



2024 G20 Sustainable Finance Report

September 2024



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2024 G20 Sustainable Finance Report

Introduction

Keeping with its mandate, the G20 Sustainable Finance Working Group (SFWG) is engaged in accelerating the global sustainable finance agenda. In the triennium 2021-23, the SFWG has actively contributed to advancing international work to help scale up private and public sustainable finance, thereby accelerating implementation of the Paris Agreement and the 2030 Agenda for Sustainable Development adopted by all United Nations member states. This report presents the outcomes of the work carried out by the SFWG under Brazil's G20 Presidency in 2024.

The Brazilian Presidency defined the vision of their G20 Presidency as “building a just world and a sustainable planet”.

Building on prior achievements, the SFWG contributed to this vision through the following four priorities as presented at the G20 Finance Deputies meeting held on December 14th, 2023:

- Optimizing the operations of the International Environmental and Climate Funds to deliver sustainable finance.
- Advancing credible, robust and just transition plans.
- Analyzing implementation challenges related to sustainability reporting standards, including for small and medium-sized enterprises (SMEs) and emerging markets and developing economies (EMDEs).
- Financing Nature-Based Solutions.

These priorities are aligned with the G20 Sustainable Finance Roadmap¹ (the Roadmap), a multi-year action-oriented document which is voluntary and flexible in nature, which was endorsed by G20 Leaders in Rome in 2021. At the 2023 4th SFWG meeting in Varanasi, India, SFWG members concurred on the importance of continuing to track the progress achieved in the implementation of the Roadmap, including by G20 members as individual jurisdictions. Therefore, this report also includes a summary of activities voluntarily reported by International Organizations, Groups and Networks, as well as G20 jurisdictions.²

1. The G20 Sustainable Finance Roadmap is available for download here: <https://g20sfwg.org/roadmap/>.

2. The full reports provided voluntarily by International Organizations, Groups and Networks, as well as G20 jurisdictions are available on the G20 SFWG website: <https://g20sfwg.org/progress-tracking/>.

Chapter 1: Optimizing the operations of the International Environmental and Climate Funds to deliver sustainable finance

Context

In recent years, there has been an increase in financial flows dedicated to climate and biodiversity action. Recent evaluations by the Climate Policy Initiative³ indicate a surge of global financial flows to climate action in the past decade, rising from \$574 billion in 2017/18 to \$653 billion in 2019/20 and to almost USD 1.3 trillion in 2021/2022. Similarly, the Fifth Biennial Assessment and Overview of Climate Finance Flows by the UNFCCC's Standing Committee on Finance⁴ reports an increase in global climate finance from \$775 billion in 2017/18 to \$803 billion in 2019/20. Looking at energy spending, the IEA confirms these positive trends, showing that while investments in fossil-fuels keep increasing, spendings in clean energy are now substantially larger.⁵ Alongside this, a 2022 study by the OECD found that, among the 32 Development Assistance Committee countries, biodiversity-related development finance increased by 119% over 2011-20, rising from USD 7.8 billion to USD 17.1 billion.⁶ However, they remain relatively small in the broader context of other finance flows, especially to developing and least developed countries.

These figures do not capture the disparity between the financing allocated for mitigation and adaptation. Evaluations by CPI (2023)⁷ suggest that in 2021/22 more than 90% of global climate finance was allocated for mitigation purposes, while adaptation finance accounted for less than 5% of the total amount of climate finance and 5% for dual purposes.

Adapting to the effects of climate change and responding to environmental challenges, including biodiversity protection, will require trillions of dollars in investments over the coming decade worldwide. The negative effects of climate change, environmental degradation and biodiversity loss as well as the burden of the financing costs will be significantly higher for developing countries, in particular least developed countries (LDCs) and small island developing states (SIDS).

Reducing this resource gap calls for improving access and optimizing the operations of the vertical climate and environmental funds (VCEFs). These funds, notably the Green Climate Fund (GCF), the Climate Investment Funds (CIF), the Adaptation Fund (AF), the Global Environment Facility (GEF) and its associated funds, are vital for supporting climate and

3. CPI (2023). Global Landscape of Climate Finance 2023. Available at: <https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2023/>.

4. UNFCCC Standing Committee on Finance (2022) Addendum. Mapping of available information relevant to Article 2, paragraph 1(c), of the Paris Agreement, including its reference to Article 9 thereof. Bonn: United Nations Climate Change. Available at: <https://unfccc.int/documents/620484>.

5. Clean energy investment is extending its lead over fossil fuels, boosted by energy security strengths - News - IEA

6. OECD (2022). "Biodiversity and development finance: Main trends, 2011-20", OECD Development Co-operation Working Papers, No. 110, OECD Publishing, Paris, https://www.oecd-ilibrary.org/development/biodiversity-and-development-finance_b04b14b7-en

7. CPI (2023) Global Landscape of Climate Finance 2023. Available at: <https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2023/>.

environment action in emerging markets and developing economies. They serve as channel for directing financial resources to countries most in need, facilitating the implementation of climate and biodiversity action plans and projects in alignment with the goals of international environment agreements. Despite accounting for a small share of international climate financing, these funds represent one of the largest sources of targeted multilateral catalytic finance for climate and the environment.

It is essential that these funds consider countries' needs, priorities and strategies to ensure country ownership and maximize the impact of investments. The scope, scale and speed of financing are crucial to maximize the impact of the VCEFs. It is critical that low-cost and easy to access finance is made available to Emerging Market and Developing Economies (EMDEs) and Least Developed Countries (LDCs) including Small Island Developing States (SIDS), which is important to advance support to mitigation and adaptation efforts. Tailored approaches that consider each country's unique circumstances, challenges, and development goals are vital for building capacity and strengthening institutions. Mutually beneficial partnerships and the empowerment of developing countries to lead their climate and biodiversity agendas are key to achieving meaningful progress towards a sustainable and resilient future.

It is also crucial for such funds to maximize synergies and effectively strengthen collaboration with Development Finance Institutions (DFIs) and Multilateral Development Banks (MDBs) by providing the right levels of conditionality and additionality and ensuring that finance is channelled in an efficient and consistent way. They should work as a system and enhance sharing knowledge and diagnostics tools, harmonize procedures, when possible, and support country platforms in order to shift focus to country-driven strategies and investment plans for system transformation. Likewise, it is important for such funds to continue maximising synergies between climate and biodiversity finance, and avoid trade-offs supporting e.g. nature-based solutions, further building on current efforts and improvements. These funds and DFIs also need to engage with domestic/ local organizations, which have better knowledge on the needs on climate projects, with a view to enhance capacity of these local organizations while also pursuing a better and faster access to finance needed for climate actions.

Despite significant progress in mobilizing green finance, obstacles persist in attracting private finance and facilitating access to global climate and environmental funds, especially for developing countries with significant limitations of technical capacity and domestic resource mobilization. Because different climate and environmental funds have differing accreditation and programming requirements, current mechanisms present fragmented and time-consuming pathways for entities to access these resources. This fragmentation is a source of considerable administrative effort and delays. Recognizing these challenges, this priority aims to optimize the operations of the International Environmental and Climate Funds to better deliver on their mandates. Providing a space for consensus building by all G20 members, this priority guides the discussion to focus on operational efficiency, streamlining processes and enhancing accessibility. Given the growing fragmentation and complexity of international climate and environment financial architecture, identifying ways to simplify the system is imperative to better serve beneficiaries and to attract private sector

co-financing. The VCEFs recognize this. Through a joint declaration, they have committed to working on complementarity and coherence between them, moving towards harmonizing their procedures to improve and streamline modalities of access to finance.⁸

To inform the G20 SFWG, an independent High-Level Expert Group (iHLEG) was established to conduct an independent review of the operations of the vertical environmental and climate funds. The iHLEG played a crucial role in addressing the operational efficiency and accessibility of these funds, providing recommendations to make their operations more efficient, enhance collaboration, and effectively mobilize private capital to fulfil their mandates and achieve significant outcomes. It was organized according to the Terms of Reference prepared by the Presidency and Co-Chairs and agreed upon by members.

The group comprised twelve experts with significant experience in sustainable finance, vertical funds operations, and innovative financial instruments. They were selected based on their extensive knowledge of the development landscape and their ability to provide independent insights.

The G20 Sustainable Finance Working Group welcomes the report on the independent review of the VCEFs, prepared by the Independent High-Level Expert Group (iHLEG), appointed by the Brazilian G20 Presidency and the Working Group. Monitoring of the effective implementation of the report's recommendations will be conducted over the next G20 presidencies in collaboration with the VCEFs and noting its voluntary nature. The work on the recommendations to advance the actions envisaged in the report will be consolidated in the upcoming G20 Sustainable Finance Reports.

8. See the joint statement by GCF, GEF, CIFs and Adaptation Fund at: <https://www.greenclimate.fund/statement/enhancing-access-and-increasing-impact-role-multilateral-climate-funds>

Chapter 2: Advancing credible, robust, and just transition plans

The SFWG published the Transition Finance Framework during Indonesia's G20 Presidency in 2022. The Framework provides a set of high-level principles and recommendations for policymakers and stakeholders to advance financing transitions to low-GHG economies. Transition finance, as discussed in the G20 Sustainable Finance Report of 2022, refers to financial services supporting whole-of-economy transitions towards lower and net-zero emissions and climate resilience in a way that is aligned with the goals of the Paris Agreement and the 2030 Agenda for sustainable development, as well as considering national circumstances.

The Framework puts forward transition finance principles grouped into five high-level pillars:

Pillar 1	Pillar 2	Pillar 3	Pillar 4	Pillar 5
Identification of transition finance activities.	Reporting of information on transition activities and investments.	Transition-related financial instruments.	Design of policy measures.	Assessing and mitigating negative social and economic impacts.

Transition plans by financial institutions and corporates are addressed under Pillars 2, 3 and 5. However, the Framework left significant scope to provide further detail. The 2022 G20 Sustainable Finance Report also included recommendations for improving the credibility of financial institutions' net-zero and sustainability commitments. Country transition plans, when available, as well as national or international initiatives on sectoral pathways, may help financial institutions and corporates to benchmark their progress.

The SFWG in 2024 has further advanced this work and has explored three key areas:

1. Developing a set of high-level G20, voluntary, and non-binding principles for transition plans to advance their design and implementation, as well as their interoperability and applicability across financial institutions and other corporations (Pillar 1, 2 and 3).
2. Reviewing existing definitions of the 'just' dimension of transitions and related tools to help assess and mitigate any negative social and economic impacts of financial institution and corporate transition activities and investments (Pillar 1 and 5).
3. Understand the applicability of 'Just transition' principles to the cement and steel sectors (Pillar 5).

