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Decoding net-zero for financial institutions in emerging markets

Recommendations to financial regulators

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In partnership with Foreign, Commonwealth & Development Office (FCDO), UK Government

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FOREWORD



David Mathews
First Secretary, Head of Financial Services,
Foreign, Commonwealth & Development Office

The UK Government is working in partnership with countries around the world to deliver on our climate change ambition. Our work with India to tackle climate change is hugely important, in particular supporting India's emissions reduction ambitions. In addition to our formal partnership on climate and energy under the UK-India 2030 Roadmap, we work closely with thought leaders which here include auctusESG.

I would like to congratulate auctusESG on their research into the important topics covered in this report around decoding net zero for emerging markets. Supporting the energy transition to sustainable sectors will be a key part of the net zero transition. And the financial sector will play an important role in delivering the transition. I welcome this research as a hugely useful contribution into how to unlock the transition to net zero going forward in important markets such as India.



EXECUTIVE SUMMARY



Namita Vikas
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The net-zero movement has gained momentum as an essential tool to limit global temperature rise to 1.5 degrees Celsius. To achieve this goal, a significant reduction in emissions is required by 2030, with a global net-zero target by 2050. While 139 countries have pledged to net-zero, there are challenges surrounding the effectiveness of net-zero targets due to a range of factors such as timeframes, coverage sectors and priorities, carbon reduction vs removals, and supporting policies and regulations. Lack of clarity in articulating net-zero pledges and breaking them down into actionable activities across the real and financial sectors impedes climate conscious capital allocation.

Besides, the emerging markets are experiencing exponential growth in demand for energy and are expected to contribute to 98% of global population growth and 90% of new middle-class households. Further, the economic structures of individual markets are unique and are at various stages in their climate journeys and therefore would need solutions relevant to their markets. The financial sector which is a critical contributor to the net-zero transition is challenged by the obscurity surrounding this concept.

To address these limitations and enable banks and financial institutions to achieve net-zero through their financing operations, there is an urgent need for policies and financial interventions. This report puts forth recommendations for banking and capital market regulators in emerging markets, supported by primary research findings, practitioner inputs, and expert reviews.

Recommendations to banking regulators: This report makes the following key recommendations to the banking regulators to enable a net-zero aligned banking system:



1. **Mandatory transition pathways** - Establishing a mandatory roadmap with timelines to set transition targets in high-emitting sectors is recommended. This can be scaled up to other sectors through a consultative process to provide direction for banks to plan and implement net-zero strategies
2. **Capacity building** - Building capabilities for transition planning is crucial for a net-zero strategy, especially in countries highly dependent on carbon-intensive sectors. Financial institutions need to align business models, products, and strategies to not only manage climate risks but also to capitalize on opportunities
3. **Guidance on climate due diligence, advanced concepts, and disclosures** - To mainstream climate risks, central banks need to provide granular due diligence guidance documents for project loans, specifying climate change parameters – quantitative and qualitative – and mandatory climate due diligence for potential projects/ loans that cross a particular threshold. Additionally, providing guidance on advanced concepts like climate stress testing and scenario analysis can help banks identify and manage their exposure to climate-related risks
4. **Globally aligned taxonomies** - To promote sustainable financing and access to global capital, regulatory bodies and state actors should align their objectives, language and policies to the national context and develop taxonomies that are interoperable with global frameworks. They should also provide guidance on unsustainable activities to help banks create their own exclusion lists
5. **Incentivize green products** - Fiscal incentives such as subsidies and lower interest rates are becoming more popular to encourage the use of green products such as electric vehicles and solar panels. Green mortgages are another example of products that can be categorized as low risk and therefore provided at lower interest rates. While individual banks can make pricing decisions on these loans, banking regulators can facilitate their use by mandating lower capital requirements
6. **Broaden regulatory scope to include natural resources and ecosystems** - Nature-based sectors, such as agriculture, play a significant role in carbon sequestration but have been overlooked in financial regulations. Given the interlinkages between climate change and nature loss, soon regulators would face the need to address biodiversity recovery issues as well. Therefore, it is recommended that biodiversity parameters be integrated early on into climate-related risk assessments and management frameworks to strengthen financial oversight mechanisms

Recommendations to capital market regulators: This report makes the following key recommendations to the capital market regulators to enable a net-zero aligned capital flows.

