomies

To support net-zero and interim targets, a credible corporate transition plan will be based on available sectoral pathways and technological roadmaps. The former can ensure that there is a clear emissions trajectory the company is following, in line with the selected target. The latter provides more concrete information on how the company intends to achieve these targets by setting out, at a high level, the main technologies that will be used to achieve those targets.

A credible corporate transition plan will include an explanation as to how the plan's targets compare to relevant national-level frameworks, such as sector-specific transition pathways and roadmaps, where these are available. This explanation will allow investors to situate the company's activities within the relevant national policy context. In cases where the ambition and stringency of national-level, sector-specific pathways and roadmaps is inconsistent with the plan's net-zero target and associated temperature goal, the plan will recognise this and provide an explanation of how the risks associated with this discrepancy are addressed.

Importantly, a credible corporate transition plan will clarify how and for which technologies future operating and capital expenditures (including research, development and innovation expenditures) will be used, in order to achieve targets. Where available and relevant, this technology selection could be based on sustainable, green, or transition taxonomies and classification systems. In this context, a credible transition plan will also specify the mechanisms to be put in place to prevent carbon-intensive lock-in, if proposed investments in the plan present such a risk, notably investments relating to fossil fuel assets and infrastructure (see Box 4.1). To help clarify alignment with a pathway compliant with the temperature goal of the Paris Agreement, mechanisms to prevent lock-in in transition plans will explicitly identify possible assets and infrastructures at risk and the implementation of safeguards to minimise this risk. This can include futureproofing of assets, the use of sunset clauses and gradually more stringent emissions criteria to bring the emissions of relevant assets in line with net zero, as well as investment in R&D&I and plans for early retirement, where necessary.

Box 4.1. Selecting technologies for decarbonisation

To reach net-zero targets, companies need to have (and provide) clarity on which economic activities and specific technologies can put them on the right path towards those targets and avoid future lock-in into carbon-intensive assets. Which technologies can fulfil these functions will depend on the sector as well as the socio-political and economic context, within which the corporate operates. The acceptability of different technologies is not only based on technological and economic feasibility but can be impacted by socio-political circumstances.

Technology selection can be guided by sectoral technology roadmaps (see, for example the IEA Iron and Steel Technology Roadmap, (IEA, 2020[33])) and ideally be complemented through more detailed criteria that may be contained in relevant taxonomies and classification systems. To be credible,

transition plans need to detail the set of actions and activities planned to achieve targets, including actions to decarbonise ongoing activities, develop or deploy low-emission technologies, diversify, adapt, or adjust activities and product mixes, phase out activities that cannot be brought in line with net-zero emissions goals, as well as actions to address emissions of supply chain both up- and downstream of the business.

In the area of climate change mitigation, when it comes to activities included in green taxonomies, relevant activities are frequently categorised into 'low-carbon activities' (e.g., electricity generation from renewables) and "enabling activities" (e.g., manufacture of wind turbines) (see, for example, (EU, 2020[11]), (National Treasury, Republic of South Africa, 2022[34]), (ASEAN, 2021[35]), (CBI, 2021[36])), though in some cases they cover only 'low-carbon activities' (European Commission, 2022[37]). Enabling activities are often considered on equal footing with low-carbon activities in terms of their ability to contribute to global net-zero targets.

Actions like renewable energy procurement, energy efficiency, and value-chain decarbonisation are suitable for almost all companies. Other actions will be sector-specific: for example, using electric and other zero-emission vehicles are actions suitable for transport sector companies, such as logistics firms, but likely less relevant for other industries. Some planned actions will reflect assumptions on the availability and cost of technologies in coming years. For example, some sectors rely on low-emission technologies (green hydrogen, carbon capture, utilisation and storage) that are either currently under development, at the demonstration or prototype phase or that currently have cost and performance gaps with established technologies.

Importantly, when selecting technologies in a manner that ensures alignment with the Paris Agreement's temperature goal, companies and financial market participants should bear in mind three important findings by the IPCC and the IEA:

- To reach net zero by 2050, no additional fossil fuel exploration should take place (IEA, 2021[38]).
- Existing and planned fossil fuel infrastructure, without additional abatement, is equal to CO_2 emissions consistent with 2°C pathways and exceed emissions in 1.5°C pathways (IPCC, 2022[31]).
- Continuing to install "unabated" fossil fuel infrastructure will lead to emissions lock-in. "Abatement" is in this context defined as "interventions that **substantially** reduce the amount of GHG emitted throughout the life-cycle", such as by "capturing **90% or more** from power plants, or 50-80% of fugitive methane emissions from energy supply" (IPCC, 2022[31]).

Corporate transition plans that rely on investments in fossil fuel exploration, sale, and distribution will therefore likely not be compatible with the temperature goal of the Paris Agreement and lead to carbon-intensive lock-in.

4.2.3. Element 3: Measuring performance and progress through metrics and KPIs

Credible climate change mitigation-related metrics and KPIs used in transition plans are expected to cover lifecycle GHG emissions, both in absolute terms and intensity-based, and for subsidiary companies. Various accounting methodologies, for example customised for different sectors or for developing countries, for each scope of emissions are detailed in the GHG Protocol Corporate Accounting and Reporting Standard. A credible plan details the KPIs the company will use to measure its performance and progress, and provides the definition of the KPIs, the applicable scope, and the measurement methodology. Credible KPIs are relevant and material to the company's selected goals and targets, measurable, externally verifiable, and able to be benchmarked (ICMA, 2020[39]).

As discussed earlier in this chapter, there is a growing consensus among market actors on the necessity of reporting scope 3 emissions to the extent possible. Therefore, credible targets will cover emission scopes 1, 2 and, as a rule, 3. Scope 1 emissions are direct emissions of an asset owned by the company (e.g., the direct emissions from a gas-refining operation), scope 2 emissions are indirect emissions from the generation of electricity (e.g., the electricity needed to run the refinery), and scope 3 emissions are all other indirect emissions (except scope 2), both upstream and downstream (see, for example, (MSCI, 2020[40]), (Shrimali, 2021[41])). Targets will include the base year, the targeted reduction (%), the target year, the target's unit of measurement (e.g., tCO_2e and $kgCO_2e$/USD), the year in which the target was set, the percentage of emissions covered by the target, as well as the relevant source documents (CA100+, 2021[42]).

Corporate scope 3 emissions are on average "5.5 times the amount of combined scope 1 and scope 2 emissions" (Shrimali, 2021[41]). Therefore, reporting of scope 3 emissions can avoid shifting the carbon emissions of a business onto its supply chain, accurately capture the climate-related impacts of a business and highlight where the greatest opportunities for emission reductions lie. However, their measurement is challenging due to various sources of uncertainty, such as on the calculation methodologies used, the availability of data (and subsequent use of estimates), and limited ability to influence action up- and downstream, to name a few (see, for example (IFRS, 2022[20]), (Shrimali, 2021[41])).

Against this background, there are divergent approaches among existing disclosure and transition finance initiatives on when scope 3 emissions should be reported and included in target-setting. Existing initiatives tend to be relatively vague in the language employed and frequently do not require explanations or justifications in case of omission, which decreases credibility of plans and comparability across plans. For example, the TCFD recommends the disclosure of "material" scope 3 emissions, when "appropriate" but does not require it (TCFD, n.d.[43]). The current ISSB draft climate-related disclosure requirements generally require the disclosure of scope 3 emissions but also provide the option for companies not to report them, if companies specify which activities have been excluded from reporting. In the case of value chain emissions that are based on reporting by other entities, companies additionally are required to state the reasons for the omission (IFRS, 2022[20]). The proposal for European Sustainability Reporting Standards by EFRAG requires that "significant" scope 3 emissions are reported. Lastly, according to SBTi's Net Zero Standard, companies must include "relevant" scope 3 emissions in their near-term targets, if they make up 40% or more of total scope 1, 2, and 3 emissions. This Net Zero Standard also requires all companies involved in the sale or distribution of natural gas and/or other fossil fuels to set scope 3 targets for the use of sold products, irrespective of the share of these emissions compared to the total scope 1, 2, and 3 emissions of the company. In addition, all companies must include emissions from all relevant scope 3 categories in long-term targets (SBTi, 2021[44]).