A. Principles for Financial Institution and Corporate Transition Plans

Context

In 2022, the Framework identified transition plans under its principles-based approach to transition finance. Financial and non-financial firms are already using or are planning to use transition plans to take advantage of transition-related opportunities, manage sustainability-related financial risks, mobilize transition finance and inform market participants of their strategies. Firms may also use transition plans to support the credibility of voluntary net-zero commitments, and the SFWG provided recommendations on this use in 2022.⁹ The number of published transition plans is growing, with many firms globally developing and producing plans voluntarily. Far more firms indicate that they intend to develop a transition plan in the future, and some jurisdictions may require transition plans from certain firms. However, to date the development of transition plans by small and medium enterprises (SMEs) has been limited. Some jurisdictions, firms, standard-setting bodies, market-led initiatives and international organizations are developing transition plan frameworks, voluntary guidance and seeking to identify best practices.¹⁰

Shared perspectives emerge from these initiatives and market practices.¹¹ Transition plans are currently used as strategic tools and can include goals, actions, and accountability mechanisms, including specific practices, products, metrics, and targets. Transition plans can embed a long-term strategy for transition and help a firm mitigate risk and seize transition-related opportunities.¹² This has been recognized by long-term institutional investors, such as pension funds and some sovereign wealth funds, although mainly in advanced economies. Robust, credible and just transition plans can play a key role in reducing transition-washing risks and can also include information on reducing risks related to emissions lock-in, and delayed climate action. Transition plans may also include elements relating to adaptation to climate risk, especially in countries with high exposure to physical risks.

While shared perspectives have emerged, firms may also need to reflect specific requirements in their plans. For instance, banks, asset owners, asset managers, and insurers have different relationships with their clients and portfolio investments that should be recognized in guidance about engagement. Flexibility that allows some variation would therefore be an essential element for broad implementation of transition planning.

Transition plans may have multiple or different uses depending on their design and context. Taking best practices into account can potentially help firms and institutions to implement transition planning, identify risks and define their commitments, thus alleviating some of these challenges.

9. See 2022 G20 Sustainable Finance Report, Chapter II – Improving the Credibility of Private Sector Financial Institution Commitments.

10. Including, for example, the Basel Committee on Banking Supervision, the Financial Stability Board, the International Platform for Sustainable Finance (2022 and 2023), the Network for Greening the Financial System, and the OECD Guidance on Transition Finance (2022).

11. See OECD 2024 G20 SFWG input paper for a mapping of key elements of existing initiatives.

12. Some transition plan stakeholders such as the NGFS in its Stocktake report, distinguish between internal-facing process and external communications / disclosures meant to inform stakeholders, referring to “transition planning” as the former and “transition plans” as the latter.

Challenges

Despite significant advancements in transition plan guidance, several challenges have been identified in developing and implementing transition plans for financial institutions and corporates.

Difficulty in balancing credibility and consistency with the need to remain flexible and allow transition plans to incorporate firm- or jurisdiction-specific circumstances.

Jurisdictions have unique mandates, national strategies and local conditions that may influence the design and implementation of transition plans by firms. Some jurisdictions may encourage best practices through voluntary approaches, while others may impose mandatory requirements for certain firms. Importantly, some jurisdictions may have overall climate goals at the national or even sectoral level that may inform or directly guide firms' transition plans. Other jurisdictions lack such prescriptive goals, which impacts the number of assumptions that firms must make when drafting transition plans.

Challenges for cross-border operations/ interoperability. Financial institutions and corporates operating across multiple jurisdictions often face challenges due to divergences in jurisdictional requirements for transition plans. This can lead to increased costs for the firm and confusion for stakeholders, including end users of transition plans.

Challenges with assessing and measuring implementation progress. At present, transition plans are predominantly qualitative, complicating the comparison of plans across firms and the tracking of objective progress over time. Although these plans often include accountability mechanisms, such as metrics and targets, there is no universal consensus on which metrics and targets should be prioritized by financial institutions and corporates.

Challenges in incorporating jurisdictional goals, priorities, and strategies in the individual transition plans of companies. Jurisdictions have varying priorities and strategies for achieving the Paris Agreement and the Sustainable Development Goals (SDGs), adding complexity to the process of developing and comparing transition plans. For instance, jurisdictions may prioritize different sectors for transition in the context of their climate strategies in the near-term. Additionally, some jurisdictions may emphasize climate adaptation alongside climate mitigation in their guidance or national agenda. The existence of carbon pricing and non-pricing policies could impact the behaviour of firms and the financial services, and the ambition, quality, and output of transition plans.¹³

Longer than usual planning horizon and handling uncertainty. With actions to achieve the goals of the Paris Agreement stretching over several decades, companies may face considerably longer-than-usual strategic planning horizons. Naturally, as the length of the horizon increases, so does uncertainty over future outcomes, technologies, sectors, etc.

13. Parry, I. W. H., Williams, T., & Coady, D. (2019). Fiscal Policies for Paris Climate Strategies—From Principle to Practice. International Monetary Fund. IMF Working Paper WP/19/132. Retrieved from <https://www.imf.org/en/Publications/Policy-Papers/Issues/2019/05/01/Fiscal-Policies-for-Paris-Climate-Strategies-from-Principle-to-Practice-46826>

Lack of widely accepted guidance on assumptions and practices used in transition plans, especially for SMEs. Transition plans may include many assumptions for setting climate and environmental goals, analysing climate-related risks and adopting sector-specific technical transition pathways. Moreover, firms may face challenges translating international reference scenarios into meaningful transition pathways that meet firms' business planning needs. Sectoral transition pathways may be lacking, particularly in emerging markets. In some cases, the lack of precise, actionable definitions, and full methodological transparency lead to transition-washing risks. There is a lack of clarity on how best to engage in transition finance and climate solutions.

Data limitations and the lack of expertise in processing the data. Data quality and availability remain significant challenges in sustainable finance, including transition plans. One example is the general difficulty gathering, interpreting, and relying upon information about emissions produced in a firm's supply chain, also known as its Scope 3 emissions. For financial institutions, Scope 3 emissions, which are mostly in the form of financed emissions, typically represent the largest share of total emissions. Data limitations and the lack of expertise to process the data may impede a firm's ability to report transition plan metrics and demonstrate progress towards transition targets.

Recommendations

In 2024, the SFWG worked to develop a set of high-level principles for transition plans for both financial institutions and corporates. These principles aim to help promote emerging good practices for transition plans, consistent approaches, and encourage their development across jurisdictions, allowing for easier interpretation across firms. The SFWG recognizes the challenges outlined above and that jurisdictions may also have different approaches to transition plans, stemming from their mandates and national circumstances.

The SFWG notes that transition plans for financial sector institutions and corporations are required in some jurisdictions and are voluntary in others. Jurisdictions may have different requirements with respect to disclosure of transition plans. Firms should act in accordance with fiduciary, regulatory, and legal obligations.

Recommendation 1: The SFWG recommends the following high-level principles for "credible, robust, and just" transition plans for financial institutions and corporations, which may be adopted on a voluntary basis. The principles are intended to be sector-neutral and a communication of good practice.

HIGH-LEVEL PRINCIPLES ON “CREDIBLE, ROBUST, AND JUST” TRANSITION PLANS

<p>Principle 1 Goals and objectives</p>	<p>Transition plans should clearly articulate a firm’s climate goals and objectives, for responding to and/or contributing to the transition towards green and low-GHG economies, such as a net-zero commitment, and include targets and metrics related to the plan’s goals and objectives, differentiating, if necessary, between different target audiences and purposes of the plan.</p> <p>Transition plan emission reduction goals should be aligned with NDCs and the Paris Agreement, while also considering national development strategies. Transition planning should take a defined risk-based and/or strategic approach, and the resulting plan should: include steps/actions to decarbonize the firm’s activities and value chain covering scope 1, scope 2, and, when material and as it becomes possible, scope 3 emissions; include accountability mechanisms to measure progress; respond to the firm’s climate-related risks, including transition and physical risks; include information about risks related to GHG emissions-intensive lock-in; take advantage of transition-related opportunities; or a combination thereof.</p>
<p>Principle 2 Implementation strategy</p>	<p>Transition plans should include an implementation strategy that integrates their objectives into core decision-making processes and business planning, including financial planning. These objectives should also be embedded into relevant aspects of a firm’s business operations and, to that end, the firm should identify the key decarbonization levers and actions to reach those objectives. This may include leveraging existing or creating new products and services or establishing policies. For financial institutions and corporates making investments, transition plans should consider, as appropriate, practices such as transition finance, climate solutions, and actions related to adaptation and to the environment.</p>
<p>Principle 3 Governance and risk management</p>	<p>Transition plans should be embedded into firms’ governance and risk management systems and define governance-related policies, procedures, and processes concerning transition goals and activities, including, where appropriate, risk appetite. A firm’s governance structure should allow for regular review of and accountability for its transition plan by the board and senior management. The transition plan should also be updated to incorporate material scientific, technological, regulatory or methodological developments over time, address implementation challenges, and identify and mitigate risks to the plan.</p>
<p>Principle 4 Engagement with value chains</p>	<p>Transition plans should include firms’ strategies to engage with their value chains and, as appropriate, other stakeholders such as governments, regulators, civil society, and public sector organizations. This engagement may include encouraging and supporting companies in the value chains of financial institutions and corporates to align with appropriate sectoral decarbonization pathways, supporting those companies in developing their own transition plans and making progress towards the goals of those plans suited to their individual sectors and starting points.</p>
<p>Principle 5 Targets, metrics and monitoring</p>	<p>Transition plans should include credible short-, medium-, and long-term targets and verifiable metrics. Firms should monitor progress against those targets. These targets should have explicit underlying assumptions and be set with reference to clear methodologies and the dependencies which will influence firms’ achievements on their targets. Targets and sectoral pathways should be science-based and may reflect national circumstances. Targets should appropriately be tailored to specific sectors, portfolios, or asset classes. Firms may consider both backward and forward-looking metrics.</p>



HIGH-LEVEL PRINCIPLES ON “CREDIBLE, ROBUST, AND JUST” TRANSITION PLANS

Principle 6 Transparency and disclosure

Transition plans should bring credibility to the transition finance landscape by providing an appropriate level of transparency and disclosure to include qualitative and quantitative information with respect to progress toward plausible targets and objectives. To further enhance transition plan credibility, any developments that lead to changes in a firm’s transition plan or any changes to key assumptions should be clearly explained. Where relevant and aligned with jurisdictional frameworks, firms could obtain assurance and other forms of external review from an independent party with regards to the accuracy, feasibility and other aspects of their transition plans.

Principle 7 Just transition considerations

Transition plans should demonstrate firms’ understanding of how their transition planning activities may impact different stakeholders, with a focus on just transitions, as defined by national governments and as applicable. This may include how firms put safeguards in place to account for unintended consequences, reach out to affected stakeholders, and consider emerging frameworks and resources to mitigate negative impacts and maximize opportunities for positive social impact.

Recommendation 2: Relevant international organizations and initiatives should identify comparable metrics that support financial institutions and other corporates with transition finance or climate solution investments to communicate transition plan progress credibly and consistently to stakeholders, while allowing for flexibility and a diversity of approaches among firms. In developing the set of metrics, international organizations should consider calculation methodologies for producing the metrics, as well as benefits of the information each metric provides relative to the cost or difficulty of producing the metric.

Recommendation 3: Relevant international organizations, DFIs, initiatives and networks should coordinate their efforts to support firms that are developing transition plans or intending to do so, including by providing capacity-building services for firms with demonstrated need, supporting efforts to improve transparency, and access to tools, technologies and methodologies (also suitable for developing countries), as well as offering platforms for knowledge and data sharing.