1. **Mandate net-zero interventions to be a part of stewardship code and engagement activities** - Oversight by institutional investors on investee companies enables efficient allocation of capital and market stability. Capital market regulators and stock exchanges should mandate net-zero interventions as part of their stewardship responsibilities. Monitoring and verifying investees' net-zero action plan and climate impact can improve disclosure and make the financial ecosystem more robust



2. **Guidance for green products** - To boost investor interest in green products, regulators should provide guidance similar to issuance norms for green bonds. This will help build credibility in the nascent space of green products where a fully developed taxonomy is still lacking
3. **Mandatory transition planning** - A regulator-endorsed transition plan can help allocate capital to businesses with viable decarbonization plans, building credibility and mitigating greenwashing risks. Capital market regulators in emerging markets can also mandate credible transition plans and interim targets for net-zero pledges
4. **Capacity building and technical assistance** - To manage climate-related risks, capacity building initiatives are critical at systemic, institutional, and individual levels. Capital market regulators should collaborate with stakeholders to deliver training programs for enhancing awareness amongst companies. Regulators can design technical assistance programs in partnership with relevant organizations to guide market players in their net-zero journey
5. **Enhanced corporate climate reporting** - Enhanced reporting on climate-related matters must be mandated for corporates. Furthermore, such regulations concerning non-financial disclosures should be supported by a plan that enables and facilitates disclosures, as these can be difficult to quantify



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Acronyms

BNM	Bank Negara Malaysia
BRI	China's Belt Road Initiative
BRSR	Business Responsibility and Sustainability Reporting
CCUS	Carbon Capture Utilization and Storage
CEEW	Council on Energy, Environment and Water
CAR	Capital Adequacy Ratio
CBAM	Carbon Border Adjustment Mechanism
COP	Conference of Parties
ECB	European Central Bank
EP	Equator Principles
EM	Emerging Markets
EMDE	Emerging Markets and Developing Economies
ESG	Environment, Social and Governance
EU	European Union
FIs	Financial Institutions
FSB	Financial Stability Board
GFANZ	Global Financial Alliance for Net-zero
ICAAP	Internal Capital Adequacy Assessment Process
IEA	International Energy Agency
IFC	International Finance Corporation
IIGCC	The Institutional Investors Group on Climate Change
ILO	International Labour Organization
NGFS	Network for Greening the Financial System
NZAOA	Net Zero Asset Owner Alliance
NZAMA	Net Zero Asset Managers Alliance
NZBA	Net Zero Banking Alliance
NZFSPA	Net-Zero Financial Service Providers Alliance
NZIA	Net-Zero Insurance Alliance
NZICI	Net-Zero Investment Consultants Alliance
OECD	Organisation for Economic Co-operation and Development
PCAF	Partnership for Carbon Accounting Financials
PAAO	Paris Aligned Asset Owners
RBI	Reserve Bank of India
SBFN	Sustainable Banking and Finance Network
SBTi	Science Based Targets Initiative
SME	Small and Medium Enterprise
SEC	Securities and Exchange Commission
TCFD	Taskforce on Climate-related Financial Disclosures
TNFD	Taskforce on Nature-related Financial Disclosures
UNFCCC	United Nations Framework Convention on Climate Change



1 | INTRODUCTION

GLOBAL NET-ZERO COMMITMENTS

Driven by climate realities and a true change in outlook, the movement towards net-zero has been at the forefront of climate action globally. Net-zero commitments endeavour to deliver on the Paris Agreement goals of limiting temperature rise well below 2 degrees, relative to pre-industrial times, with an ambitious target of 1.5 degrees. The recent Intergovernmental Panel on Climate Change (IPCC) report has indicated the grave consequences of not meeting these targets, thereby underscoring the importance of working towards net-zero goals.

High-profile commitments by global leaders, corporates, and Financial Institutions (FIs) have been leading climate conversations worldwide, particularly with the build-up to COP 26 and afterwards. For instance, ahead of COP 26, the Glasgow Financial Alliance for Net-zero (GFANZ) was launched as a sector wide coalition to accelerate net-zero action by FIs (Glasgow Financial Alliance for Net Zero, 2021). COP 26 itself was marked by 74 signatory countries to the Paris Agreement announcing their net-zero commitments, the most notable being India (Schumer, 2021). According to the 2023 Net-zero Score Card, 54 countries and the EU have set or are considering integrating net-zero targets into legislations (17 countries mostly European) or in a policy document (ECIU, 2023). Covering two thirds of global economy, net-zero has emerged as a north star to help nations and organisations adhere to the goal of limiting temperature rise to 1.5 degree Celsius with commitments from 139 countries representing 91% of global emissions. However, it is estimated that current climate pledges can deliver only 11% emission reduction compared to 2019 (Black, et al., 2022). Despite its growing importance, the net-zero movement is not without challenges, as shown in Figure 1 below.