Requirements that use terms such as "significant", "relevant", and "material" without providing additional definitions, can lead to a lack of clarity as to which scope 3 emissions should be reported and under which circumstances. This can decrease the credibility of relevant transition plans. Recognising that this is an evolving space, the Guidance considers scope 3 emissions as follows: A credible transition plan will, as a rule, contain scope 3 emissions as part of metrics, targets, and related reporting. However, it is understood that while the inclusion of scope 3 emissions will likely always be relevant for some companies, such as those involved in the extraction, processing, sale or distribution of fossil fuels, they may not always be relevant for all companies in all sectors, such as information technology or communication services (MSCI, 2020[40]). Similarly, some companies, such as some MSMEs, may not be able to obtain or reasonably estimate scope 3 emissions data. To increase clarity and credibility, it is therefore important that:

- The corporate includes an explanation on which of the company's activities were covered in its measure of scope 3 emissions and which were excluded, if any, as well as provides a detailed explanation for the reasons for any exclusions.

- If emissions information from entities in the value chain is included in the company's measure of scope 3 emissions, then the company will explain the basis for measurement. Companies can usefully employ supply chain mapping, as set out in the OECD Due Diligence Guidance for Responsible Business Conduct (OECD, 2018[45]), to better assess which parts of the supply chain will be most relevant to their scope 3 measurement.

Omission of scope 3 emissions data can be justified in limited cases and where a careful explanation is provided as part of the plan, including the assumptions used to determine omissions, to provide for comparability across plans and sectors for investors and avoid greenwashing.

4.2.4. Element 4: Providing clarity on use of carbon credits and offsets

Though the terms 'carbon offsets' and 'carbon credits' are sometimes used interchangeably, they have distinct definitions: According to the Voluntary Carbon Markets Integrity Initiative (VCMI), a carbon credit is "an emissions unit that is issued by a carbon crediting program and represents an emission reduction or removal of greenhouse gases." Offsetting refers to the process of compensating or cancelling out GHG emissions through "investments in activities that reduce or remove an equivalent amount of GHG emissions, and which are located outside the boundaries of the organisation or a particular product system". These investments are often made through the purchase (and retirement) of "an amount of carbon credits equivalent to the volume of GHG emissions that is being compensated" (VCMI, 2021[46]). Together, carbon credits and carbon offsets can be understood as "mitigation actions beyond the value chain", i.e., activities that avoid or reduce emissions outside of a company's value chain or remove and store emissions from the atmosphere (EFRAG, 2022[47]).

The IPCC distinguishes between two types of CO_2 removal: "either enhancing existing natural processes that remove carbon from the atmosphere (e.g., by increasing its uptake by trees or other 'carbon sinks') or using chemical processes to, for example, capture CO_2 directly from the ambient air and store it elsewhere (e.g., underground)" (IPCC, 2018[25]). OECD analysis acknowledges that removals might need to play a role in balancing out emissions in hard-to-abate sectors where direct mitigation may be extremely costly or technically difficult. Any such use would, however, need to be accompanied by rapid and deep decarbonisation to reduce the absolute level of demand for international credits over time (Jeudy-Hugo, Lo Re and Falduto, 2021[5]).

The idea behind using carbon credits as offsets is to achieve 'equivalent' environmental outcomes in a way that is cost-effective and has the potential to deliver finance for emission reductions where it is needed the most. However, there is concern that by counterbalancing emissions, companies are dis-incentivised from reducing their own emissions (VCMI, 2021[46]), thus increasing the risk of carbon-intensive lock-in (EFRAG, 2022[47]). Moreover, carbon markets (voluntary and compliance markets), which form the basis of carbon offset and credit transactions, are heterogeneous and differing crediting activities follow different quality standards with varying levels of environmental integrity. Discussions are ongoing regarding transparency, as well as the role and stringency of different standards in voluntary and compliance markets.

OECD analysis finds that many methodologies to assess the alignment of finance with climate mitigation policy goals currently fail to explicitly assess the treatment of offsets (Noels and Jachnik, forthcoming[1]). Similarly, existing approaches to transition plans and the relevant climate disclosure standards vary in their treatment of offsets. Some initiatives do not consider them to be a substitute for the rapid and deep reduction of a company's own value chain emissions (see, for example, (SBTi, 2021[44]), (CBI, 2020[48])). This is because a company's contribution to the emission reductions of others or development of sequestration does not have a direct impact on the GHG emissions of its own value chain, meaning that offsetting and reducing one's own emissions could be considered as non-fungible actions (Carbone4, 2019[49]).

For example, the proposal by EFRAG as part of the European Sustainability Reporting Standards under development requires the exclusion of purchased offsets or allowances from the calculation of scope 1, 2, and 3 emissions. It allows companies to report the purchase of offsets voluntarily but requires them to do so separately from the GHG inventory and to not disclose offsets as a means to reach their GHG reduction targets, in order to reduce the risks outlined above (EFRAG, 2022[47]). Others, such as the proposal by the ISSB on Climate-related Disclosures, allow for the use of offsets but require additional information on the basis of the carbon removal, the type of verification scheme for the offsets, as well as "any other significant factors necessary for users of […] financial reporting to understand the credibility of the offsets used by the entity" (IFRS, 2022[50]).

Considering ongoing debates and differing views on the use of mitigation actions beyond the value chain (VCMI, 2021[46]), it is important for corporates to consider the risk that use of carbon credits and offsets could decrease the credibility of a corporate transition plan. A credible transition plan will not consider them as an alternative to cutting a company's emissions today or as a reason for delayed mitigation action, but rather as part of the portfolio of solutions to accelerate the pathway to net zero. Best practices for transition plans that do consider the use of offsets include explicitly describing any intended use of carbon credits and offsets (GFANZ, 2021[23]; CA100+, 2021[42]; TCFD, 2021[18]), the basis for their carbon removal (i.e., whether it is nature- or technology-based), the applicable verification or certification scheme (IFRS, 2022[50]), the quality criteria to be used to assess credibility of offsets, and considering not including them in the GHG inventory and as a contribution to GHG targets. Best practices also include providing an explanation of the additionality and permanence of the offsets, the extent to which they are being used as a last resort (see, for example, (Shrimali, 2021[51])), and clearly stating the share of emissions to be mitigated using offsets (which should decline over time) (CPI, 2022[52]) and their explicit role in the company's mitigation strategy.

4.2.5. Element 5: Setting out a strategy, actions, and implementation steps, including on preventing carbon-intensive lock-in

A credible transition plan will set out a clear strategy on the path the company intends to take to achieve its targets. The strategy will articulate the transition risks and opportunities that the company expects to face in the short-, medium- and long-term, as well as any foreseen limitations, constraints, and uncertainties to the achievement of the plan's targets (CDP, 2021[53]; TCFD, 2021[18]). Transition opportunities may include, amongst others, increased sales from products and services that are vital for the transition like the manufacturing and / or installation of renewable energy equipment such as wind turbines or solar panels (sometimes referred to as 'enabling activities', as set out above), first-mover advantages, long-term cost savings, and efficiency gains. Transition risks include (i) policy and legal risks that reflect policy changes or litigation action; (ii) technology risk arising from emerging technologies which may impact competitiveness of certain companies; (iii) market risk, arising from changing supply and demand; and (iii) reputational risk, linked to changes in perceptions of customers or society at large (TCFD, 2017[54]).

Assessing the likelihood of achieving the plan's targets using multiple climate-related scenarios, whenever feasible, will increase the plan's credibility (TCFD, 2021[18]). Scenario analysis can help companies better understand how transition risks and opportunities (alongside physical risks) might develop and better assess how the business could be affected over time, ultimately supporting the company's strategic decision-making under uncertainty (TCFD, 2020[55]). In this context, a credible transition plan will also identify levers and corrective actions that could be taken to address or correct underperformance against a target.

To be credible, a transition plan will set out concrete actions to be taken to achieve the defined targets and the capital investments needed, using relevant tools like technology roadmaps and taxonomies, as referenced above. Actions focus on decarbonisation strategies along the value chain, in line with the latest

IPCC findings outlined above, which emphasise that deep emission reductions are necessary during this decade and that continued installation of unabated fossil fuel infrastructure will lead to emissions lock-in. In that context, credible planning will identify existing assets and infrastructures, as well as new investments, which are at risk of leading to emissions lock-in and clearly set out the steps to be taken to prevent such lock-in.