Recommendation 4: Jurisdictions should support the uptake of transition plans by financial institutions and other corporates. Jurisdictions can create enabling environments, such as through the use of incentives and other policy levers, the development of capacity-building tools, producing guidelines or adopting mandatory approaches. As jurisdictions and relevant international organizations develop standards or guidelines for transition plans, they should strive for comparability and interoperability, informed by the SFWG’s voluntary principles, while preserving flexibility that considers country-specific circumstances.

B. Just Considerations in the Low-GHG Transitions and Transition Plans

Context

Just transitions involve maximizing the social and economic opportunities arising from climate and environmental action for the whole society, while minimizing and carefully managing any challenges through stable economic development, and effective social dialogue among all groups impacted, including respect for fundamental labor principles and rights. The G20 Transition Finance Framework outlines five core elements for transition finance, including Pillar 5, on assessing and mitigating the negative social and economic impact of transition activities and investments, through its principles 20, 21 and 22. Within the scope of Pillar 1, the “just” element was anticipated by Principle 6, providing for the inclusion of strategies for orderly, just and affordable transition.¹⁴

The Paris Agreement’s preamble notes the imperatives of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities.¹⁵ In general, the concept of just transitions emphasizes placing the well-being of people, i.e., workers, producers, consumers, as well as communities, at the core of the climate change response. The transition to low-GHG economies should address environmental and social needs, provide equitable benefits, generate income and employment, upskilling & reskilling of the workforce, promote opportunities for social advancement and socioeconomic dignity for the most vulnerable, and not reproduce or deepen gender, ethnic-racial, social class, and generational inequalities.

There is no one-size-fits-all model for just transitions, reflecting the various existing interpretations of the ‘just’ dimension of transition finance. The contributions and impacts of climate change and environmental action are not equally distributed across countries and some vulnerable groups and sectors may be more susceptible to these impacts. As such, any work on Pillar 5 must focus on the applicability of “just” transition approaches across different sectors, economies and transition pathways while allowing for practical differences among country structures (e.g., employment law).

Actions to support just transitions involve both the public and private sectors and will need to reflect both short- and long-term planning. Promoting public policies that integrate the social, economic and environmental dimensions of the transition is crucial to delivering both mitigation and adaptation measures. Successful policies must be coherent and consider the interconnected impacts of the changes needed to achieve sustainable, low-GHG emission and resource efficient economies. Civil society and business are encouraged to participate in discussions to share what effects policies have in the short- and long-term and contribute to the shaping of supporting and mitigating measures. Public policies and action plans to define and implement the needed mitigation measures will be key.

14. The Transition Finance Framework was endorsed under the Indonesian Presidency in 2022. You may find it at <https://g20sfwg.org/wp-content/uploads/2023/12/TFF-2-pager-digital.pdf> or in the Sustainable Finance Report of 2022, at <https://g20sfwg.org/wp-content/uploads/2022/10/2022-G20-Sustainable-Finance-Report-2.pdf>.

15. UNFCCC (2015). The Paris Agreement, https://unfccc.int/sites/default/files/resource/parisagreement_publication.pdf.

The private sector may also play a direct role, through voluntary actions or in response to certain policies and/or regulations in some jurisdictions. Some research shows that an increasing number of firms have mentioned just transitions in their corporate reports.¹⁶ However, it was also found that integration of just transitions considerations in corporates' climate and environment actions remained mostly aspirational, with few companies demonstrating meaningful implementation beyond commitments. Other research finds that only 6% of 308 firms assessed are partially planning for just transitions¹⁷. This drops to 0% when reviewing if companies have social dialogue mechanisms¹⁸ in place and time-bound targets to protect workers, consumers, and suppliers from the impacts of low-carbon transitions.

Another report stressed that just transition considerations should not be used to slow emission reductions, while noting the different financial capacities of companies to decarbonize.

The International Labour Organization (ILO) stated that the review of existing frameworks and initiatives concluded that the transition finance ecosystem still places a relatively low, although increasing, importance on the social aspects of the low-GHG transition.¹⁹ Moreover, detailed guidance and considerations around the proportionality of requirements according to local development contexts are often not reflected. However, financial institutions may use existing tools, accompanied by internal capacity development, to meaningfully integrate social impacts and opportunities that will make transition finance (more) just.

Although just transition considerations have been limited, especially at the transition planning level, global financial markets have developed new instruments including the emergence and growth of sustainability-linked loans (SLL) and sustainability-linked bonds (SLB) with key performance indicators (KPIs) linked to elements like job creation.

Challenges

Existing research and market practices have shown various challenges to the implementation of just transitions, including:

Challenges in providing general guidelines on just transitions while taking national and local circumstances into account. Just transitions may look very different across jurisdictions, reflecting effective varying levels of development, energy and industry mixes, and institutional arrangements. For instance, while general guidance on just transitions requires respect for labor rights and effective social dialogue, it must also incorporate practical differences among labor laws and labor market structures among countries. The relative responsibilities of the public and private sectors may vary among jurisdictions, partly due to those different laws and structures.

16. OECD (2024). Key Issues Note for the 2024 G20 SFWG.

17. WBA & LSE (March 2023). How finance can unlock corporate action on just transition.

18. Examples of social dialogue activity include mutual information, open discussion, concertation (on-going tripartite dialogue), exchanges of opinions, consultation and negotiation (agreements /common opinions).

19. ILO (2024). Enhancing the social dimension in transition finance: towards a just transition.

Lack of operational definitions of just transitions and common measurement of progress. Financial institutions and corporates face difficulties due to the lack of operational definitions and comprehensive indicators for just transition. These make it challenging to translate commitments into actionable steps and to develop relevant financial products. More specific guidance and a set of general indicators that can be used for strategy formulation and product design could enhance implementation and measurement. The creation and improvement of tools and methodologies to allow assessment of the social and economic impacts of just transitions are crucial.

Lack of sufficient financial incentives for some relevant stakeholders, especially small corporates and financial institutions, to facilitate just transitions. If overlooked, just transition considerations related to the workforce and social issues can have negative financial implications for financial institutions and corporates. However, greater financial incentives and awareness could promote greater actions from some firms, which could be in the form of realization of “market value” or incentives for activities supporting of just transitions.

Lack of capacity to engage in transition processes. Just transitions go beyond a set of commitments; they require specific actions to fulfil them. Some firms may not know what elements to consider and how to track progress despite their intentions and good will. Therefore, the lack of relevant capacity may also lead to insufficient or ineffective implementation of just transition programs or integration of just transition into firms’ transition actions and processes, highlighting the importance of capacity building among enterprises and guidance from relevant national authorities.

Good practices are often context-specific and hard to replicate. Providing a demonstration pilot can be useful to illustrate the success of the transition plan for firms and SMEs to replicate. However, successful approaches to just transitions may be highly dependent on country-specific, sector-specific, or other contextual factors and may be difficult to replicate, emphasizing the need for context-specific solutions.

Recommendations

Based on the challenges identified above and inputs from knowledge partners, the SFWG has determined the following general recommendations that may be voluntarily adopted to facilitate financial institutions and other corporates in supporting just transitions. While a just transition is primarily the responsibility of jurisdictions, which can deliver this through enabling environments, long-term and transparent sector-specific strategies, these recommendations are classified into different stakeholder groups and are based on their respective roles and responsibilities. Firms should act in accordance with their fiduciary, regulatory, and legal obligations.

Recommendations for jurisdictions

Recommendation 1: Develop frameworks to operationalize just transitions and provide clear guidance considering local circumstances, when applicable. Jurisdictions may consider fostering an enabling environment and establishing guidelines to facilitate

the inclusion of just considerations in transition plans. Just elements could consider national and subnational legislation, the local climate goals for both mitigation and adaptation, their short- and mid-to-long term strategies, economic structure, social and environmental concerns. The policymakers may identify the essential elements necessary for their domestic transition to be fair, inclusive and sustainable, to protect workers' rights, fostering social equity, and providing access to relevant information to all stakeholders, enabling informed participation and decision-making throughout the transition process.

Recommendation 2: Develop guidance and integrated policies to orient and encourage financial institutions and other corporates, including SMEs to assess and mitigate potential adverse economic, environmental and social impacts when developing transition plans. The guidelines and policies may include comprehensive socioeconomic and environmental impact assessments. By identifying potential positive and negative impacts of the transition at early stage, the financial institutions and corporates can better plan and implement strategies that minimize impacts and promote sustainable outcomes, in conjunction with public sector just transition actions.

Recommendation 3: Enhance capacity building for and engagement with financial institutions and corporates. Capacity building should take into consideration the needs and approaches in a particular jurisdiction and the topics could include financial management, risk assessment, and stakeholder engagement in implementing just transitions. By equipping these firms with the necessary knowledge, skills, and tools, and by engaging with stakeholders, they can better navigate the complexities of transitioning while ensuring that social justice, fairness, and inclusivity are effectively embedded throughout the process. In this regard, jurisdictions should aim to support the enhancement of coordination among all relevant stakeholders and provide tailored capacity-building support.

Recommendations for financial institutions, DFIs and corporates

Recommendation 4: Enhance consultation and coordination among relevant stakeholders to help address, as appropriate, challenges related to social and just elements that financial institutions and corporates are facing when implementing transition plans. Financial institutions and corporates should take into consideration a comprehensive approach including robust stakeholder engagement in terms of just transition. Financial institutions and corporates may work collaboratively with a diverse range of stakeholders, including public sector agencies, civil society groups, and other private sector actors to facilitate more effective and equitable transitions.

Recommendation 5: Development finance institutions, especially public development banks, should work with clients (especially SMEs), as appropriate, in developing and implementing strategies for just transitions, including by providing financial support, capacity building, and the use of innovative financial instruments subject to the right conditionalities. This engagement should involve providing derisking facilities to mitigate potential investment risks and attract private sector participation in just transitions, while remaining attuned to local development outcomes. Additionally, these development banks should continue to extend financial support and leverage private sector resources to the greatest extent possible to fund critical projects and initiatives aimed at ensuring social equity and environmental sustainability.

Recommendation 6: Financial institutions, as appropriate, may consider developing innovative financial products and services to support firms that are developing and implementing credible and just transition strategies, while remaining consistent with a risk-based approach. This might involve offering preferential financing terms, creating dedicated funds, or providing performance-linked incentives that reward companies for successfully integrating and executing just transition measures. These financial tools can help accelerate the adoption of sustainable practices and align financial support with the goals of equitable and effective transitions.

Recommendations for international organizations, initiatives, and networks

Recommendation 7: Share best practices and case studies on just transitions that can be considered under different circumstances and for different industries, and work on appropriate comparable indicators to showcase efforts. This effort involves identifying, documenting, and communicating successful strategies and initiatives that have effectively managed the adverse impacts of low-GHG transitions, as well as transition strategies in traditional industries, and developing indicators to showcase efforts, potentially increasing the credibility of just transitions. In many existing cases, the elements that determine the success of just transitions are highly contextual and hard to replicate in other circumstances. By compiling these examples, a valuable repository of knowledge can be developed to inform other just transitions around the world. These documented practices can serve as a blueprint for policymakers and stakeholders in different regions, offering insights into the methods that have proven effective in similar situations.

C. Applicability of just transition considerations into the cement and the steel sectors

The SFWG also explored just transition considerations in specific sectors. Cement and steel were chosen for their economic importance and for being hard-to-abate sectors.