Global net-zero by 2050 needs reduction of emissions by upto 50% by 2030 compared to pre-2019 levels (Georgieva, 2022)

Articulation of net-zero pledges vastly different across countries - use of terms net-zero, carbon neutrality, net-zero GHG, climate neutrality etc used interchangeably causing confusion

Net-zero targets embedded in national laws only in a handful of countries

Target timelines for achieving net-zero vary significantly across the world - ranging from as early as 2035 to 2070

The scope of GHG gases covered by net zero targets is dissimilar - coverage of only carbon, coverage of only carbon and methane vs coverage of all GHG emissions

Difference in coverage of sectors and exclusions, coverage of domestic carbon footprint vs. contribution to international carbon footprint

Lack of clarity as to how the real economy sectors and financial sectors will align with national pledges; corporate net zero pledges

Taxonomies and policies still evolving raising greenwashing concerns

Figure 1 Obscurities surrounding net-zero pledges and challenges



The effectiveness of net-zero targets depends on a variety of factors – time limit, coverage sectors and priorities, carbon reduction vs. removals, supporting policies and regulations (Climate Action Tracker, 2022).

An important challenge is the huge disparity in articulation of net-zero pledges by countries, FIs and corporates and how the targets of different actors align. The approaches in defining the various elements of net-zero are also dissimilar. Terminologies such as net-zero and carbon neutrality are often used interchangeably and lead to further confusion and misrepresentation. While a handful of countries have embedded targets into national laws, others have reflected them in policy documents including NDCs (Nationally Determined Contributions), Long Term Low Emission Development Strategy (LT-LEDS), and a vast majority are yet to formalize targets into policy documents.

To achieve net-zero targets a significant transformation is needed across all economic sectors aligned with climate priorities

Net-zero timelines, scope and coverage are also not common across the board. For example, India has a 2070 target while China and Sweden target 2060 and 2045, respectively. EU's pledges cover all greenhouse gas including methane while China has only carbon emissions covered (OECD, 2021). Net zero commitments by countries are sometimes conditional. For example, South Africa has set a target of net zero by 2050, conditional on funding and skills transfer (UNDP, 2023). However primary respondents confirm that, scientists in South Africa predict that 2070 is more feasible.

Another debate is how the emissions are reported and reduction targets are set in terms of accounting for domestic carbon footprint versus contribution to international carbon footprint. Territorial view of responsibility versus the value chain model and accountability could result in shifting of adaptation and mitigation responsibilities to less developed countries. For example, coal exports from Australia, the world's largest coal exporter, emitted 895 metric tonnes of CO₂ overseas, which was double that of Australia's domestic emissions (The Guardian, 2021) (Ember, 2021). Details of whether net-zero targets include emission removals/ natural sinks and offsets are also unclear in most targets (Black R. , et al., 2021).

- Corporates are more ambitious in terms of climate pledges; however, they also vary vastly and are not comparable
- For instance, Apple's carbon neutrality target covers scopes 1, 2 and 3 whereas Walmart's 2040 net-zero goal does not include its supply chain emissions, i.e., scope 3 (Net Zero Tracker, 2022)

Clarity on how these climate ambitions will be implemented is more important than climate commitments. Despite the proliferation of net-zero commitments, there remains a lack of knowledge about what net-zero entails in general and for the financial sector in particular, and how to arrive at it. The obscurity surrounding net-zero is conspicuous through significant greenwashing, due to the continued funding of fossil fuels by banks and FIs. For instance, a lack of regulatory oversight has led to 30 of the world's largest asset managers still financing oil and gas, despite committing to net-zero targets (Cuvelier, 2022).