Connected to the previous point, the plan also will describe any strategy and process for the responsible retirement for high-emitting corporate assets (GFANZ, 2021[23]), including on how just transition considerations are incorporated (see further details below on just transition). For example, GFANZ suggests setting out a specific phase-out plan as part of transition plans, which could outline, amongst others, how the phase-out is aligned with any net-zero/climate-related strategy, how just transition considerations are taken into account, key milestones such as phase-out timing, key metrics and targets, governance mechanisms, financing plans and key assumptions and uncertainties with the plan (GFANZ, 2022[56]) (see also Box 3.2 in Chapter 3 on coal phase-out).

4.2.6. Element 6: Addressing adverse impacts through the Do-No-Significant-Harm (DNSH) Principle and RBC due diligence

Considering not only climate mitigation targets, but also other environmental objectives (e.g., increasing adaptation and resilience, preventing biodiversity loss, limiting pollution, ensuring sustainable water management, waste management and circular economy considerations, etc.) and social considerations (e.g., pursuing gender equality and women's empowerment, quality jobs, preventing displacement etc.) can increase the credibility of a transition plan.

Moreover, credibility can also be increased by articulating how the company intends to apply the DNSH Principle and thereby avoid harm to sustainability objectives other than climate mitigation, both at activity- and entity-level. Should there be any unavoidable trade-offs or negative effects on one or more sustainability objectives due to the company's operations, these could be clearly documented. Ongoing discussions around the DNSH Principle today show that its implementation is still challenging for most entities, so some may choose not to address issues around DNSH in their transition plans.

Three main challenges can be identified: (i) application of the DNSH Principle at the entity level, instead of the economic activity level; (ii) the principle's applicability outside of the European Union, where it was originally elaborated; and (iii) the limited activity and sectoral coverage of its criteria. The DNSH Principle was first introduced into law as part of the EU Taxonomy, where specific qualitative and quantitative criteria are specified, in order to apply the principle at economic activity or project level, and design projects in a manner that does not do significant harm to broader environmental objectives. However, since the criteria rely to a large extent on European legislation (see, for example, appendix B, C, or D of (EU, 2021[57])), they can be difficult to apply outside of Europe. In this context, DNSH criteria have not been included in the IPSF Common Ground Taxonomy, which maps activities included in the European and the Chinese taxonomies (EU, 2022[58]). Moreover, since the DNSH criteria were developed as part of the existing EU Taxonomy, they cover only the activities included in that taxonomy. While some of the existing criteria might be generic enough to be applicable beyond the activities they were specified for, this might not always be the case. This means that there may currently be no criteria available for activities that are not already included in the EU Taxonomy, but that may form an important part of a corporate's business activities where the company may wish to still prevent and mitigate harm as part of their transition plan.

Given these challenges, an alternative way to operationalise the DNSH Principle as part of transition plans, especially for companies outside of Europe and companies whose activities are not entirely captured by the EU Taxonomy's existing criteria, is for businesses and investors to conduct risk-based due diligence based on OECD Due Diligence Guidance for Responsible Business Conduct (RBC) (OECD, 2018[45]). Both the DNSH Principle and the RBC framework set out an expectation that businesses, including investors, avoid and address adverse impacts of their operations (or economic activities), including in their supply

chains. The outward-facing approach of RBC due diligence can help them identify, prevent, and mitigate risks on people and planet and similarly on other sustainability objectives (see step 3 of the OECD Due Diligence Guidance for RBC, which sets out practical actions to be taken to "cease, prevent and mitigate adverse impacts").

Further, the RBC framework can help entities address harm on the full range of sustainability risks and impacts, including social objectives, covered by the OECD Guidelines for Multinational Enterprises [OECD/LEGAL/0144, annex]. For example, the OECD has developed sectoral guidance which helps enterprises identify and address environmental and social risks in particular sectors, including in minerals supply chains that will play a significant role in the energy transition (OECD, 2016[59]). As shown in Box 4.2, the minerals sector is one example where investments that contribute to climate change mitigation may present challenging trade-offs with other sustainability objectives, such as risks arising from inadequate waste and water management, and adverse impacts from inadequate worker safety, human rights abuses (such as child labour) and corruption. Companies that conduct effective RBC due diligence can identify, prevent, and mitigate those adverse impacts and fully operationalise the DNSH Principle embedded in a growing number of sustainable finance tools and frameworks.

Box 4.2. The concept of DNSH – the emerging tug-of-war of environmental objectives

The Do-No-Significant-Harm (DNSH) Principle is initially defined under the EU Taxonomy Regulation. The principle requires that economic activities that are classified under the EU Taxonomy as environmentally sustainable do no significant harm to any of the six environmental objectives set out in the Regulation (EU, 2020[11]). These environmental objectives are climate change mitigation, climate change adaptation, pollution prevention, water, circular economy, and biodiversity. The Taxonomy Regulation defines how to evaluate if an activity does significant harm to a specific environmental objective. For example, an activity does significant harm to biodiversity and ecosystems if it is significantly detrimental to the condition and resilience of ecosystems, or the conservation status of habitats and species (EU, 2020[11]). Since the adoption of the DNSH Principle in the EU Taxonomy, other regional taxonomies and definitions have incorporated the Principle in their definition of sustainable activities, including the Malaysian and Singaporean taxonomies ((Bank Negara Malaysia, 2021[10]), (MAS, 2022[9])). The Principle can be useful for transition plans to ensure overall environmental integrity within corporates' transition strategies, by not trading off one environmental issue for another.

For each of the activities defined under the EU Taxonomy, thresholds or criteria for DNSH are established, because there is a risk that some activities which are essential for achieving one environmental objective can do significant damage to at least one other environmental objective. DNSH, as set out in the EU Taxonomy, requires that the relevant criteria take into account lifecycle considerations. There are several possible mitigating measures for different types of projects, which are aimed at minimising harm within the boundaries of the project or asset itself. Examples include measures taken by hydropower plants to ensure fish migration, ecological flow, and to prevent the eutrophication of water bodies, and associated significant harm to biodiversity (EU, 2021[57]). For some types of activities, such as purchase and operation of electric vehicles, DNSH criteria also take into account the end-of-life of vehicle fleets, such as when ensuring that the operator has a waste management plan in place to ensure maximum reuse and recycling of batteries and electronics (EU, 2021[57]).

However, there is also a case to be made for analysing the possibility of significant harm within the supply chains of low-carbon technologies, beyond the boundaries of the project or asset. One prominent example is critical minerals. The mining of minerals, crucial to the deployment of climate mitigation

technologies, such as low-carbon energy generation, storage, and electric vehicles, also does significant harm to other environmental objectives, including biodiversity, water, and pollution prevention (IEA, 2021[60]). However, to achieve either the IEA's sustainable development scenario (SDS) or net zero by 2050, mineral demand would increase by 4x and 6x, respectively by 2040 (IEA, 2021[60]). The need to increase extraction of these minerals to achieve climate objectives creates a trade-off with other environmental objectives due to the negative impacts of increased mining. In particular, there are substantial overlaps between global natural capital hotspots and critical mineral reserves, such as in South America, the United States, and parts of Asia (see, for example, (ENCORE, 2022[61]) and (U.S. Geological Survey, 2022[62])). This suggests that the expansion of mining activities to achieve a net-zero future may have material implications for biodiversity. These trade-offs would ideally be considered within corporates' transition plans, as well as within their financing, to ensure one environmental crisis is not traded out for another.

4.2.7. Element 7: Supporting a just transition

According to the ILO, "a just transition maximises positive economic, social and decent work gains and minimises and mitigates negative impacts" and ensures that "processes and outcomes are inclusive and fair" (ILO, 2022[63]). A credible transition plan will consider how the company's transition is expected to impact workers, suppliers, local communities and consumers (LSE, 2021[64]). The plan will outline the measures taken to mitigate any negative impact, taking into account the ILO Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy (ILO, 2017[65]), ILO Guidelines for a Just Transition (ILO, 2015[66]), the OECD Guidelines for Multinational Enterprises [OECD/LEGAL/0144, annex] and the OECD Due Diligence Guidance for Responsible Business Conduct (RBC) (OECD, 2018[45]), and the UN Guiding Principles on Business and Human Rights (United Nations, 2011[67]). In particular, the OECD Due Diligence on RBC can help companies avoid and address adverse impacts related to workers, human rights, the environment, consumers, and other dimensions that may be associated with their operations, supply chains and other business relationships.