Cement

The cement sector is a significant contributor to global CO₂ emissions,²⁰ largely due to the chemical processes involved in its production.²¹ As the industry transitions to low-carbon technologies, it faces challenges such as the need for significant capital investment and a reliable supply of renewable energy. Green cement production is expected to increase production costs by 40-120%,²² though this represents only a minor percentage of total construction costs. The transition will require a workforce skilled in engineering, data analysis, and other green technologies, highlighting the importance of upskilling and reskilling initiatives.

Steel

The steel sector is a major contributor to global CO₂ emissions,²³ primarily through coal-based blast furnaces. The transition to low-carbon production methods, such as those involving green hydrogen, presents both challenges and opportunities. The shift requires substantial capital investment and access to renewable energy. As emerging markets are expected to see significant growth in demand for steel, the sector faces a critical juncture for reinvestment in cleaner technologies.

Just transition considerations for cement and steel

According to the ILO,²⁴ the transition of cement and steel industries presents risks and opportunities, particularly concerning employment and social equity. The adoption of new technologies will likely change the workforce profile, increasing the demand for specialized skills in engineering, chemistry, and energy efficiency. This shift may result in job loss, particularly among operators and technicians, necessitating robust social protection measures and skills development initiatives. Social protection measures like unemployment benefits and retraining programs, in line with national policies, would help workers adapt to the changing job market.

The geographical relocation of cement and steelmaking facilities to areas with abundant renewable energy and supportive regulatory frameworks is anticipated, potentially stimulating local economies through industrial activity and job creation. However, these transitions pose challenges for local economies in regions heavily reliant on traditional cement or steel production, including the coking coal supply chain, potentially leading to economic downturns.

20. Steel and cement are the principal sources of industrial emissions, accounting for over 7% and 6% of global CO₂, respectively, in 2022. CBI (2024). [G20 SFWG input paper: The role of policymakers in mobilising private finance to ensure a credible and just transition in steel and cement](#).

21. ILO (2024). [Enhancing the social dimension in transition finance: towards a just transition](#) (p8).

22. The Mission Possible Partnership, RMI, Energy Transitions Commission, World Economic Forum (2023). [Making net-zero concrete and cement possible](#).

23. See the reference from footnote 20.

24. ILO (2024). [Enhancing the social dimension in transition finance: towards a just transition](#) (p8).

Chapter 3: Analyzing implementation challenges related to sustainability reporting standards, including for SMEs and EMDEs

Context

There is a growing demand both from stakeholders and companies for greater transparency, comparability, standardization and interoperability of companies' sustainability disclosures. International standard setters and jurisdictional regulatory authorities have responded to this demand by publishing standards for reporting on these themes. Implementing sustainability reporting standards represents an effort towards the development of reliable information concerning the risks, opportunities, and impacts, as appropriate, related to climate change and other sustainability issues.

The first two IFRS International Sustainability Standards Board (ISSB) Standards (IFRS S1 and S2) were published in June 2023 and welcomed in the G20 New Delhi Leaders' Declaration. The Declaration also states that it is important to take country-specific circumstances into account, and that flexibility is preserved in the implementation of these standards. IFRS S1 and S2 were endorsed by the International Organization of Securities Commissions (IOSCO) in July 2023, calling on members to consider ways in which they might adopt, apply or otherwise be informed by the ISSB within the context of their jurisdictional regulations and standards, in a way that promotes consistent climate-related and other sustainability-related disclosures for investors. IOSCO also welcomed ISSB's announcement of guidance material for gradual take-up of the ISSB Standards as reflected in the recently published ISSB Inaugural Jurisdictional Adoption Guide, which will enable the progressive participation of those issuers and jurisdictions that find the full immediate implementation of the ISSB Standards challenging. Globally, jurisdictions accounting for more than 50% of global GDP, 40% of global market capitalisation and 40% of global greenhouse gas emissions have committed to adopting the standards or are moving towards introducing them, which may put an indirect reporting burden on SMEs.²⁵

In addition to adopting, applying or otherwise being informed by the IFRS' S1 and S2, many jurisdictions have been putting in place rules for climate-related or other sustainability-related reporting guidelines or requirements of their own, including before the ISSB standards were published. The UNCTAD Global Finance Observatory²⁶ reports that by the end of 2023, 35 leading economies, including all G20 members, had implemented or were in the process of implementing 516 sustainable finance-dedicated policy measures; and sustainability disclosures accounted for nearly 37% of these measures.

Reporting rules may use measures such as the principle of proportionality and transition reliefs which allow for a gradual phase-in of obligations to make compliance burdens proportional to firms' characteristics, as appropriate and in line with the country-specific circumstances. However, even where proportionality of burden has been considered in the

25. IFRS - Jurisdictions representing over half the global economy by GDP take steps towards ISSB Standards | (ifrs.org).

26. Sustainable finance regulations platform | United Nations (gsfo.org).

development of sustainability reporting regulations, sustainability reporting requirements in some jurisdictions may result in indirect reporting obligations in supply chains.

Participation in global supply chains and access to funding may require SMEs to comply with sustainable practices and report accordingly, even when not legally obliged, and to report on the sustainability aspects of their individual investments such as vehicles or equipment. Companies, including SMEs, which are able to share certain sustainability information with business partners, could benefit more from some of the commercial opportunities accompanying the transition to a sustainable economy.

However, the coexistence and dissemination of information under different disclosure frameworks and reporting requirements may lead to increased complexity, cost and burden for SMEs, which generally have less technical capacity, expertise and fewer resources than larger companies to understand, prepare and report such information. Some of these key challenges, where in consistency with domestic legal frameworks, can be partly mitigated through a focus on the G20 Sustainable Finance Roadmap Action 6, “Improve coordination at the regional and international level to facilitate comparability and interoperability” and Roadmap Action 8, which is to improve data quality and accessibility for the financial system.

Some jurisdictions have started to develop voluntary, simplified and harmonised standards for SMEs in order to facilitate their participation in the transition of the economy and accommodate SMEs that are facing multiple requests for sustainability information. Some jurisdictions have additionally distinguished between listed and non-listed SMEs on public exchanges, subjecting them to different disclosure requirements.

Roadmap Action 9 encourages ongoing work to better understand the challenges of sustainability reporting for SMEs and emerging market economies. It considers ways to address them, including more efficient use of available information, leveraging digital technologies, and enhanced capacity-building efforts. Action 6 welcomes the development of a global framework (e.g., ISSB) for sustainability reporting standards while allowing flexibility for interoperability with national and regional requirements and taking into account the need to avoid disproportionate burdens on SMEs.

Challenges

Based on the inputs from knowledge partners and G20 members, the SFWG has identified the following challenges, including those challenges specific to SMEs and EMDEs, in implementing sustainability reporting standards. These challenges include but are not limited to:

Cost of providing required information either through compliance requirement or to meet value chain requirements. Many specific policies have included proportionality for SMEs, but the required level of information granularity varies across jurisdictions. SMEs have relatively limited capabilities or may find it too costly to access, gather and aggregate the necessary data to meet varying requirements. Hence, solutions that adapt data requirements to EMDEs and SMEs should contemplate this.

Lack of infrastructure and reliable data: Some jurisdictions may currently lack the necessary infrastructure to produce reliable and publicly available quality data on sustainability, particularly regarding climate change. SMEs and some firms in EMDEs can be particularly constrained in data-gathering capacities and often lack adequate data infrastructure.

Lack of technical capacity: SMEs and some other firms in EMDEs may face greater capability challenges regarding human and financial resources. Sustainability disclosure and reporting requirements that are relevant for preparation and provision of sustainability information involve various actors, including preparers, regulators, auditors, and trainers. All of them need to face a steep learning curve and commit themselves to continuous study to keep abreast of an ever-growing set of standards, including international sustainability standards in different areas and for different entities. Lack of capacity, expertise, and knowledge could pose challenges for SMEs.

Implementation challenges: Implementing sustainability reporting standards in a proportional and flexible phasing-in approach involves adapting the baseline standards to fit the specific context, scale, and resources of corporates, especially SMEs. This must be done while maintaining the integrity and comparability of the reporting, which can be challenging for smaller firms with limited resources.

Levels of disclosure: Reporting scope 3 can be particularly complex due to its broad range of indirect emissions sources and the impact it can have on the production value chain, including potentially increasing in transaction costs and going beyond domestic jurisdictional requirements. However, doing so can bring various benefits, such as gaining a more comprehensive understanding of environmental impacts across the entire supply chain, improving accountability, and identifying opportunities for emissions reductions and efficiency improvements. Transition reliefs built into standards such as the IFRS S2 allow for the omission of some disclosures for a limited amount of time.

Differences in reporting requirements: Sustainability reporting requirements remain significantly different across jurisdictions, with requirements sometimes/often depending on their specific needs and priorities including different approaches in terms of materiality, choice of sustainability topics, assurance features, etc. This lack of coherence can create confusion and complexity for firms, especially SMEs, as they navigate and comply with divergent needs. Lack of interoperability across jurisdictions can be particularly challenging particularly for SMEs and firms in EMDEs, if regulatory environments differ significantly from international norms.

Costs associated with technology and digitalization to promote disclosure. The integration of technology and digitalization can facilitate and streamline climate disclosures and reporting for financial institutions and lower compliance costs in the longer term. While these advancements promise more accurate data collection and enhanced transparency, their implementation may require substantial capacity building and upfront investment in new technologies, human resources and infrastructure, which may become a barrier for SMEs and firms in EMDEs.

Recommendations

Recommendation 1: Relevant country authorities and standard setters should, where consistent with domestic legal frameworks, consider reasonable adjustments that accommodate SMEs keeping in mind the need for internationally reliable, comparable and recognized information along the supply chain/across firms. These adaptations may include phase-ins and provide clear and practical guidance or guidelines to support the content, modalities, and frequency of these reporting requirements, under jurisdictional or other relevant standards. If allowed under jurisdictional frameworks, proportionate and phased approaches to assurance requirements for SMEs may be used to allow sufficient time for SMEs to implement new reporting obligations. Authorities may consider exemption or adoption relief for some SMEs.

Recommendation 2: Relevant standard setters and international organizations should seek to understand the implications for SMEs of sustainability reporting obligations arising from their supply chains, where consistent with domestic legal frameworks. SMEs could, whenever possible, be encouraged to participate in consultations related to standardization, promoting interoperability and other relevant processes for sustainability disclosure and reporting requirements. When feasible, government or relevant domestic regulators/standard setters could consider facilitating SMEs to have affordable tools to track and develop their carbon emission, so they have an ability to design a proper transition.

Recommendation 3: Relevant authorities, organizations, platforms, financial institutions and technology providers could consider using digital technologies to address resource scarcity and reduce the burden of sustainability reporting as needed to support SMEs and firms in EMDEs. These technologies could help SMEs to provide information to their customers/ clients; address key data gaps, enhance data accessibility and reduce the management cost of sustainability reporting, without diminishing its quality, comparability and credibility of data. For example, if permitted and feasible without any confidential information, an integrated system or shared database might be helpful for reducing reporting burdens, particularly if each participating firm can utilize the data that other firms are reporting. Whenever applicable, the use of low-cost or open-source solutions could be encouraged. In addition, the use of proxy data could be considered and facilitated until more reliable data is more readily available.