Furthermore, the recent COP 27 climate negotiations in October 2022 heavily leaned towards loss and damage issue, including the reparation which would have adverse effect on monetary resources set aside by countries for reaching their net zero status. Countries recognized the need for finance to address the loss and damage associated with climate change and agreed to establish a fund for “Loss and Damage.” The term “Loss and Damage” refers to the policy that supports vulnerable, developing countries to manage their loss and damage due to climate change. This marks a significant shift in global narrative as finance for loss and damage has been a red line for many developed countries since it was first proposed over 30 years ago. Details of the fund and new funding arrangements were not decided, but countries agreed to operationalize them at the COP28 in Dubai (Stuart-Watt, 2022). Primary respondents asserted that net-zero goals in that context may get shifted further ahead and time spillover may perhaps lead to cost overruns, making availability and deployment of finances thinly distributed.

The choice of approaches taken to reach the net-zero target will guide climate actions and its impact. Uncertainties related to future technologies pose additional risks (and opportunities) on the net-zero pathways and the journey of each country (OECD, 2021). A major overhaul of all systems and economic sectors in line with climate priorities, is therefore required to achieve net-zero (Boehm, et al., 2022). Advanced countries who have been the highest emitters historically are required to drastically reduce emissions. Emerging economies are also being urged to follow suit to manage global climate priorities. Such markets would therefore need to ramp up financial systems and institutional capacities, supported by robust policies to access and redirect capital towards achieving its net-zero pledges.

Emerging economies need to strengthen their financial systems and institutional capacities with supportive policies to redirect capital towards climate goals

OBJECTIVE, SCOPE, AND METHODOLOGY OF THE REPORT

The continuing lack of clarity around the subject, as highlighted in Figure 1 above, has caused confusion to the financial sector - the key contributors to the net-zero journey, as providers of capital. Therefore, there is an imminent need for strategies and pathways that address these limitations to enable banks and FIs to achieve net-zero through their financing operations.

This report aims to put forth recommendations on policies and financial interventions for the banking and the capital market regulators in emerging markets, to enable net-zero alignment in the financial sector. The secondary research findings have been substantiated by primary research, in the form of a Focus Group Discussion (FGD) which brought out first-hand inputs from practitioners, to help bridge gaps in current net-zero strategies of FIs. Finally, the report also includes comments and insights from Expert Reviewers, thereby strengthening the findings. While the broader focus of this report is emerging markets, it specifically highlights examples across 3 key emerging markets - India, Malaysia, and South Africa.



2 | GLOBAL DEVELOPMENTS

TRENDS IN CLIMATE ACTION IN THE FINANCIAL SECTOR

In recent years, there has been a growing focus on environmental, social, and governance (ESG) issues in the financial sector, with an increasing number of investors and businesses recognising the importance of addressing climate change and other sustainability challenges. This has been driven by a range of factors, including the growing scientific consensus on the urgency of the climate crisis, the increasing frequency and severity of extreme weather events, and the heightened awareness of financial risks associated with climate change. The Russia-Ukraine war has only heightened the global energy crisis, thereby requiring a renewed focus on strategies around climate action and net-zero.

Important ESG and climate action developments in the financial sector

- In 2016, the Financial Stability Board (FSB) established the Task Force on Climate-related Financial Disclosures (TCFD), which developed a set of recommendations for companies to disclose climate-related risks and opportunities in their financial reporting. The TCFD has since been endorsed by over 1,500 organizations, including many of the world's largest financial institutions (FSB, 2017)
- In 2020, the European Union (EU) launched its Sustainable Finance Strategy, which aims to integrate sustainability considerations into all aspects of the financial system. As part of this strategy, the EU has developed a taxonomy of sustainable economic activities, as well as a set of standards for green bonds and other sustainable financial products (European Commission, 2021)
- The Science Based Targets initiative (SBTi) launched in 2015 is another significant initiative that has developed guidelines and methodologies for corporates and FIs for setting emission reduction targets that are science-based (SBTi, 2023)

In response to these trends, several significant ESG and climate action events have taken place in the financial sector around the world. For example, in 2015, the United Nations Framework Convention on Climate Change (UNFCCC) adopted the Paris Agreement, which set a goal of limiting global warming to well below 2 degrees Celsius above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 degrees Celsius. Since then, many countries and companies have committed to achieving net-zero emissions by 2050 or earlier, as a part of efforts to meet the Paris Agreement goals (UNFCCC, 2015). In addition to these high-level commitments, there have been a range of other important ESG and climate action developments in the financial sector.