To help ensure just transition elements are well-integrated and reflect relevant stakeholders' interest, credible transition plans will be developed through a process that ensures regular and continuous stakeholder engagement and social dialogue, which includes representatives of workers, unions, affected communities and suppliers. The transition plan will have a related human resources strategy ensuring decent work,[4] adequate capacity and skills, with a plan for retaining, retraining, reskilling, and education opportunities (CBI, 2021[68]).

The process set out by the OECD Due Diligence Guidance on RBC can involve prioritisation -- where it is not feasible to address all identified impacts at once, a company can prioritise the order in which it acts based on the severity and likelihood of the adverse impact. Once the most significant impacts are identified and dealt with, the company can then move on to address less significant impacts (OECD, 2018[45]). Similarly, to be able to effectively prioritise and deliver just outcomes, corporate efforts in this area should form part of and be informed by coordinated national or subnational policy strategies on the Just Transition.

4.2.8. Element 8: Integration with financial plans and internal coherence

A credible transition plan will not be prepared separate from and without reference to the corporate business plan. Rather, a credible transition plan will be integrated into the corporate business plan. It will make direct reference to the company's financial plan and be done concurrently with financial reporting. Doing so can explicitly address any needs and commitments for capital expenditure, operating expenditure, merger and acquisition activities and research and development expenditures necessary for the delivery of the transition plan and related targets, so that capital stock, working capital and overall business streams are aligned with the company's transition targets and KPIs. For some companies, capital

allocation plans that support a repositioning of the capital stock will be critical. For others, operating expenditure may be more significant, including costs of retraining and redeploying staff or decommissioning stranded assets, or staff costs to operationalise low-carbon production practices (CBI, 2021[36]).

Moreover, the transition plan will be linked to the company's purchasing plan for engagement with suppliers, the marketing/sales plan for the engagement with customers as well as be linked to the policy/advocacy plan, for the engagement with trade unions, industry associations, and policymakers (CBI, 2021[68]; GFANZ, 2021[23]; CA100+, 2021[42]).

4.2.9. Element 9: Ensuring sound governance and accountability

A whole-of-entity approach will be essential in both the design and implementation of the transition plan, involving all relevant stakeholders (workers, suppliers, consumers, impacted communities, if any, etc.). A credible plan will clearly define a process and responsibilities for regular monitoring and reporting of progress towards targets, as well as for any timely and regular revision and update of this plan (e.g., on an annual basis), to take stock of lessons learnt, revisit assumptions, and identify levers for action, especially in areas that may be falling behind. The plan will be subject to board and senior management approval and oversight.

4.2.10. Element 10: Transparency and verification, labelling and certification

A credible transition plan will contain company commitments to regularly disclose targets (and underlying assumptions) and progress towards their achievement, to both internal and external stakeholders. The company will pursue third-party verification of its plan and related targets. This is also recommended as part of the OECD Policy Guidance on Market Practices to Finance a Climate Transition and Strengthen Environmental, Social and Governance (ESG) Investing, which states that effective monitoring, including through third-party verification, of data and targets used in transition plans should be encouraged (OECD, forthcoming[69])

Standards for verification and appropriate verification providers will depend on the jurisdiction in which the corporate operates and the contents of the transition plan. There is currently no international framework for accreditation of verifiers for corporate transition plans. However, some existing initiatives set out verifiers or verification standards that they recommend or require for compliance with their standards or certifications, which can provide some guidance to users and preparers of transition plans on the appropriateness of different verifiers (see, for example, (CDP, 2022[70]), (CBI, 2022[71])). In addition, it is encouraged that policymakers collaborate with stakeholders and experts to improve existing verification and monitoring frameworks offered by third parties (OECD, forthcoming[69]).

Some companies may in addition be able to achieve certification, such as through SBTi (SBTi, 2021[44]) or through future schemes that are currently under development like, for instance, through CBI (CBI, 2021[36]). This can increase credibility but may not be feasible for all companies.

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Notes

[1] For a more holistic and general overview of sustainable finance tools and frameworks, see for instance (PRI, 2020[74]).

[2] See TCFD's Guidance on Scenario Analysis for Non-Financial Companies for further insights on the role of scenario analysis in setting climate-related targets (TCFD, 2020[55]).

[3] Article 2.1a of the Paris Agreement commits to "holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels" (UNFCCC, 2015[73])

[4] The ILO defines decent work as "work that is productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration, freedom for people to express their concerns, organize and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men" (ILO, 2022[72]).

Annex A. Overview of transition finance approaches

Table A A.1 below provides an overview of existing transition finance approaches (taxonomies, guidelines, frameworks, white papers, etc) developed by a variety of actors, namely jurisdictions, regional bodies, think tanks, multilateral development banks and market actors. The table summarises the analysis of these approaches along several dimensions, such as their focus, DNSH approach, the transition goal/pathway, whether it includes transition definitions, criteria, or thresholds, whether it applies to an activity or entity, relevant transition use cases and whether they consider just transition factors. The table builds on, updates and extends the analysis conducted in (Tandon, 2021[1]) and (Muller and Robins, 2022[2]).

Table A A.1. Stock-take of transition finance approaches

Actor	Focus	DNSH	Goal/Pathway	Criteria/ Thresholds	Activity/Entity	Definition/conditions of transition activities	Transition use cases	Just transition
				Public actors				
ASEAN ASEAN Taxonomy for Sustainable Finance	Mitigation Adaptation Protection of healthy ecosystem and diversity Promotion of resource resilience Transition to circular economy	Yes	Alignment with Paris Agreement	Yes, for the second tier (multi-level thresholds to be developed in the future)	Activity	Activities classified as "amber" are those that: • Do not currently have zero or near-zero emissions but are on a decarbonisation pathway aligned the goals of the PA • Are making short-term emission reductions but for which low-emission alternatives are not yet economically or technologically viable • Generate less emissions compared to an alternative and need to be carried out for a limited period of time while alternative low carbon technologies are developed into viable and scalable solutions.	Specific thresholds for economic activities' classification into red, amber and green will be developed in the next phase for the following sectors: • Agriculture, forestry and fishing • Manufacturing • Electricity, gas, steam, and air conditioning supply • Transportation and storage • Construction and real estate • Water supply, sewerage, waste management and remediation. Thresholds will be developed also for enabling sectors, namely: • information and technology • professional, scientific and technical activities • CCUS.	References to just transition and the social diversity across ASEAN members.

Actor	Focus	DNSH	Goal/Pathway	Criteria/ Thresholds	Activity/Entity	Definition/conditions of transition activities	Transition use cases	Just transition
European Union Taxonomy for sustainable activities	Mitigation Adaptation Sustainable use and protection of water and marine resources Transition to a circular economy Pollution prevention and control Protection and restoration of biodiversity and ecosystems	Yes	Climate-neutral economy by 2050	Yes	Activity	• No technologically or economically viable green alternatives • Support the transition to a climate-neutral economy consistent with a pathway to limit the temperature increase to 1.5 above pre-industrial levels. • Have GHG levels that correspond to the best performance in the sector or industry. • Do not hamper the development and deployment of low-carbon alternatives. • Do not lead to a lock-in of carbon-intensive assets, considering the economic lifetime of those assets.	Provided compliance with technical screening criteria and thresholds, "transitional activities" include: • Manufacturing steel, iron, aluminium, cement, plastics and other products • Renovation of a building to enhance energy efficiency • Water, rail, and road transport related activities • Electricity generation from fossil gaseous fuels* • High-efficiency co-generation of heat/cool and power from fossil gaseous fuels and production of heat/cool from fossil gaseous fuels in an efficient district heating and cooling system*	The minimum safeguards set out in Article 18 of the Taxonomy Regulation requires that companies implement procedures to comply with: • International Labour Organisation (ILO) core labour conventions; • OECD Guidelines on Multinational Enterprises (MNEs); and • UN Guiding Principles on Business and Human Rights. In 2022, the Platform on Sustainable Finance proposed a structure for a possible future social Taxonomy, including just transition aspects.
Indonesia Green Taxonomy	Environmental protection and management Mitigation Adaptation	Yes	Paris Agreement and NDC	Yes (screening criteria)	Activity	Traffic light system: • green (do no significant harm, apply minimum safeguards, provide positive Impact to the environment and align with the environmental objective of the taxonomy, • yellow (do no significant harm) • red (harmful activities).	TBC	The Taxonomy is based on four principles, one of which centres on the need for social and environmental risk management, through identification, measurement, mitigation, supervision, and monitoring processes.