Recommendation 4: Relevant jurisdiction authorities, international organizations, standard-setters, initiatives, networks, and other stakeholders may promote activities and initiatives that build the skills and technical capacity of SMEs and firms in EMDEs including creating awareness for sustainability reporting. Such awareness raising and capacity building should have adequate support, as appropriate. Some large corporates and financial institutions may themselves be well positioned to provide technical support to and build capacity of their value chain partners. Organising cross-border peer-learning amongst SMEs could also leverage lessons learned and build up capacity. Further, certification courses can help users to familiarise themselves with the respective standards.

Recommendation 5: Relevant jurisdiction authorities, international organizations, standard-setters, initiatives, networks, and other stakeholders when developing voluntary reporting standards specifically for SMEs should, where appropriate and considering international standards such as ISSB, seek for comparability and interoperability, while maintaining flexibility, including with the relevant reporting frameworks of larger corporates and financial institutions. In order to improve comparability as well as to avoid greenwashing, relevant authorities of EMDEs could consider endorsing or adapting to their own particular circumstances leading voluntary reporting standards and promote recognition and application by their respective public and private stakeholders.

Chapter 4: Financing Nature-Based Solutions²⁷

Context

Nature, biodiversity, and ecosystem services are critical to human well-being and the economy. Nature is what is living in the biosphere, in its diversity, abundance, functional interactions with one another and also with the abiotic parts of the Earth's system, such as climate.²⁸ Biodiversity includes variability within and between species and of ecosystems; it contributes to the resilience of nature.²⁹ Ecosystem services are the benefits that people obtain from using natural ecosystems, from generating the air we breathe, filtering water, and providing nutrition, to regulating the climate and offering recreation. Nature, biodiversity, and ecosystem services are essential to the sustainable development of the global economy because they support e.g. food systems, public health, and climate change mitigation and adaptation efforts.

Nature and biodiversity are being lost at an unprecedented rate. Around one million species face extinction, many within decades – a rate of tens to hundreds of times higher than the historic baseline.³⁰ The need for action to bend the curve of nature loss is urgent. Any delay makes it more difficult to restore nature, jeopardizing the economic and political feasibility of mitigating and adaptation measures.

The policy actions and financial models that can mobilize finance at scale to restore nature and biodiversity are different than those to address climate change. Climate change is primarily caused by greenhouse gas emissions, while nature and biodiversity loss is driven by land conversion and changes in sea use, overuse of natural resources, and pollution as well as climate change. These challenges intersect in a vicious cycle: climate change catalyses nature and biodiversity loss, while the loss of nature and biodiversity turns carbon sinks into carbon sources and eliminates natural infrastructure that supports resilience to climate change.³¹ There are many interventions that address elements of both challenges at once. For example, restoring coastal mangroves can sequester carbon, combat flooding, sustain animal life, and filter damaging nutrient pollution from entering the ocean – while supporting fishery and tourism industries.

Nature-based Solutions (NbS) have emerged as important actions to tackle climate change and preserve ecosystem services while delivering social, economic, and environmental

27. The work being done in Priority 4 considers the United Nations Environment Assembly definition of Nature-based Solutions.

28. This definition is taken from the IPBES glossary, available at <https://www.ipbes.net/glossary-tag/nature>.

29. According to the Convention on Biological Diversity (CBD), "Biological diversity means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems." The definition may be found at <https://www.cbd.int/convention/articles/default.shtml?a=cbd-02>.

30. IPBES (2019): Global Assessment Report on Biodiversity and Ecosystem Services. E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn. 1,148 pages.

31. To learn more, see the UNFCCC Technical Brief "Promoting Synergies Between Climate Change Adaptation and Biodiversity", available at https://unfccc.int/sites/default/files/resource/UNFCCC-NWP_synergies_NAP-NBSAP_technical-brief.pdf.

benefits aligned with the goals of the Paris Agreement, of the 2030 Agenda, of the Convention on Biological Diversity (CBD), and of the Kunming-Montreal Global Biodiversity Framework as well as the United Nations Convention to Combat Desertification (UNCCD) goal on land degradation neutrality. The United Nations Environment Assembly (UNEA), through Resolution 5/5³² in March 2022, formally defined NbS as “actions to protect, conserve, restore, sustainably use and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems which address social, economic and environmental challenges effectively and adaptively, while simultaneously providing human well-being, ecosystem services, resilience and biodiversity benefits”. This definition underscores the critical role of NbS in meeting the objectives of the Paris Agreement, the CBD, the Kunming-Montreal Global Biodiversity Framework, and advancing the broader SDGs. At the same time, it is necessary to acknowledge that there are other approaches to use the potential of nature to address environmental and climate challenges (Ecosystem-based Approaches).

An effective response to biodiversity loss requires shifting incentives in key sectors, such as agriculture, construction, forestry, fishing and mining. In this context, NbS can be efficient and effective when designed in a country context-specific manner with participation of the local community. Despite the growing recognition of NbS’ multi-faceted benefits and importance in addressing a multitude of global challenges, the current level of investment in these solutions remains low. Market research on financial flows and the financing needed to protect, restore, and conserve nature and biodiversity varies, partly due to a lack of comprehensive data on the full “value of nature”. For example, according to Goal D of the Global Biodiversity Framework, the world is underinvesting in biodiversity conservation financing by approximately \$700 billion per year.³³ Meanwhile, the 2023 State of Nature Finance report states that annual finance flows from public and private sources that have direct negative impacts on nature are estimated at almost US\$7 trillion per year. Policy coherence in the design of public and private finance will be critical to ensure that financial flows that harm nature do not undermine the benefits of nature-positive finance.

Currently, most NbS projects are financed by public and philanthropic funds. According to the 2023 State of Finance for Nature Report, NbS received roughly US\$200 billion worldwide in 2022.³⁴ Of this amount, 82% (US\$165 billion) corresponded to public finance, while private funding for NbS accounted for US\$35 billion (18%). Although there are often strong business cases for investment in NbS such as those related to sustainable agricultures, fisheries and aquaculture, eco-tourism, or green-grey infrastructure,³⁵ gaps in transparency, knowledge and capacity, and structural market barriers have limited private sector investment. Increasing awareness of existing tools and business cases for using them among private sector financial institutions will be critical for promoting investment.

32. UN Environment Assembly, United Nations Environment Programme. (2022). Nature-based solutions for supporting sustainable development. UNEP/EA.5/Res.5. Link: [Information on reports and updates by the Technology and Economic Assessment Panel \(unep.org\)](#).

33. Financing Nature: Closing the Global Biodiversity Financing Gap (2020). <https://www.paulsoninstitute.org/conservation/financing-nature-report/>.

34. United Nations Environment Programme (2023). State of Finance for Nature: The Big Nature Turnaround – Repurposing \$7 trillion to combat nature loss. Nairobi. <https://doi.org/10.59117/20.500.11822/44278>.

35. E.g., in the [WEF New Nature Economy Report](#) suggesting 15 nature-positive transitions that could generate up to USD 10.1 trillion in annual business value and create 395 million jobs by 2030.

The G20 SFWG's approach to enhancing NbS financing explores innovative financial instruments on a voluntary and case-by-case basis, such as blended-finance instruments, debt-for-nature swaps and risk-sharing tools and guarantees to maximize private sector participation. These initiatives can contribute to generating sustainable economic and environmental outcomes in all countries, especially in EMDEs. Moreover, the G20 SFWG's strategy also entails identifying barriers that hinder the scalability and effectiveness of NbS financing. Understanding the challenges and fostering an environment conducive to investment in NbS can catalyse a significant increase in private and public funding.

This report is supplemented by the analysis of 12 case studies within NbS relevant key areas: conservation/protection, restoration, bioeconomy, agroforestry, and marine ecosystem management. Through this, the SFWG aims to disseminate exemplary strategies for financing NbS among private investors, MDBs, DFIs, vertical funds, policymakers, and other stakeholders.

The financing of NbS touches upon multiple areas of the Roadmap. It is affected by market development and approaches to align investments to sustainability goals (Focus Area 1), by the availability of consistent, comparable, and decision-useful information on sustainability risks, opportunities and impacts (Focus Area 2), and by assessment and management of climate and other sustainability risks, focusing on risk of nature degradation (Focus Area 3). This priority builds on the 2023 work of SFWG under India's G20 Presidency on Improving Nature-related Data and Reporting. In addition, NbS is an important enabler of the circular economy strategies (Focus Areas 1 and 5).

Challenges

Major challenges and constraints to scaling up nature-based solutions financing, and investment include:

1. Market and Financial Barriers:

Scale and fragmentation: NbS projects often have small ticket sizes and are spread across several sectors, such as ecotourism, bioeconomy, nature conservation, forestry, agroforestry, agriculture, infrastructure, and water management. This fragmentation results in a lack of robust project pipelines, posing challenges for large-scale institutional investors who prefer bigger projects and simpler investment packages.

Lack of consistent project assessments: NbS projects are often complex due to their context specificities, reliance on natural processes that can be unpredictable and vary greatly with local ecological conditions. Public and private sector actors may have different ways of assessing risks and opportunities and difficulties with valuing the environmental, economic and social benefits NbS provides, such as carbon sequestration, biodiversity enhancement, and water purification.

Lack of affordable finance, market mechanisms and incentives: There is a heavy reliance on uncoordinated and fragmented funding from various sources. Additionally, limited loan

and credit opportunities for the private sector, especially for small- and medium-sized enterprises, and insufficient exploration of insurance options and financial safeguards for high-risk projects, coupled with a lack of cost-benefit analysis to capture the economic value of ecosystem services, have led to a preference for projects that yield short-term profits. Consequently, the focus remains on conventional solutions rather than alternatives. Additionally, the low incentives for the long-term maintenance of such projects have made the private sector cautious about investing in NbS.³⁶

Lack of technical capacity: Another significant challenge is the shortage of interdisciplinary skilled professionals capable of leading, planning, and strategizing NbS for businesses. Complex linkages between nature degradation, biodiversity loss and climate change are not completely understood by financial market participants including the design of scenarios for financial stability assessments. There is currently limited knowledge and experience to assess the cost and benefits, risks and opportunities, and trade-offs and synergies of NbS, as well as the capacity to design, implement, and manage these projects, deterring investment due to a lack of robust data demonstrating that NbS projects are both effective and financially viable.

Nascent financial products: While carbon credits from nature-based projects can strengthen business cases and attract investments into NbS, most markets monetizing the benefits of NbS are still in their early stages. Best practices are still emerging, so limited liquidity, high volatility, transparency, integrity, credibility, and other issues still pose challenges. The prices of credits or benefits derived from NbS projects may fluctuate widely based on regulatory changes, technological advancements, or shifts in supply and demand dynamics.

Data availability: There is a lack of available and accessible high-quality data for planning, implementation, and monitoring of NbS. Without robust data systems, efforts to scale and sustain NbS could be undermined, making it difficult to track progress, evaluate outcomes, and adapt strategies in response to changing conditions. The ability to collect, manage, and utilize accurate and timely data is, therefore, a critical hurdle that must be overcome to realize the full potential of NbS.

Lack of a long-term perspective: Many financial and regulatory systems may be geared towards short-term results, whereas forestry and nature-based projects typically require long-term investments and commitment.