These developments are significant first steps in the transition towards a more sustainable financial system and are helping to pave the way for the next stage of climate action, which involves setting net-zero targets and developing implementation plans to achieve them. While there is still a great deal of uncertainty and complexity surrounding the concept of net-zero, and how it will be achieved in practice, these developments suggest that the financial sector is increasingly committed to addressing the urgent challenges of climate change and other sustainability issues. This is substantiated by primary research findings, where respondents agreed that there has been a growing momentum on climate action both in developed as well as emerging markets.

GLOBAL NET-ZERO MOVEMENT AND FINANCIAL INSTITUTIONS

FIs comprise of a diverse set of institutions including banks, insurance companies, asset managers, asset owners and other service providers, and consultants whose businesses are subject to different fiduciary responsibilities and regulatory obligations. Standardized tools and methodologies coupled with enabling regulatory frameworks are being developed across developed and emerging markets. Nevertheless, each type of FI will have to design and implement net-zero strategies that are suitable to the nature of its own business model.

Mainstreaming of climate risks and integrated decarbonization pathways is critical to ensure an effective net-zero transition. Globally, FIs have actively started considering climate risks and sustainability principles in their business operations. The focus on ESG investments and lending, which began in a dispersed or scattered manner is now coming together and there is consolidation in approaches. Recognizing the impact of non-financial factors that might influence financial stability, several global/ regional coalitions are ramping up commitments for collective action towards a global transition.





Globally, ESG developments within central banks have been encouraging. Findings from the Global Sovereign Asset Management study states that ESG focus in 44% of central banks has increased owing to the pandemic (Invesco, 2022). Further, the growth in the number of central banks joining the Network for Greening the Financial System (NGFS) suggests increased awareness and acknowledgement of climate risks as a threat to financial stability (NGFS, 2022).

Furthermore, a myriad of tools and techniques have emerged to facilitate the role of monetary policy in climate change. This is on account of the growing realisation that climate impacts are highly likely to affect financial stability in the future. Climate-related disclosures, for example, have been at the forefront of all climate strategies, with firms and banks required to report their ESG/climate risks both qualitatively and quantitatively in many jurisdictions including New Zealand, the UK, Canada, and Singapore, among others (Financial Stability Board, 2022).

Central banks have also been participating to explore tools to remain coordinated with net-zero developments. For instance, the Bank of England, European Central Bank, and the People's Bank of China, have deployed climate stress tests and scenario analysis to understand the impact of climate risks on economic and financial stability, as also specific sectoral impacts (Bank of England, 2022). Additionally, integration of climate risks within risk management frameworks, incentives for micro-level sustainable finance allocation, improving data granularity, exploring transition scenarios, collaboration, and knowledge-sharing are some other key developments taking place within FIs to ensure stability at macro level. However, much remains to be done to quantify and report on metrics, such as financed emissions and sustainable finance in a uniform, consistent and standardised manner (KPMG, 2022).



A few central banks are also engaging with climate change at an individual level as well, albeit within their statutory capabilities. For example, the European Central Bank's latest



announcement to shift away from carbon-intensive corporate bond holdings and collateral framework is a step in the right direction (European Central Bank, 2022). Government-owned UK Infrastructure Bank was established in June 2021 with GBP 22 billion funding from the Treasury to provide infrastructure finance to private sector and local governments to tackle climate change and support regional and local growth (UK Parliament, 2023). Numerous initiatives have sprung up in Asia as well. In Iraq for example, the central bank is facilitating 1 trillion Iraqi dinars (US \$690 million) in low-interest, eased-term loans through local banks for green projects (OMFIF, 2022). The Climate Change and Principles-based Taxonomy by the Central Bank of Malaysia, Bank Negara Malaysia (BNM) requires FIs to assess their impact on climate mitigation and adaptation (Bank Negara Malaysia, 2022). Japan's Central Bank, Bank of Japan, through its Funds - Supplying Operations to Support Financing for Climate Change scheme, incentivizes banks by providing interest-free loans against its loan portfolio that finance climate change initiatives. This is also an effective strategy to align investments and loans of banks with climate-sensitive sectors (Bank of Japan, 2021) (Bank of Japan, 2022) .