Actor	Focus	DNSH	Goal/Pathway	Criteria/ Thresholds	Activity/Entity	Definition/conditions of transition activities	Transition use cases	Just transition
Japan Basic Guidelines on Climate Transition Finance	Mitigation	Yes	• Paris Agreement • IEA's scenarios • SBTi • NDCs, industry sector roadmaps	No	Asset and entity	• Borrower must articulate a transition strategy with science-based targets. • Fulfil disclosure requirements as per the ICMA Transition Finance Handbook as well as Green, Social, Sustainability or Sustainability-Linked Bond Principles as the case may be.	Sector-specific roadmaps are available for chemicals, iron, and steel. Roadmaps are being developed for energy (electric power, oil and gas), paper/pulp and cement.	Explicit guidance on just transition: It is recommended that entities report how consideration of a "just transition" is incorporated into the transition strategy.
Korea Draft K-Taxonomy	Mitigation Adaptation Sustainable conservation of Water Circular economy Pollution prevention Biodiversity conservation	Yes	Activity	Yes, under development	Not specified	TBC	TBC	No
Malaysia Principles Based Taxonomy	Mitigation Adaptation	Yes	None stated explicitly; but from the context of the document, one may infer NDC under Paris Agreement.	No	Activity	• Have a positive impact on either mitigation or adaptation or both, though they may still, in the immediate and intermediate future, cause some harm to other environmental objectives. • In such cases, remedial measures are necessary to reduce or eliminate such harm.	1. Purchase of green technology equipment, 2. Purchase of factory certified as green building, 3. General working capital for an MSPO (Malaysian Sustainable Palm Oil) certified palm oil plantation.	Explicit guidance on just transition: Companies should also consider how its transition strategy supports a just transition.

Actor	Focus	DNSH	Goal/Pathway	Criteria/ Thresholds	Activity/Entity	Definition/conditions of transition activities	Transition use cases	Just transition
Singapore Second Taxonomy Consultation Paper	Mitigation Adaptation Healthy ecosystems and biodiversity Resource resilience and circular economy Pollution prevention and control	Yes	Sectoral Decarbonisation Approach (SDA), using IEA RTS, IEA 2DS and IPCC SR1.5-aligned models	Yes, for mitigation first	Activity	Traffic light system (green, amber and red). "Amber" activities include existing activities that are not presently on a net-zero pathway, but are either: • Moving towards a green transition pathway within a defined time frame; or • Facilitating significant emissions reductions in the S-T with a prescribed sunset date. All activities in amber must demonstrate their improvement process over time.	Specific thresholds and sunset dates for amber activities have been defined for the following sectors: 1. Energy (hydropower, bioenergy power generation, electricity generation from hydrogen and energy production form natural gas); Decommissioning of fossil fuel activities are eligible as 'amber' if phased out in line with Paris Agreement requirements and before sunset dates; 2. Transport (road freight transport outperforming best-on-the market approach; air, sea and coastal water transport in line with sectoral decarbonisation pathways of TPI); 3. Real estate (no amber category for new buildings; for renovation, threshold in line with Singapore's emission reduction target for the sector).	Explicit guidance on just transition: Entities must meet minimum social safeguards in the performance of their activities.

Actor	Focus	DNSH	Goal/Pathway	Criteria/ Thresholds	Activity/Entity	Definition/conditions of transition activities	Transition use cases	Just transition
South Africa Green Finance Taxonomy	*At present:* Mitigation Adaptation *In the future:* Sustainable use of water and marine resources Pollution prevention, sustainable resource use and circularity Ecosystem protection and restoration.	Yes	Paris Agreement	Yes	Activity	As in the EU Taxonomy, an activity for which there is no technologically and economically feasible low carbon alternative, is considered to contribute substantially to mitigation as it supports the transition to a low carbon economy by phasing out greenhouse gas emissions, in particular from solid fossil fuels, where that activity: • Has GHG levels that correspond to the best performance in the sector or industry; • Does not hamper the development and deployment of low-carbon alternatives; and • Does not lead to a lock-in in carbon-intensive assets considering the economic lifetime of those assets.	The inclusion of natural gas as a transition fuel is under consideration within the development of a future transition taxonomy. Transition elements to be clarified in the future.	As in the EU Taxonomy, companies and other issuers disclosing against the Taxonomy need to assess their compliance with minimum social standards by ensuring implementation of policies, procedures and governance mechanisms that put into effect alignment with South African labour law and the standards in: • International Labour Organisation (ILO) core labour conventions; • OECD Guidelines on Multinational Enterprises (MNEs); and • UN Guiding Principles on Business and Human Rights.
Market actors								
AXA IM Guidelines on Transition bonds	Emission reduction Energy efficiency Access to clean energy Use of natural resources Resilience	Yes	Paris Agreement	No	Entity and activity	Projects must be within pre-specified climate transition activities. Borrower must have a clear climate-transition strategy. The management must make a commitment to align business operations with the goals of the Paris Agreement.	None	Disclosure of environmental and social impact; just transition not directly addressed.

Actor	Focus	DNSH	Goal/Pathway	Criteria/ Thresholds	Activity/Entity	Definition/conditions of transition activities	Transition use cases	Just transition
Climate Bonds Initiative Climate Bonds Taxonomy	Mitigation Adaptation	No	Paris Agreement, based on IPCC and IEA pathways	Yes	Activity	Traffic light system, where "orange" activities are defined as those that are potentially compatible, depending on whether specific criteria are met.	Specific thresholds are developed for "orange" activities for all sectors covered by the taxonomy, namely: 1. Energy 2. Transport 3. Water 4. Buildings 5. Land and marine resources 6. Industry 7. Waste and pollution control 8. ICT	Social considerations are integrated only in the screening indicator for hydropower.
Climate Bonds Initiative White Paper	Mitigation	No	1.5°C science-based scenario	No	Entity and activity	• Goals and pathways pursued must align with zero carbon by 2050 and nearly halve emissions by 2030 • Goals and pathway pursued must be based on global scenarios supported by scientific evidence • Goals and pathways do not count offsets, but should count upstream scope 3 emissions • Technological viability trumps economic competitiveness • Operating metrics rather than a commitment/pledge	1. Deep retrofits of residential properties 2. Retrofit of shipping vessels to run on green ammonia 3. Retrofits of airline fleets to operate with a maximum biofuel or synthetic fuel mix 4. Installation of gas capture at a waste-to-energy plant treating only residual waste 5. Switch from fossil fuel based plastics to compostable alternative to produce bottled mineral water.	No

Actor	Focus	DNSH	Goal/Pathway	Criteria/ Thresholds	Activity/Entity	Definition/conditions of transition activities	Transition use cases	Just transition
DBS Sustainable and Transition Finance Framework and Taxonomy	Green SDGs Transition	No	Paris Agreement along with guidance of the IEA Sustainable Development Scenario.	No	Entity and activity	The asset must displace more carbon intensive options in alignment with the trajectory of the PA while following the guidance of the IEA SDS. The borrower must exhibit one of the following in the previous 12 months: 1. Divestment from carbon-intensive activities 2. Diversification from carbon-intensive activities by either acquiring a green or socially positive business or through R&D, or 3. Decarbonised by demonstrating a reduction in emissions intensity beyond national or regional industry average.	1. Logistics and operations efficiency improvement: Fleet optimisation and route management (e.g., eliminating backhauls and consolidating loads) 2. Use of aircraft with electric engines or hydrogen fuel cell 3. A substantial reduction in GHG emissions or energy saving because of upgrade or retrofit, or an upgrade in certification rating of at least one notch higher.	For use of proceeds, just transition/social dimensions are not addressed. For company in transition, the social dimension is integrated as a potential additional eligibility criterion, whereas just transition factors are not directly addressed.
ICMA Climate Transition Finance Handbook	Not specified	Partially	Science-based scenario aligned with the temperature goal of the Paris Agreement.	No	Entity	Borrowers should: • Have a long-term corporate strategy to manage climate-related risks and transform the business model to align it with the objectives of the Paris Agreement • Seek TF to transform core business operations	None	Explicit guidance on just transition: • When the transition has negative impact for workers and communities, issuers should outline how they incorporates just transition considerations and details any social expenditure.