36. Sharma Rana, S., & Singh, V. (2024). Challenges & barriers for nature based solutions for indian landscape. *Academy of Marketing Studies Journal*, 28(3), 1-16. <https://www.abacademies.org/articles/challenges-barriers-for-nature-based-solutions-for-indian-landscape-16478.html>.

2. Regulatory and Policy Frameworks (for the real economy):

Lack of supporting policies and incentives: in some jurisdictions, there might be no policies, regulatory and financial incentives, such as pricing and non-pricing levers, transparency and accountability frameworks, or they exist, but do not sufficiently support or encourage investments in NbS.

Lack of experience with NbS policy: Accurately quantifying the benefits provided by biodiversity in monetary terms is crucial for informing policy decisions, prioritizing conservation efforts, and understanding the trade-offs involved in land-use and development. Policymakers and other actors responsible for improving financing NbS may lack experience and awareness of the ecological and socio-economic valuation of nature and its services in totality. In addition, the lack of definitions and metrics for measuring NbS benefits may cause further confusion. This results in difficulties in determining the efficacy of projects and identifying the targets policymakers should look for when assessing projects. Policymakers in infrastructure development, urban planning, and land-use projects may also lack awareness of NbS tools that may be well suited to effectively deliver the desired results.

Lack of institutional arrangement and coordination among agencies for financing NbS: In many jurisdictions, insufficient coordination between governmental and regulatory bodies that formulate guidelines and the public agencies or stakeholders responsible for implementation creates significant obstacles. The complex division of authority, absence of clear leadership, and gaps in regulatory frameworks hinder the effective implementation, promotion and execution of NbS initiatives.

3. Social and Community Engagement:

Successful NbS projects need to respect social and environmental safeguards, including those for indigenous peoples as well as local communities. They require the involvement and buy-in of indigenous people, local communities and stakeholders, which can be challenging to achieve, especially in areas with competing land-use interests. Secure land tenure and clear rights are essential for NbS but can be complex to navigate, particularly in regions with communal or indigenous lands. Due regard must be given to the potential associated social and institutional conflicts and to equitable distribution of the benefits among stakeholders, including local communities.

Recommendations

Recommendation 1: Jurisdictions may benefit from developing comprehensive, long-term strategies for financing NbS, guided, as appropriate, by the definition, coined under UNEA resolution 5/5,³⁷ which outlines objectives, targets, and mechanisms for implementation.

37. UN Environment Assembly, United Nations Environment Programme. (2022). Nature-based solutions for supporting sustainable development. UNEP/EA.5/Res.5.

The strategies should create an enabling environment that incentivizes and facilitates investment in NbS, lowers financial barriers and de-risk investments. These strategies should include capacity building and investment support, including technical assistance, as well as stakeholder engagement to ensure accelerated implementation of NbS. Also, this encompasses the involvement of financial institutions in dialogues and consultations to understand their needs and to see how to best involve them in the structuring of the financial aspects of NbS projects.

Recommendation 2: Jurisdictions, international organizations and all other relevant stakeholders should support financial institutions and corporates in building technical capacity as appropriate; applying and developing monitoring and evaluation approaches regarding the commercial, social and environmental viability of NbS investments, also considering its positive impact on, inter alia, human health, water and soil quality, climate regulation and carbon sequestration. This includes supporting specialized entities with expertise in NbS, educating investors about the benefits and risks of NbS projects, and piloting innovative smaller scale financing and intermediary mechanisms with local financial institutions that will facilitate scaling up over time.

Recommendation 3: International organizations and DFIs, including MDBs, and Climate funds should consider deploying a wide range of tools including risk-sharing tools, grants, equity, and concessional finance to mitigate risks and characteristics associated with NbS investments. Well-designed and carefully managed guarantees can be catalytic in driving private capital towards NbS, as demonstrated in several case studies of the “Toolbox for Financing Nature-Based Solutions” developed for the SFWG this year.³⁸

Recommendation 4: Jurisdictions, international organizations, financial institutions and corporations should engage Indigenous Peoples and Local Communities (IPLCs) in NbS financing. The meaningful involvement and empowerment of IPLCs, as part of a country-driven, gender-responsive, participatory and transparent approach, is crucial for the success of NbS investments. This can be achieved through comprehensive impact assessments, fostering dialogue and collaboration between IPLCs and investors, respecting traditional knowledge, ensuring effective and meaningful participation and involvement of IPLCs in project development and implementation. Additionally, providing technical assistance for IPLCs and other vulnerable stakeholders such as women and youth is essential to enhance their participation in NbS projects. Furthermore, the solutions should be ecologically sound, culturally appropriate, and economically beneficial to local communities. Empowering indigenous peoples and local communities for biodiversity conservation in accordance with ecosystem-based approaches is crucial to enhance the effectiveness and sustainability of NbS.

Recommendation 5: All relevant stakeholders, including international organizations, jurisdictions, financial institutions and corporates should support monitoring and evaluation mechanisms to track the financial soundness, the effectiveness and the social and environmental impact of NbS investments. This involves the use and continued

38. As demonstrated in the report being developed by CPI and exemplified in the following relevant cases studies: Galapagos Debt Swap, the Agri3 fund, and the Asia Climate-Smart Fund.

improvement of science-based metrics and reporting frameworks as well as collection of required data, appropriate to the ecosystem, science-based and verifiable, to assess financial sustainability, the environmental, social, and economic outcomes of NbS projects. Developing methodologies for comprehensive economic valuation of ecosystem services and NbS projects—quantifying long-term ecosystem services benefits, social impacts, and avoided costs from climate change mitigation and adaptation—will be crucial to attract more private sector investment by demonstrating the full economic value of NbS projects.

Recommendation 6: All relevant stakeholders should actively contribute to building an enabling environment for financing NbS. This requires a structured and targeted approach to project development, where technical assistance is provided before full investments are made and can be targeted to get the project to an investment-ready stage. By establishing clear policies, robust regulatory frameworks, and comprehensive capacity-building initiatives, stakeholders can reduce risks for future investors and ensure the viability and sustainability of projects, ultimately fostering a conducive environment for sustainable finance to flow in NbS.

Recommendation 7: Jurisdictions, international organizations, and all relevant stakeholders could consider a variety of innovative and traditional financial instruments, such as small grant schemes, blended-finance mechanisms, carbon markets, and biodiversity credits, and debt-for-nature swaps on a voluntary and case-by-case basis, taking into account each instrument's benefits and limitations, and local circumstances, so as to most effectively contribute to positive outcomes for the protection, conservation, restoration, and sustainable use and management of natural or modified terrestrial, freshwater, coastal and marine ecosystems.

G20 Sustainable Finance Roadmap Progress Report

In 2021, under the Italy G20 Presidency, the G20 Sustainable Finance Working Group (SFWG) developed the G20 Sustainable Finance Roadmap (“the Roadmap”) to help focus the attention of the G20, international organizations and other stakeholders to key priorities of the sustainable finance agenda. The Roadmap, which was endorsed by G20 Leaders in Rome in 2021, is a multi-year action-oriented document, which is voluntary and flexible in nature. At the 4th SFWG meeting of 2023 in Varanasi, India, members concurred on the importance of continuing to track the progress achieved in the implementation of the Roadmap.

To date, 20 G20 permanent jurisdictions, 3 guest countries and 16 International Organizations, Groups and Networks have shared updates on their progress in implementing the Roadmap. This summary of voluntarily reported activities highlights which areas received the most significant efforts in the second half of 2023 and the first half of 2024.

Based on the reports from jurisdictions, it can be observed that Focus Area 1, “Market development and approaches to align investments to Sustainability Goals” remained a priority, with a wide array of actions related to alignment approaches and activities to promote scaling up of sustainable-aligned financial instruments. Additionally, the reports showed that there are many efforts being directed to Focus Area 2, “Consistent, comparable, and decision-useful information on sustainability risks, opportunities and impacts”, particularly on the integration of the International Sustainability Standards Board (ISSB) standards into domestic reporting requirements.

Among IOs, Action 6, about sustainability reporting standards; Action 7, about data quality and accessibility for the financial system; and Action 11, about exploring the potential financial risk and financial stability implications of climate risks and nature- and biodiversity-related risks, had the most momentum. As a result, Focus Area 2 was the most momentous in the mid-2023 to mid-2024 period.

The Focus Area with the least momentum in that period among IOs was Focus Area 4, on the “Role of international financial institutions, public finance and incentives”, with 3 out of the 10 entities reporting no advances in that Area.

The full details of the progress reported are available on the SFWG’s online dashboard on the G20SFWG.org website, which is updated annually. The examples given in each section of this summary are illustrative and based on information reported voluntarily by G20 Jurisdictions.

ROADMAP FOCUS AREA 1 – Market development and approaches to align investments to Sustainability Goals

Jurisdictions

Among approaches to promote alignment of investments with sustainability goals, sustainable finance taxonomies are used by multiple members. In 2023 and 2024, some jurisdictions such as Australia, Brazil, Mexico, Türkiye and the UK, which did not yet have taxonomies, either published or started the process of developing one, and they all included both green and transition activities. Some jurisdictions with well-established taxonomies, such as China, the EU and EU members, Korea, Indonesia, and Russia have been working to update those taxonomies to include new activities and further expand their domestic sustainable finance market through the adoption of the taxonomy criteria.

Issuance of sovereign and public green and sustainable bonds continues to be used by some G20 jurisdictions for mobilizing finance for sustainable development. In 2023 and 2024, Australia, Brazil and Türkiye issued their first sovereign green bonds, aimed at financing projects that mitigate climate change and promote sustainability. Some other jurisdictions are not only issuing bonds but also refining their standards and frameworks to standardize and encourage sustainable finance instruments, promoting market integrity and investor confidence. For example, the EU implemented the European Green Bond Standard, Russia published sustainability bond statistics to enhance market transparency, China's Green Bond Standards Committee (GSC) introduced rules for market practitioners and published Guidelines for Information Disclosure on the Duration of Green Bonds, and the Government of Canada released an updated Green Bond Framework that includes nuclear energy expenditures.

IOs, Networks and Groups

Coordination between international organizations, networks, and groups has been growing to support countries in developing sustainable finance policies, roadmaps and alignment approaches. Building on SFWG principles, the IMF, World Bank, OECD, and BIS, with IFC-SBFN support, published the "Activating Alignment" paper in September 2023. It highlights good practices from various economies and offers options for effective alignment approaches.

Continuing previous trends, reporting entities have supported enhanced taxonomies interoperability. The Common Framework of Sustainable Finance Taxonomies for Latin America and the Caribbean (LAC Taxonomy Common Framework) was launched in 2023 by a consortium of organizations to improve comparability and interoperability of taxonomies in the LAC region and internationally. It has informed the development of taxonomies in Latin America and the Caribbean and has been referenced internationally. Work is ongoing to include a focus on biodiversity and support similar efforts in Africa.

Significant efforts have been reported to scale up climate and sustainability-aligned financial instruments focusing on thematic bonds. Entities are developing guidelines,

supporting bond issuances, designing innovative debt instruments, and facilitating international peer exchange. Fewer entities have reported work on initiatives facilitating sustainable project pipeline building, fostering biodiversity finance, or developing inclusive insurance and risk financing.