Furthermore, Green Stock Exchanges are also becoming popular, not just in developed markets, but also in emerging economies. These help in providing access and direct investments to several green initiatives (World Federation of Exchanges, 2018). In terms of regulation, the U.S Securities and Exchange Commission's (SEC) crackdown on mutual funds and exchange-traded funds is an example of how there is increased scrutiny and verification of green claims and operations. Under SEC's new regulations, ESG funds are required to allocate 80% of their holdings into these assets, apart from disclosing more specifically about portfolio investments and future roadmap (US SEC, 2022). With similar objectives, the Indonesia Financial Services Authority (OJK) issued a new set of guidelines for sustainable reporting (The Jakarta Post, 2021). IPCC has stated that to limit global warming to 1.5°C above



pre-industrial levels, global net human-caused emissions of carbon dioxide (CO₂) must reach net zero around 2050 (UNFCCC, 2023). Race To Zero Campaign (launched in 2019) is a global initiative led by UNFCCC to encourage businesses, cities, regions, and investors to pledge to

achieve net-zero greenhouse gas emissions by 2050 or earlier, in line with the Paris Agreement on climate change. This means reducing emissions as much as possible and then balancing any remaining emissions with carbon sequestration, such as reforestation or carbon capture and storage.

There are also several international initiatives, as seen in Figure 2 below, focused on advancing the net-zero movement in the financial sector (UNEP FI, 2023).

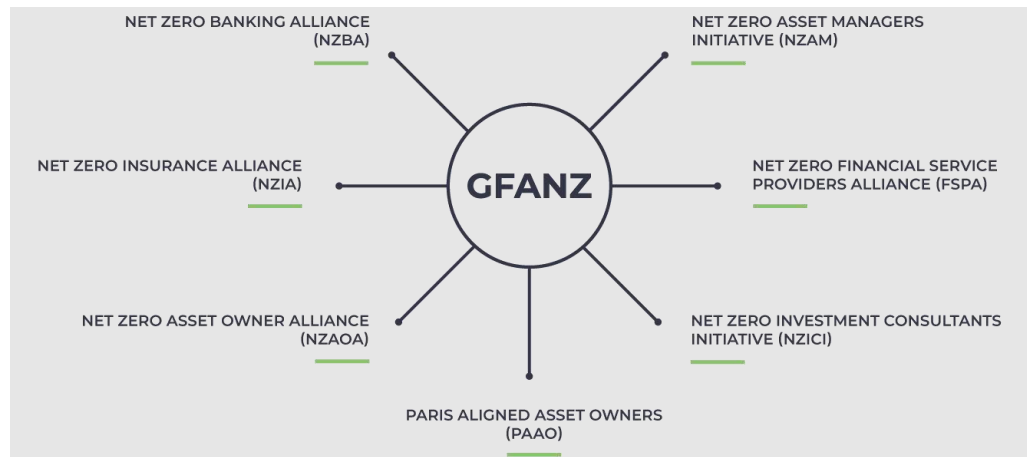


Figure 2 GFANZ – Umbrella of Alliances in financial sector
Source: Reclaim Finance

These include:

- The Net-Zero Asset Owner Alliance (NZAOA), which represents a group of institutional investors committed to transitioning their investment portfolios to net-zero emissions by 2050
- Global banks, representing over 40% of banking assets commit to aligning portfolios with net-zero emissions by 2050 under the Net-Zero Banking Alliance (NZBA) - a flagship climate initiative under Principles of Responsible Banking. The signatory banks will be required to set intermediate science-based targets for 2030 to accelerate progress (UNEP FI, 2023)
- Launched in 2020, the Net Zero Asset Manager Alliance (NZAMA) is a group of asset managers committed to supporting the goal of net-zero greenhouse gas emissions by 2050. NZAMA currently consists of over 301 signatories, representing more than \$593 trillion in assets under management. The NZAMA members also commit to setting interim targets in line with the Paris Agreement and are expected to report regularly about progress towards those targets. They also commit to engaging with portfolio companies to encourage them to set similar targets and to align their business strategies with a net-zero emissions future (NZAM Initiative, 2023)
- Other similar alliances for the financial sector net zero commitments include Net-Zero Insurance Alliance (NZIA), Net-Zero Investment Consultants Alliance (NZICI), Net-Zero Financial Service Providers Alliance (NZFSPA) and Paris Aligned Asset Owners (PAAO) (Reclaim Finance, 2023).