Actor	Focus	DNSH	Goal/Pathway	Criteria/ Thresholds	Activity/Entity	Definition/conditions of transition activities	Transition use cases	Just transition
						• Have a science-based, quantifiable transition trajectory, with include interim targets, independently vetted, and verified • Planned capital and operational expenditures to support the transition strategy must be communicated along with their intended climate-related impact.		
Research Institute for Environmental Finance Japan Transition Finance Guidance	Emission reduction	No	None	No	Entity and activity	• Borrower must be within a high-emitting sector and be overall carbon-intensive • Asset/technology financed must not lock-in long-term emissions or negative effects on the environment • Asset(s) or corporations must be eligible under the brown taxonomy provided in the guidance	1. CCS in coal fired power plants 2. Pipeline repairs to reduce methane leakages 3. Switching ships and aircraft to alternative low-carbon fuels 4. Retrofitting buildings and houses to increase energy efficiency.	No
International financial institutions								
EBRD Green Transition Bond Framework	Energy Efficiency Resource Efficiency Sustainable Infrastructure	Social impact review	Domestic objectives of the country under the Paris Agreement	Yes (use-of-proceeds eligibility criteria)	Activity	• Asset must sit within the climate-governance strategy of the implementing company • Asset must contribute to the national objectives under the PA of the country wherein it is located	1. Manufacturing (e.g., by decarbonising chemical, cement and/or steel production) 2. Food production (e.g., by reducing resource intensity and promoting sustainable land use)	Social dimension as a potential additional eligibility criterion; just transition not directly addressed.

Actor	Focus	DNSH	Goal/Pathway	Criteria/ Thresholds	Activity/Entity	Definition/conditions of transition activities	Transition use cases	Just transition
						• Finance must be used towards one or more of the following (i) energy efficiency, (ii) resource efficiency, and (iii) sustainable infrastructure • The decarbonisation or resource efficiency performance targeted by the project must exceed industry average.	3. Building construction and renovation (e.g., by improving resource efficiency).	
MDBs Common principles for climate mitigation finance tracking	Mitigation	Yes	Pathways	Yes (eligibility criteria for climate mitigation activities)	Entity and activity	• Lack technologically or economically feasible very-low-emission alternatives available • Comply with high performance country- or sector-specific standards, benchmarks, or thresholds for GHG emissions or emission-intensity that significantly exceed expected performance in a sector or activity • Do not hamper the development or deployment of very-low-emission activities • Do not lead to a lock-in of GHG-emission-intensive assets that is inconsistent with the net-zero goal.	The Common Principles outlines for climate mitigation finance eligibility criteria. After the first two-year operationalisation period, the list will be adjusted to focus also on eligibility criteria of transitional and enabling activities. The current list includes eligibility criteria for financing supporting closure of fossil fuel plants or other activities involving fossil fuel extraction, processing, or transport, including support to workers or communities affected by such closure.	No

Note:
* = Included in the EU Taxonomy Complementary Climate Delegated Act, which is currently under scrutiny by the European Parliament and the Council and, once the scrutiny period is over and if neither of the co-legislators objects, the Complementary Delegated Act will enter into force, amend the Delegated Act and apply as of 1 January 2023 (European Commission, 2022[3]).
Sources: (ASEAN Taxonomy Board, 2021[4]; European Parliament and Council of the EU, 2020[5]; European Commission, 2021[6]; European Commission, 2022[7]; OJK, 2021[8]; FSA, METI and Ministry of Environment, Japan, 2021[9]; InfluenceMap, 2021[10]; Bank Negara Malaysia, 2021[11]; Green Finance Industry Taskforce, 2022[12]; South African National Treasury and IFC, 2022[13]) (AXA, 2021[14]; CBI, 2021[15]; CBI, 2020[16]; CICERO Shades of Green, 2020[17]; ICMA, 2020[18]; Research Institute for Environmental Finance, 2020[19]; EBRD, 2019[20]; EIB, 2021[21]).

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Annex B. Mapping of transition plan elements

Table A B.1 below provides a mapping of existing initiatives focused on transition plans and compares them across several key components identified in Chapter 4 to ensure the credibility of transition plans.

Table A B.1. Mapping of key elements of existing initiatives focused on transition plans

Initiative	L-T target	Interim target	Use of scenario analysis	Consistency with 1.5	Scope 3 emissions	Use of taxonomies	Performance and progress measurement	Information on use of carbon credits and offsets	DNSH	Just transition	Financial plans and internal coherence; governance and accountability	Transparency and verification	Tailored approach for SMEs	Policy engagement
ACT	PA temperature goal	N/A	✓	No	• Coverage varies by sector. • To be included where relevant.	✓	✓	• In line with standards (whether national or international) guaranteeing robustness, additionality, transparency, and permanence • Shall not be subtracted from the GHG inventory • Excluded from the calculation of quantitative ACT indicators related to targets, material investments and sold product performance.	No	No	✓	✓	✓	✓

Initiative	L-T target	Interim target	Use of scenario analysis	Consistency with 1.5	Scope 3 emissions	Use of taxonomies	Performance and progress measurement	Information on use of carbon credits and offsets	DNSH	Just transition	Financial plans and internal coherence; governance and accountability	Transparency and verification	Tailored approach for SMEs	Policy engagement
CA100+	GHG targets by 2050	2025 and 2026-2035 targets	✓	✓	• Targets to include scope 3 relevant for the sector • Publish methodology for scope 3 targets	Increase/ disclosure green revenues in line with EU taxonomy	✓	No offsets where viable decarbonisation options exist	No	Under development	✓	No	No	✓
CBI	Net zero by 2050	3-5 year targets	No	✓	Upstream scope 3 emissions to be included in KPIs; downstream to be disclosed for stranded activities	No	✓	Should not be used	No	No	✓	✓	No	No
CDP	Net zero by 2050	Five-ten year interim	✓	✓	Included in annual inventory	No	✓	No	No	✓	✓	✓	No	✓
CPI	Net zero by 2050	✓	✓	✓	For all companies including subsidiaries	No	Emission metrics in both absolute terms and intensity-based; to be updated annually	• State share of offsets (to decline over time) • Consistency with global standards	Transparency on unavoidable trade-offs	✓	✓	✓	✓	✓

Initiative	L-T target	Interim target	Use of scenario analysis	Consistency with 1.5	Scope 3 emissions	Use of taxonomies	Performance and progress measurement	Information on use of carbon credits and offsets	DNSH	Just transition	Financial plans and internal coherence; governance and accountability	Transparency and verification	Tailored approach for SMEs	Policy engagement
CSL	Net zero by 2050	2030 targets	✓	✓	Included in targets when significant and data allows	No	✓	Use clear rules if using carbon offset	✓	✓	✓	No	No	✓
EFRAG	PA temperature goal	5-year rolling targets and 2030 target	✓	✓	To be disclosed	Disclosure required by the EU Taxonomy (share of Taxonomy-compliant turnover, CapEx and OpEx or on their green asset ratio)	✓	• Removals, carbon credits or avoided emissions should not be means to achieve targets • When carbon credits are used, explanation needed on the extent of their use and quality	As per EU taxonomy	Covered in the social standards	✓	✓	✓	Covered in the RBC standard
GFANZ	Net zero by 2050	To 2030 and earlier	No	✓	Net-zero commitments to cover Scope 3 emissions of companies in sectors that are significant climate change contributors or where Scope 3 emissions are material and	✓	✓	Consider credits purchased by portfolio companies separately from their emissions and advocate for disclosure regarding type of credit and accounting	No	✓	✓	✓	✓	✓

Initiative	L-T target	Interim target	Use of scenario analysis	Consistency with 1.5	Scope 3 emissions	Use of taxonomies	Performance and progress measurement	Information on use of carbon credits and offsets	DNSH	Just transition	Financial plans and internal coherence; governance and accountability	Transparency and verification	Tailored approach for SMEs	Policy engagement
					data is available.			methodology						
ICMA	L-T GHG targets		No	Ideally	Included in targets. Estimated on a 'best effort' basis for some sectors until calculation methodologies are developed.	No	Intensity and absolute	No	Yes	Just transition reference	✓	✓	No	No
IFRS/ISSB	PA temperature goal	✓	✓	✓	To be disclosed. If excluded, the reason for omission to be provided.	No	✓	Disclosure on: extent of reliance on offsets; verification/ certification; type and other factors/ assumptions	No	No	✓	✓	No	No
IGCC	Alignment with PA temperature goal and net zero by 2050.	✓	✓	✓	To be included in net-zero targets if material.	No	✓	To be used only as a last resort. When used, disclosure needed on: • Share of targets consisting of offsets	No	✓	✓	✓	No	✓