ROADMAP FOCUS AREA 2 – Consistent, comparable and decision-useful information on sustainability risks, opportunities and impacts

Jurisdictions

At least 15 of the permanent G20 jurisdictions have either integrated the ISSB standards into their domestic reporting requirements or have taken official steps towards adopting disclosure rules based on these standards. For example, Japan and Korea have released exposure drafts of their national standards that closely align with ISSB's S1 and S2. China issued a draft of the Corporate Sustainability Disclosure Standards, aligning with ISSB's IFRS S1, but extending to include double materiality. The European Union has incorporated ISSB standards into its European Sustainability Reporting Standards (ESRS), providing a high degree of interoperability between these frameworks. The South African Reserve Bank (SARB) issued a set of guidance on climate-related disclosures, governance and risk practices, for banks and insurers, which are aligned with ISSB S2. The Canadian Sustainability Standards Board (CSSB) published its proposed climate-related disclosure standards which largely adopts the ISSB, and launched a comment/consultative period. The Turkish Sustainability Reporting Standards (TSRS), which are fully compliant with the ISSB, were published by the Public Oversight, Accounting, and Auditing Standards Authority (POA) and became mandatory for public interest entities above a certain size. In the UK, the Transition Plan Taskforce (TPT) published its framework in 2023, linking it to IFRS S1 and S2 to enhance interoperability.

There is a growth in regulation of and guidance for ESG rating agencies to improve data quality, usefulness, and transparency. The EU has made significant strides by implementing new regulations that require ESG rating providers to be authorized and supervised, with stringent transparency and conflict of interest rules. In India, the Securities and Exchange Board detailed provisions regarding registration requirements, rating operations, reporting and disclosures. Korea's Financial Services Commission has also introduced guidelines to regulate ESG rating agencies, promote clear methodologies and reducing potential conflicts. Similarly, Russia's central bank has issued recommendations for standardizing ESG ratings, aiming to increase the credibility and comparability of ESG assessments across financial markets.

Support for SMEs in sustainability reporting and disclosure is also gaining traction. The EU, through EFRAG, is developing SME-specific sustainability reporting standards, aiming to make compliance more accessible for smaller companies. Germany is enhancing its Sustainability Code to cater specifically to SMEs, integrating it with EU sustainability reporting requirements. In Italy, the Sustainable Finance Platform is working on a balanced reporting model tailored for SMEs, alongside capacity-building initiatives. In 2024, Mexico's

standard setter for non-regulated organizations issued the Sustainability Information Standards (NIS) to support SMEs in meeting sustainability disclosure requirements, aligning with the conceptual foundations and general requirements of IFRS.

Some jurisdictions are also incorporating biodiversity and nature-related considerations into their sustainability reporting frameworks: Australia established the Nature Finance Council in December 2023; Japan's government published the "Transition Strategies toward a Nature Positive Economy" promoting the integration of these risks into corporate reporting; Korea launched the 5th National Biodiversity Strategy and established the Natural Capital Disclosure Council to establish a system for nature-related disclosures; and Mexico's Ministry of Finance, under its Sustainable Finance Mobilization Strategy, is pioneering initiatives to integrate biodiversity into the financial system, enhancing the regulation of biodiversity-related financial risks. Moreover, at least 9 jurisdictions are either supporting or endorsing the work of the Task Force on Nature-related Financial Disclosures (TNFD): Australia commissioned pilot tests of the draft TNFD framework with businesses and financial institutions in 2023; the UK-China Working Group on Sustainable Disclosure for Financial Institutions confirmed that its future work will include studying the implementation of the TNFD framework in China; in the EU, EFRAG and TNFD have jointly published a mapping of the correspondence between the ESRS and the TNFD's recommended disclosures and metrics, illustrating the high level of commonality achieved; and the UK Government has been working with the Green Finance Institute to enhance market adoption and engagement of the TNFD through the UK National Consultation Group.

IOs, Networks and Groups

Reported activities related to Focus Area 2 emphasize ongoing work to address data gaps, and tailor reporting requirements to the needs of SMEs and emerging market economies.

Following the G20 welcoming of the finalization of the sustainability and climate-related disclosure standards published by the ISSB and the release of TNFD final recommendations in 2023, several organizations have been developing guidance, fostering peer-exchange and launching capacity-building programs to help improve sustainability-related disclosures. Efforts have been directed towards jurisdictions, especially in emerging markets, for supporting ISSB standards' adoption and implementation. The Network for Greening the Financial System (NGFS) has also been providing guidance to central banks on how to navigate the landscape of evolving disclosure frameworks. A few organizations have reported work being undertaken on inclusive green finance, gender finance and inequality and social-related financial disclosures.

Several initiatives aim to centralize and improve the accessibility of financial and sustainability data thanks to shared digital platforms, such as the Net-Zero Data Public Utility (NZDPU), the Climate Change Indicators Dashboard (CID), the SBFN Data Portal, or the Green Bond Transparency Platform.

Finally, in response to G20 requests, work around the DGI-3 continues. The FSB has remained active in work on climate-related disclosures and undertook a member stocktake

about nature-related financial risks, underscoring the varying levels of progress among jurisdictions in integrating these risks into financial stability frameworks.

ROADMAP FOCUS AREA 3 – Assessment and management of climate and sustainability risks

Jurisdictions

In 2023 and 2024, some G20 countries established additional regulatory guidance for financial institutions to assess their exposure to sustainability risks, particularly climate risks. For example, in Canada, the Office of the Superintendent of Financial Institutions (OSFI) published Guideline B-15: Climate Risk Management for federally regulated financial institutions' (FRFIs) climate risk management, including expectations around climate-related financial disclosures. Similarly, the EU's CRR3/CRD6 package now requires banks to systematically identify, manage, and disclose ESG risks, with regular supervisory assessments, and China's disclosure standards for listed companies and the latest ISSB-aligned exposure draft are requiring companies to take a double materiality approach to sustainability risks. The Bank of Russia also published recommendations to financial institutions on the management of climate-related risks, including measures to reduce the adverse effects of climate risks and approaches to information disclosure. In the US, The Federal Reserve Board (FRB), the Office of the Comptroller of the Currency (OCC), and Federal Deposit Insurance Corporation (FDIC) jointly issued climate principles, which provide a high-level framework for the management of exposures to climate-related financial risks for large banking organizations, including risk measurement.

Some governments and regulators are also assessing systemic sustainability risks. In Brazil, the Central Bank analyzed the sensitivity of financial institutions to climate stress scenarios and included it in the Financial Stability Report published in July 2023. The European Banking Authority (EBA) and the European Insurance and Occupational Pensions Authority (EIOPA) have developed tools to assess financial sector exposure to these risks. In 2024, Australia's APRA has been undertaking a Climate Vulnerability Assessment, to develop an understanding of climate risk drivers of insurance affordability challenges, and Korea's Bank of Korea (BOK) and Financial Supervisory Service (FSS) launched a joint climate stress test to explore climate risk management. In 2023, the Bank of England published its assessment of climate-related risks and the regulatory capital frameworks. Similarly, the South African Reserve Bank (SARB) is conducting a Climate Risk Stress Test throughout 2024/2025 to assess the resilience of Systematically Important Financial Institutions (SIFIs) to climate risk. In 2023, the Bank of Russia conducted its second top-down stress test of climate transition risks. By adapting NGFS scenarios, Russian companies were assessed under two climate transition scenarios with a horizon to 2040. In the US, the FRB conducted an exploratory pilot Climate Scenario Analysis exercise with six large U.S. banks to learn about large banking organizations' climate risk management practices and challenges. Mexico is also developing and calibrating integrated assessment and macroeconomic models for climate scenario analysis to better understand the economic and fiscal risks of climate impacts, to support decision-making and the design of public policies.

IOs, Networks and Groups

In line with activities reported in 2023, some reporting entities have continued to develop climate scenarios and related guidance, research papers and tools, to help central banks and supervisors assess and address environmental risks as well as advance the monitoring of vulnerabilities to global financial stability relating to climate. The understanding of countries' capabilities in conducting comprehensive climate risk stress testing has been enhanced through workshops.

Analytical work has been conducted, including in the G20 Framework Working Group (FWG), on topics such as (i) macroeconomic implications and distributional impacts of transition policies, (ii) macroeconomic impacts of climate change policies on growth, inflation, and income distribution, including challenges regarding fiscal implications, (iii) links between debt burden, financial instruments, and climate change, (iv) climate and migration, etc. Addressing protection gaps against climate risks has also been reported as a topic where the insurance sector, including insurance supervisors, have dedicated efforts this year.

ROADMAP FOCUS AREA 4 – Role of IFIs, public finance and incentives

Jurisdictions

G20 jurisdictions continue to implement interventions to mobilize private capital for sustainable development. Türkiye's Ministry of Treasury and Finance introduced the "Green Transformation and Energy Efficiency Support Package" in February 2023 to support SMEs and other enterprises in energy efficiency and green initiatives. Indonesia is incentivizing green finance through policies, such as relaxing the loan-to-value ratio for green mortgages and electric vehicle loans. The EU has reinforced its Emissions Trading System (ETS) to align with the European Green Deal, and its Global Gateway strategy includes the European Fund for Sustainable Development Plus (EFSD+), which promotes sustainable investments in partner countries. Italy's Ministry of Finance drafted a "Sustainable Finance Action Plan" to direct private capital toward climate neutrality by 2050. In 2024, China renewed its voluntary carbon market program named "China Certified Emission Reduction (CCER)". Brazil is in the process of establishing a regulated domestic carbon market and a national system for registering verified emissions reductions to create tax incentives for low-carbon products and provide a structured framework for carbon trading. Canada's Prime Minister announced a new \$720 million concessional finance facility at Canada's bilateral Development Finance Institution, to grow the range of investments to mobilize additional capital for sustainable development. Japan launched its Green Transformation (GX) Acceleration Agency in 2024 to catalyze over 150 trillion yen in green investments over the next decade, offering financial support like debt guarantees. The South African Reserve Bank (SARB) has conducted multiple research projects analyzing the different kinds of implications of climate and finance policy, including carbon taxation and carbon pricing, among others. In the UK, HM Treasury and the Department for Energy Security and Net Zero launched a Net Zero Blended Finance Project which is exploring innovative public-private blended finance approaches to net zero and looking to expand the UK's capacity to implement blended finance where appropriate.

Some governments have also partnered with MDBs to enhance the mobilization of private finance for sustainable development. This collaboration often involves co-financing projects, co-developing risk-sharing mechanisms, and utilizing MDBs' financial instruments to attract private investment. For instance, Australia recently provided replenishment to the Asian Development Fund (A\$492 million). Germany is supporting the World Bank's Climate Support Facility (CSF), a multi-donor trust fund that was launched in 2020 and is a key instrument for climate-related technical assistance and is co-leading an MDB-shareholder "Like-minded Group on Paris Alignment" with currently 15 members that engages in a constructive way with MDBs to bring forward their Paris Alignment process. Canada contributed \$283 million to the High-Impact Partnership on Climate Action at the European Bank for Reconstruction and Development (EBRD), to help advance low-carbon, climate-resilient and environmentally compatible pathways in emerging economies and developing countries. The European Union works closely with the European Investment Bank (EIB) under initiatives like the European Fund for Sustainable Development Plus (EFSD+), which provides guarantees to share the risk of sustainable projects in developing regions, thereby encouraging private sector participation. Similarly, Japan collaborates with the Asian Development Bank (ADB) to fund infrastructure projects that align with both national and international sustainability goals. In April 2024, the World Bank Group unveiled a strategic plan for 2024-2028 to promote inclusive, sustainable development in Brazil and support climate change efforts by expanding sustainable finance and capital markets. The United States is working with MDBs, the International Partners Group, and private sector entities, to support the design and implementation of the Just Energy Transition Partnerships (JETPs) in South Africa, Indonesia and Vietnam. The JETPs bring financing tools, including grants, concessional loans, and market-based investments to support a broad energy sector transition while creating new employment and economic opportunities for people and communities formerly employed in the fossil fuel industries. The UK is encouraging MDBs to develop new mobilisation vehicles which have the scale and diversification to unlock institutional investment, transfer more risk to the private sector, scale support for green capital market development, and improve the pipeline of bankable infrastructure deals by supporting specialist infrastructure developers.