The Glasgow Financial Alliance for Net-zero (GFANZ) is an important global coalition that seeks to increase net-zero ambition and commitment amongst FIs. Over 550 FIs from 50+ countries have committed to meet net-zero goals including their financed emissions by 2050 through sector-specific alliances that come under the umbrella of GFANZ (GFANZ, 2022). As seen in Figure 3, four key strategies have been recommended by GFANZ for broader adoption by FIs including lenders, investors, and insurers for delivering on net-zero ambition while making a financing decision (GFANZ, 2022). The FI's financing decision enables climate transition through (i) Climate solutions – financing technologies, tools and solutions that mitigate, eliminate or remove emissions (ii) Aligned – financing entities and activities that are already aligned to 1.5C pathway (iii) Aligning – financing entities committed to transitioning to a 1.5C pathway and (iv) Managed phaseouts – financing or enabling the accelerated managed phase-out of high-emitting asset(s) before end of life.

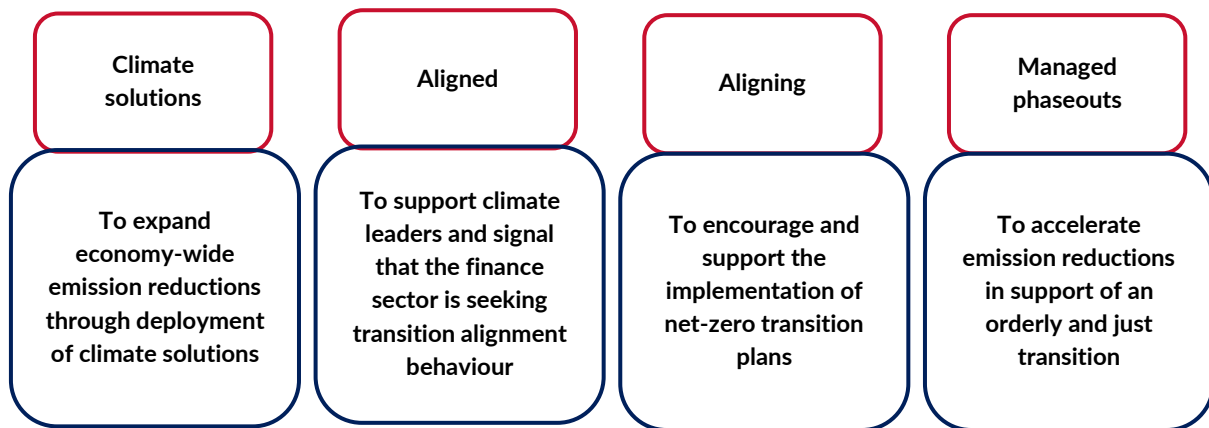


Figure 3 Four key net-zero transition financing strategies
Source: Glasgow Financial Alliance for Net Zero

Green shoots do exist with some level of awareness on applying ESG in lending or investment or underwriting assessment processes. However, this needs to be strengthened, given the growing climate priorities. Primary research findings confirm that despite directional changes in climate and net-zero commitments, much remains to be done from a regulatory perspective to create an impact at the scale needed.



3 | EMERGING MARKETS

NET-ZERO TARGETS AND LIMITATIONS OF EMERGING MARKETS

Two-thirds of global emissions is contributed by Emerging Markets and Developing Economies (EMDEs) (Li, Natalucci, & Ananthakrishnan, 2022). Over 95% increase in greenhouse gas emissions globally is from EMDEs. Exponential rise in demand in energy will be spurred by EMDEs that are expected to contribute to 98% global population growth and 90% of new middle-class households (WEF, 2022). In effect, these economies are in the preliminary stages of a typical economic growth as experienced by the advanced counties in the 20th century. Provision of energy and food security, access to mobility, industrialization and urbanization are still under progress in many of these countries (Macquarie, 2022). Therefore, emerging markets are increasingly receiving a lot of attention at international forums and events such as Conference of Parties (COP) and World Economic Forum (WEF), given their unique structural issues, economic and financial challenges, vulnerability to extreme climate risks and their critical role in achieving a global net-zero. Each market discussed in this paper (Malaysia, South Africa, and India) has a unique economic structure and is at various stages in their climate action journeys.