Initiative	L-T target	Interim target	Use of scenario analysis	Consistency with 1.5	Scope 3 emissions	Use of taxonomies	Performance and progress measurement	Information on use of carbon credits and offsets	DNSH	Just transition	Financial plans and internal coherence; governance and accountability	Transparency and verification	Tailored approach for SMEs	Policy engagement
								• Share by type of offset • Average price paid and assumptions on permanence and other factors • Intended timeframe for their use • Criteria used to assess credibility • How double-counting is avoided.						
SBTi	Net zero by 2050	5-10 year targets	No	✓	To be included in targets. For companies with scope 3 emissions that are at least 40% of total emissions at least 67% of scope 3 emissions must also be covered	No	✓	Targets require long-term deep decarbonisation targets of 90-95% across all scopes before 2050. When a company reaches its net zero target, only a limited amount of residual emissions can be neutralised	Partially	No	No	No	✓	No

Initiative	L-T target	Interim target	Use of scenario analysis	Consistency with 1.5	Scope 3 emissions	Use of taxonomies	Performance and progress measurement	Information on use of carbon credits and offsets	DNSH	Just transition	Financial plans and internal coherence; governance and accountability	Transparency and verification	Tailored approach for SMEs	Policy engagement
					in near-term targets.			with high quality carbon removals (no more than 5-10)						
TCFD	Transparency on dates	No	✓	global temperature goal (e.g. 1.5)	Transparency on scope of emissions considered	No	✓	Transparency on use of removals and offsets	No	No	✓	✓	No	No
TPT	Alignment with PA temperature goal, ideally 1.5 by 2050.	✓	Sensitivity analysis	No	✓	No	✓	Transparency on the reliance of offsets/carbon credits: • Whether they are verified/certified • Type • Factors to assess credibility and integrity (e.g. permanence)	Partially	✓	✓	✓	✓	✓

Note: This mapping includes some initiatives which are in draft/proposal form, such as the ISSB Exposure Draft on Climate-related Disclosures, the draft EU Sustainability Reporting Standards and the UK Transition Plan Taskforce (TPT) Call for Evidence document. This mapping includes GFANZ Recommendations and Guidance on Financial Institution Net-zero Transition Plans, noting the Real-economy Transition Plans workstream is under development.

Source: (ACT, 2019[1]; CA100+, 2021[2]; CBI, 2021[3]; CDP, 2021[4]; CPI, 2022[5]; CSL, 2021[6]; EFRAG, 2022[7]; GFANZ, 2022[8]; ICMA, 2020[9]; IFRS, 2022[10]) (IFRS, 2022[10]) (IGCC, 2022[11]; SBTi, 2021[12]; TCFD, 2021[13]; TPT, 2022[14]).

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Annex C. Methodology of the 2022 OECD Industry Survey on Transition Finance

The OECD created an industry survey to collect views on the topic of transition finance of different stakeholders, including financial institutions, non-financial corporates, academia, data and service providers, public finance institutions (such as central banks and development banks), and non-governmental organisations and other relevant actors. The purpose of the survey was to gather insights on the perceived barriers and enabling factors to accessing transition finance, the most important elements to a credible corporate transition plan, as well as the market's perspective on current developments.

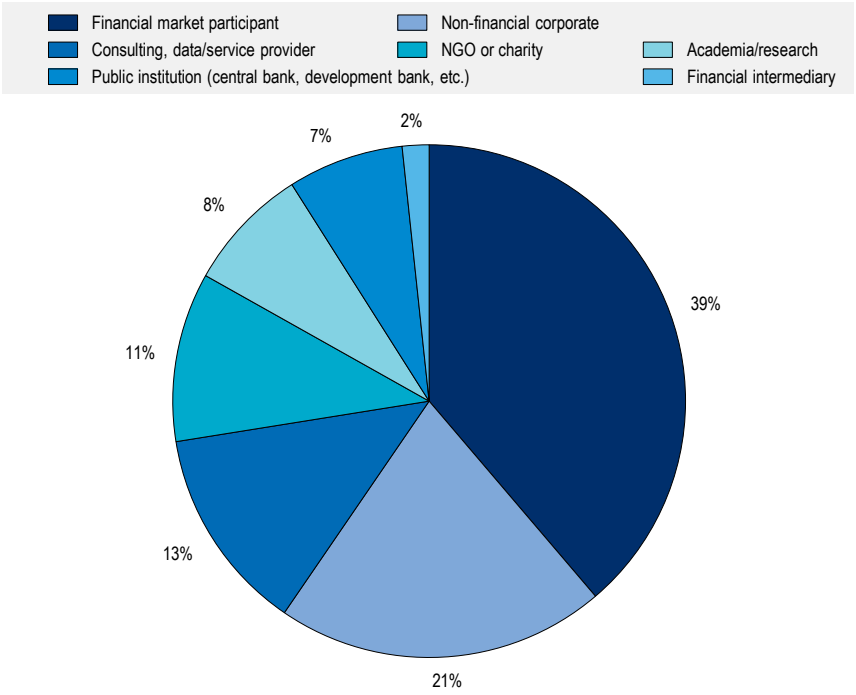
The survey consisted of 17 questions to ask market participants about different elements of transition finance, financial and environmental credibility, and a few questions on the background of the respondent. A branching method was used to present only relevant questions to different respondents, based on stakeholder type. This enabled to tailor questions on financial risk management practices to only financial institutions, for example, and gather results from only relevant stakeholders on each question.

The survey was sent to a broad range of market participants, mainly through the networks of the International Capital Markets Association, the Principles for Responsible Investment, the European Chemical Industry Council, and the network of the OECD's Centre for Green Finance and Investment to gather a diverse range of views from relevant stakeholders. Respondents were given two weeks to submit their responses, which amounted to 178 in total. Analysis of the survey results informed the OECD Guidance on Transition Finance.

The OECD received a diverse range of responses, with financial institutions and non-financial corporates making up the largest proportions, with 39% and 21%, respectively. In terms of geographical breakdown, this is heavily tilted towards East Asia and the Pacific and Western Europe, with over 100 respondents headquartered in either of these regions. This might be reflective of where the most attention to transition finance is taking place. The two figures below illustrate the breakdown of respondents by stakeholder groups and region of organisations' headquarters.

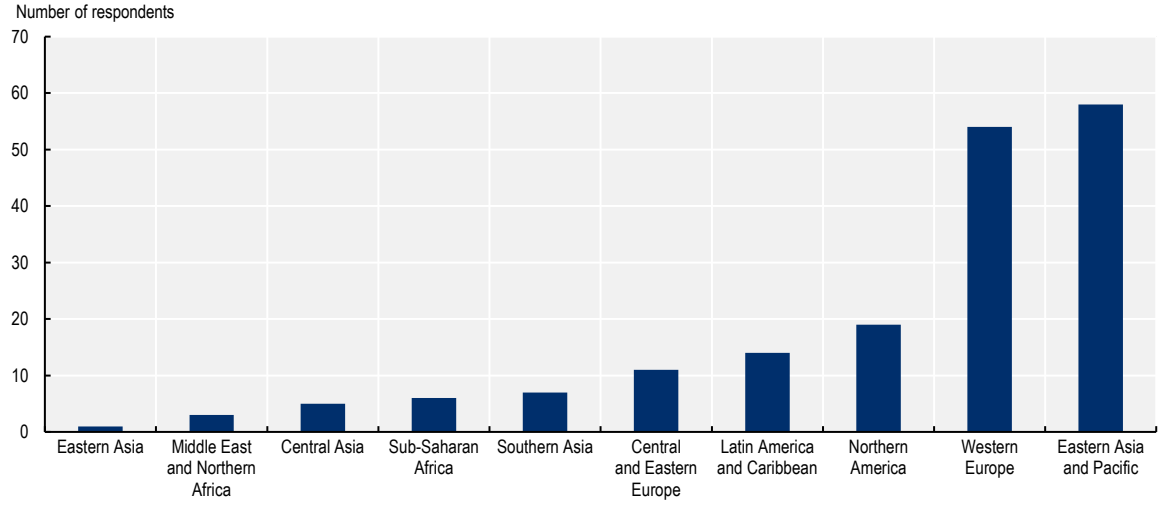
Figure A C.1. Survey respondents: stakeholder breakdown

Share of survey respondents by stakeholder type



Note: The number of survey responses received was 178.
Source: 2okt022 OECD Industry Survey on Transition Finance.