IOs, Networks and Groups

Multilateral Development Banks (MDBs) continue to play an essential role in advancing climate action and sustainable development through both direct financial support and capacity-building initiatives, particularly in emerging markets and developing economies. Among the newly reported initiatives, the IDB's LAC Facility for Greening Public Development Banks and the Financial Sector offers technical assistance and performance-based incentives to Public Development Banks (PDBs) committed to increasing their ambition towards Paris Agreement alignment.

Ongoing efforts are focused on aligning domestic financial systems with the Paris Agreement goals and national SDG plans. This includes continuous support for countries in developing Integrated National Financing Frameworks (INFFs), achieving their nationally determined contributions (NDCs), and integrating climate policies into macroeconomic frameworks. Capacity development initiatives are also being extended to ministries of finance, national

tax administrations, and other relevant ministries, aimed at better aligning national tax systems with the SDGs. Additionally, a range of analytical and climate policy papers has been published, detailing the scale and impact of fossil fuel subsidies, their distributional effects, and strategies for their phased elimination at the country level.

Collaborative efforts have also focused on identifying effective strategies and financial instruments to attract private capital into climate finance projects and contribute to domestic resource mobilization. This includes the innovative use of credit guarantees with embedded impact considerations.

ROADMAP FOCUS AREA 5 – Cross-cutting issues

Jurisdictions

Some jurisdictions are furthering digital applications to support sustainable finance, especially for sustainability reporting, identification, and labelling of sustainable products and assets. For example, the EU is advancing this area through the European Single Access Point (ESAP), which consolidates financial and sustainability information in a digital, machine-readable format. This initiative supports investor decisions by ensuring high data comparability and usability. Additionally, Japan has enhanced its GHG emission reporting system (EEGS) to include features for SMEs to calculate and publish their GHG emissions, thereby promoting transparency and accessibility in emissions data.

Moreover, countries are actively developing frameworks to finance just transitions. China has been developing a transition finance taxonomy at the national level, with several local taxonomies already issued. The EU's approach integrates transition considerations into its sustainable finance framework, encouraging the use of science-based pathways aligned with the Paris Agreement to set transition targets. This framework includes qualitative transition pathways tailored for different industrial ecosystems. Mexico, within its Sustainable Finance Mobilization Strategy, is also focusing on ensuring social justice and equity in the energy transition, emphasizing inclusive energy access and financial mechanisms to support affected communities. The UK is conducting a Transition Finance Market Review, that explores how best to create the conditions for scaling transition-focused capital-raising with integrity, maximising the opportunity for UK-based transition finance services, and positioning the UK's professional services ecosystem as a global hub.

Capacity building remains a key focus, with governments coordinating efforts to align capacity-building initiatives with the SFWG Roadmap. The EU, for example, is providing technical support through its Technical Support Instrument (TSI) and leveraging Team Europe initiatives to offer coordinated technical assistance globally. The Capital Markets Board of Türkiye (CMB) collaborated with the World Bank (IFC) and Environmental Finance to organize webinars in 2024, focusing on encouraging green and sustainable bond issuances by real sector companies, and a seminar on sustainability in capital markets held in collaboration with the Securities Commission Malaysia in November 2023.

IOs, Networks and Groups

The role of technologies in driving sustainable and climate finance has been explored analytically by several reporting entities. The 2024 G20 TechSprint edition is triggering practical solutions. It has invited competitors to solve sustainable finance challenges by focusing on nature-based solutions, new technologies to improve the quality, reliability and granularity of ESG data, and open-source solutions to support financial decisions and capital allocation aligned with the SDG goals.

IOs, networks and groups have been instrumental in supporting the 2024 SFWG Priority on advancing credible, robust, and just transition plans. Efforts have ranged from analytical and policy work on transition plans, transition impacts of climate change or the use of transition plan disclosures, to the presentation of tools to improve the credibility and uptake of transition planning. Further, numerous initiatives have been reported this year around policies and tools to enable just transitions. Several entities reported they have also developed just transition frameworks and guidance, for example on how financial institutions can integrate just transition considerations in their core activities.

Finally, entities reported they have continued and sometimes expanded their capacity-building and technical assistance activities on a wide range of sustainable finance-related topics, including those mentioned in the G20 Technical Assistance Action Plan (TAAP), endorsed by G20 Leaders under the India G20 Presidency last year.

Progress on the 2023 G20 SFWG Priorities

MECHANISMS FOR MOBILISATION OF TIMELY AND ADEQUATE RESOURCES FOR CLIMATE FINANCE

1.1 Mechanisms for mobilisation of timely and adequate resources for climate finance

As detailed in the summary above, numerous efforts have been made toward developing effective policy and regulatory frameworks to create a pipeline of climate-related bankable projects, including those related to transition. This includes work on sustainable finance taxonomies, standards, and frameworks. Jurisdictions are also enabling more effective, efficient, and sustainable use of fiscal resources, with some IOs supporting this endeavor. The issuance of sovereign and public green and sustainable bonds remains a key strategy, which IOs and MDBs contribute to by creating frameworks and providing technical assistance where applicable. Moreover, as recommended in 2023, jurisdictions are increasingly offering various incentives, such as tax benefits, subsidies, and discounted fees, to mobilize private capital for climate projects and encourage private sector participation in sustainable finance. The effects and expected effects of different policies on crowding in and making investments more sustainable are studied by IOs to support that effort.

1.2 Policy Measures and Financial Instruments for Catalysing the Rapid Development and Deployment of Green and Low-Carbon Technologies

Jurisdictions' reports reveal significant efforts on this topic, with several countries prioritizing the establishment of clear long-term policy pathways, often incorporating carbon pricing mechanisms to direct private capital toward low-carbon technologies, in line with 2023 recommendations.

Additionally, support for early-stage climate technologies is evident, as some jurisdictions employ targeted financial instruments, such as subsidies and innovation funds, to accelerate technology commercialization. Others have reported the creation of climate technology incubators aimed at advancing green innovations in emerging markets.

IOs, networks and groups continue to support regulators in their efforts to crowd in private finance by providing high quality assessments and examples of how regulators could influence private actors to make sustainable investment decisions.

ENABLING FINANCE FOR THE SUSTAINABLE DEVELOPMENT GOALS: ANALYTICAL FRAMEWORK FOR SDG-ALIGNED FINANCE AND PRIORITIES UNDER INDIA'S G20 PRESIDENCY

2.1 Scaling-up the adoption of social impact investment instruments

While many reported activities by jurisdictions, IOs, networks and groups indirectly support scaling up social impact investments, there weren't many examples of efforts specifically targeting this objective. However, most taxonomies, reporting standards, and frameworks developed or updated during 2023 and 2024 include social or just transition finance considerations.

2.2 Improving Nature-related Data and Reporting

As mentioned in the summary above, jurisdictions are increasingly incorporating biodiversity and nature-related considerations into their sustainability reporting frameworks, and either supporting or endorsing the work of the Task Force on Nature-related Financial Disclosures (TNFD), while IOs are working on addressing the data gaps by mapping them and providing other knowledge contributions. There is widespread growing recognition of the financial risks associated with biodiversity loss and nature-related risks and the need to integrate them into broader sustainability risk frameworks. Some jurisdictions, IOs, groups and networks are encouraging financial institutions to incorporate these risks into their risk assessment frameworks, integrating it into guidance, and ensuring that these risks are part of financial stability assessments.

CAPACITY BUILDING OF THE ECOSYSTEM FOR FINANCING TOWARD SUSTAINABLE DEVELOPMENT

3.1 and 3.2 Technical Assistance Action Plan

Under India's G20 presidency, UNDP, as the SFWG Secretariat, was tasked to house and convene the TAAP Implementation Mechanism. UNDP proposed deliverables for each TAAP recommendation and identified 11 key stakeholders for potential collaboration. Initial consultations were conducted with organizations such as CISL, CASI, FiCS, GFANZ, IMP, IoB, IIF, NGFS, Skillnet Ireland, SBFN, and the World Bank. Subsequently, A survey was administered to gauge stakeholders' interest, alignment, and perceived importance of each deliverable. Based on the survey results, the secretariat will convene the stakeholders after the 4th SFWG meeting to form project teams for the deliverables with highest interest, alignment and importance.

As directed by the troika, the Secretariat is currently undertaking a mapping of capacity-building and technical assistance (CB/TA) efforts aligned with TAAP and Roadmap Focus

Areas. This mapping includes existing CB/TA initiatives, a tagging system based on TAAP topics and SFWG priority areas, and an analysis of alignment between current offerings and G20 aspirations. The resulting list will serve as a valuable resource for G20 countries and other stakeholders, enhancing accessibility of CB/TA efforts.

3.3 Overcoming data-related barriers to climate investments

The Net-Zero Data Public Utility (NZDPU) stands at the forefront of efforts to address climate data challenges, aiming to create a unified global climate data utility. This initiative, supported by major IOs, aligns closely with these recommendations for improving data availability and quality. Complementing this, the EU's proposed European Single Access Point (ESAP) seeks to centralize access to sustainability related information. Other significant developments include the BIS Financial Stability Institute's capacity-building efforts on IFRS standards, the NGFS's work on harmonizing greenhouse gas emissions data metrics, and the IMF's report operationalizing G20 principles for building a robust climate information architecture. These collective efforts demonstrate a coordinated push towards standardizing climate data, building capacity, and fostering collaboration between public and private sectors to overcome data constraints and support informed decision-making in climate finance.

Annex I – List of side events

During the year 2024, the SFWG ran the following side events:

- I. G20 SFWG Private Sector Roundtable
- II. G20 workshop on Sustainable Development Goals (SDG) Finance in urban contexts
- III. G20 Workshop on Local Currency Climate Finance
- IV. FiCS - G20 Rio Joint Event
- V. G20 SFWG Side Event: How Can the G20 Support High-Integrity Carbon Markets?
- VI. G20 SFWG Webinar on Analyzing Sustainability Disclosures Reporting with a Focus on SMEs and firms in EMDEs
- VII. Workshop: Financing nature-based solutions
- VIII. G20 SFWG Side Event Implementing the G20 Technical Assistance Action Plan to strengthen the ecosystem conducive to sustainable finance
- IX. G20-B20 High-Level Roundtable on Mobilization of Capital for Climate Finance and Nature-Climate Solutions