Figure A C.2. Survey respondents: regional breakdown



Source: 2022 OECD Industry Survey on Transition Finance.

Annex D. Case studies on sustainability-linked instruments of select companies in hard-to-abate industry sectors in EMDEs

In order to shed light on the potential and growth challenges of sustainability-linked financial instruments, this Annex provides case studies on companies that raise sustainability-linked finance for their decarbonisation in hard-to-abate sectors, selected from emerging and developing economies. Illustrative examples include sustainability-linked instruments issued by Indorama Ventures (chemicals, Thailand), CEMEX (cement, Mexico) and JSW (steel, India). Countries were selected to focus on emerging and developing countries, and where possible, to take advantage of contacts through the OECD Clean Energy Finance and Investment Mobilisation (CEFIM) programme. Companies headquartered in these countries were selected based on whether a sustainability-linked financing framework with sufficient detail was put in place in the past 12 months (further background on the companies below).

The company case studies have been informed by background desk-based research and review of the companies' publicly available sustainability strategy, sustainability-linked financing framework and associated Second Party Opinion (SPO) documents. In order to gather additional information and insights on the opportunities and challenges around corporate use of sustainability-linked instruments and the link with credible transition plans, interviews were conducted with the relevant company staff. Subsequently, the case studies prepared by the OECD were vetted by the companies ahead of their publication in this report. Insights and lessons learnt from the case studies are incorporated in the main text of the Guidance – see Box 2.1 in Chapter 2 above. Further background on the companies and their strategies, targets and frameworks can be found below.

- Indorama Ventures is a producer of a wide range of plastic polymers, chemicals, and fibres. Headquartered in Bangkok, Indorama Ventures operates in 35 countries in Africa, Asia, Australia, Europe, North America and South America. Its SLB issuance was the largest in Thailand and one of the few in the sector in EMDEs.
- CEMEX is a Mexican multinational company that manufactures and distributes cement, ready-mix concrete and aggregates in over 50 countries.
- JSW Steel Ltd is a multinational steel company based in Mumbai, part of the JSW Group. JSW Steel is India's second largest private sector steel company. JSW Steel was the first company in the steel sector globally to issue a USD-denominated sustainability linked bond.

Table A D.1. Selected sustainability-linked financing instruments characteristics

Company	Instrument	Year	Amount raised	Maturity (years)	Over-subscription	Financiers	SPTs
Indorama Ventures	SLL (syndicated loan)	2020	USD 255 million	5	N/A	• Japanese banks • Arranged by Mizuho Bank	• Composite ESG score
	SLB	2021	THB 10 billion	Triple structure: 5, 7 and 10.5 years	Yes (3x)	Asset managers, commercial banks, insurance companies, cooperatives and high-net-worth individuals	• Reducing GHG emissions intensity by 10% by 2025 (from a 2020 base) • Increasing recycling of PET bale input to 750 000 tons per year by 2025 (from a 2020 base) • Achieving 25% renewable electricity consumption in 2030 (from a 2020 base)
CEMEX	SLL	2020	USD 3.2 billion	5	N/A	N/A	• CO2 emissions reduction • Clean electricity consumption • Alternative fuels rate (unspecified details)
	Sustainability-linked Syndicated credit facility	2021	USD 3.25 billion	5	Yes	N/A	• Lowering its specific CO2 emissions per tonne of cementitious1 material to below 475 kg by 2030 compared to 620 kg in 2020 (or 40% reduction compared to the 1990 level) • Reaching power consumption from clean energy sources in cement of 40% by 2025 and 55% by 2030 • Achieving alternative fuels rate of 43% by 2025 and 50% by 2030
JSW	SLB	2021	USD 1 billion	Dual structure: 5 and 10	Yes	Fund, asset managers and banks (mainly Asia and US)	• Reducing CO2 emissions intensity to equal or less than 1.95 tonnes CO2 per tonne of crude steel produced, equivalent to a reduction of 23% from a 2020 baseline, by 2030

Source: (Indorama Ventures, 2020[35]; Indorama Ventures, 2021[36]; Indorama Ventures, 2021[37]; CEMEX, 2021[38]; CEMEX, 2021[39]; CEMEX, 2021[40]; JSW, 2021[41]).

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Note

[1] Cementitious products are all clinker volumes produced by a company for cement making or direct clinker sale, plus gypsum, limestone, CKD, and all clinkers consumer for blending, plus all cement substitutes produced. Clinker bought from third parties for the production of cement is excluded.

Annex E. Glossary

- The **Do-No-Significant-Harm Principle** refers to the process of not supporting or carrying out any economic activities that do significant harm to an environmental objective, such as climate change mitigation, adaptation, protection of biodiversity and ecosystems, protection of water and marine resources, pollution prevention and control, circular economy (European Commission, 2021[1]).
- **Enabling conditions** "enhance the feasibility of […] mitigation options" and can include technological innovation, data availability, policy instruments, institutional capacity, and the applicable regulatory framework (IPCC, 2022[2]).
- **Feasibility** refers to "the potential for a mitigation […] option to be implemented" (IPCC, 2022[2]).
- **Green bonds** are any type of bond instrument where the proceeds or an equivalent amount will be exclusively applied to finance or re-finance, in part or in full, new and/or existing eligible green projects and which are aligned with the four core components of the Green Bond Principles (ICMA, 2021[3]).
- **Hard-to-abate sectors** are generally understood to be sectors that face particular challenges in their low-carbon transition. This can be either due to an absence of low-carbon alternatives (as is the case in aviation, for example) or due to currently high costs of fully transitioning to low-carbon technologies and energy sources. The latter is typically the case in energy-intensive industries with high-temperature processes, such as iron and steel, cement and lime, chemicals, aluminium and other non-metallic minerals.
- **Key Performance Indicators** (KPIs) are quantifiable metrics used to measure the performance of selected indicators.
- **Leapfrogging**, in the context of sustainable development, refers to accelerated development marked by the skipping of less efficient and polluting technologies and faster adoption of more advanced ones.
- **Sustainability-linked bonds** (SLBs) are any type of bond instrument for which the financial and/or structural characteristics can vary depending on whether the issuer achieves predefined sustainability or ESG objectives (ICMA, 2020[4]).
- **Sustainability-linked loans** (SLLs) are any types of loan instruments and/or contingent facilities (such as bonding lines, guarantee lines or letters of credit) which incentivise the borrower's achievement of ambitious, predetermined sustainability performance objectives. The borrower's sustainability performance is measured using sustainability performance targets (SPTs), which include key performance indicators, external ratings and/or equivalent metrics and which measure improvements in the borrower's sustainability profile (LMA, 2019[5]).
- **Sustainability bonds** are any type of bond instrument where the proceeds or an equivalent amount will be exclusively applied to finance or re-finance a combination of both green and social projects (ICMA, 2021[6]).
- **Sustainability Performance Targets** (SPTs) are targets under which issuers commit to making measurable improvements in key performance indicators over a predefined timeline.
- **Transition finance**, in the context of this Guidance, is understood as finance deployed or raised by corporates to implement their net-zero transition, in line with the temperature goal of the Paris Agreement and based on a credible corporate climate transition plan.

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Green Finance and Investment

OECD Guidance on Transition Finance

ENSURING CREDIBILITY OF CORPORATE CLIMATE TRANSITION PLANS

This guidance sets out elements of credible corporate climate transition plans, which aim to align with the temperature goal of the Paris Agreement. Such plans are needed to address the growing risk of greenwashing in transition finance and facilitate a global, whole-of-economy climate transition. Based on extensive stakeholder consultations, including an industry survey, the guidance provides market actors, policy makers, and regulators with a comprehensive overview of existing transition finance approaches, identifying the main challenges and solutions. The guidance is relevant to: (i) policy-makers and regulators seeking to develop or revise relevant policy frameworks or regulations; (ii) corporates developing transition plans and seeking to identify the most salient elements of existing initiatives; and (iii) financial market participants planning to provide finance for the implementation of net-zero strategies. The guidance emphasises greater transparency, comparability and granularity in corporate transition plans, and the need for adequate environmental and social safeguards. In light of challenges for some corporates, especially in emerging markets and developing economies, and the risk of excluding key actors from transition finance, the guidance highlights the need for policy-makers to take stronger action to bolster domestic enabling environments for transformative investments.

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