Emerging economies are critical for a global net-zero; however, they face unique structural issues, economic and financial challenges

India's five-pronged strategy towards a 2070 net-zero target was announced at COP26 which included commitments to increase renewable energy mix to 50% with 500 GW of non-fossil fuel-based energy and 45% carbon intensity reduction by 2030 compared to 2005 levels (The Print, 2022). Although India's long-term strategy for low carbon development encompasses sector-specific actions in power, transport, building and urban sectors, it lags significantly in terms of adequate policy and emission reduction pathways, with continued dependence on coal (Climate Action Tracker, 2022).

Transition financing requirement in target markets

- India: India will require investments worth over \$10 trillion to achieve net-zero by 2070 (Council on Energy, Environment and Water, 2021)
- Malaysia: It is estimated that close to \$100 billion of investments is needed to fund the energy transition (New Strait Times, 2022)
- South Africa: World Bank estimates that \$500 billion will be needed till 2050 to achieve South Africa's transition goals (Economic Times, 2022)

South Africa's electricity is heavily dependent on coal – about 75% - and employs significant workforce. Its current target to become carbon-neutral by 2050 includes coal and expects to adopt just transition practices. However, there are significant opportunities to expand renewable power generation using wind and solar sources (KPMG, 2022).



Malaysia's energy sector is primarily dependent on coal and natural gas and about 40% of total capacity is coal-based. The country's leadership has committed to 'no new coal-fired power plants and carbon neutrality' by 2050. Renewable sources are expected to rise to over 31% of the total installed energy capacity by 2025. Carbon pricing and carbon taxes are mechanisms adopted by Malaysia to achieve carbon neutrality (Argusmedia, 2021). Also, the country has pledged to reduce carbon intensity by 45% by 2030 compared to 2005 levels. (UNDP, 2021).

Emerging / low-emitting countries today face the consequences of massive industrialization-driven (and associated emissions) growth of developed markets (Lazard Asset Management, 2022). For example, it is estimated that the cumulative damages caused by US emissions from 1990 to 2014 is \$2 trillion (Callahan & Mankin, 2022). Despite the principle of "Common But Differentiated Responsibilities" within UNFCCC, in the global race to net-zero, unsuitable targets and benchmarks that do not consider the differentiated needs of the emerging markets, lack of access to capital and inadequate policy and ecosystem support continue to plague emerging markets.

Just Energy Transition Partnerships (JETP) is fast becoming a mechanism to finance transition in developing countries by developed countries. Examples include South Africa, Indonesia, and Vietnam. However, phasing out coal is an important part of JETP. Ability to sign up to JETP would depend on the level of coal dependency and the context of each country. For example, India has thus far stayed away from JETP, as phasing out of coal is not yet an option for the country, which is at its critical stage of development. The country has created its own just transition plan with a focus on renewable energy, creation of new green jobs and technology transfer. The challenges of the Indian coal industry are unique - India's coal power plants are on average only 13 years vs. 30 years in South Africa (IEA, 2022). South Africa's coal sector employs about 100,000 workers and the sector is highly unionized (Mongabay, 2022) as compared to 1.2 million workers in the Indian coal sector (International, 2021).



Source: BBC



Another contextual perspective that puts emerging markets at a disadvantage is the way emissions data is reported. The global emissions data is aggregated and published, not based on consumption levels of a country/ region but is gathered location-wise where the emissions are produced, i.e., on a territorial basis. For example, approximately 60% of Sweden's overall emissions come from foreign sources and are embedded in imported goods, implying that emissions are shifted to other locations through supply chains (Morgan, 2022). There is a strong need for policy stakeholders to drive climate targets based on consumption and redirect climate finance to emerging markets (Lazard Asset Management, 2022). Sweden is the first country to announce a consumption-based emission reduction targets in April 2021 (Climate Home News, 2022).

Given the need to redirect finance towards a low carbon transition in emerging markets, the banking and capital market regulators would therefore need to champion the cause and enable the ecosystem with sufficient policy interventions to attract capital.

ENABLERS OF NET-ZERO STRATEGIES IN EMERGING MARKETS

Climate commitments by companies and FIs require adequate policies and financial systems that redirect capital to green transition. Emerging markets face additional challenges in terms of impacts on labour force and managing energy needs to meet the economic growth objectives (OECD, 2021). In addition to broader climate pledges, the following critical enablers as seen in Figure 4 can facilitate an overall accelerated transition of the economy.

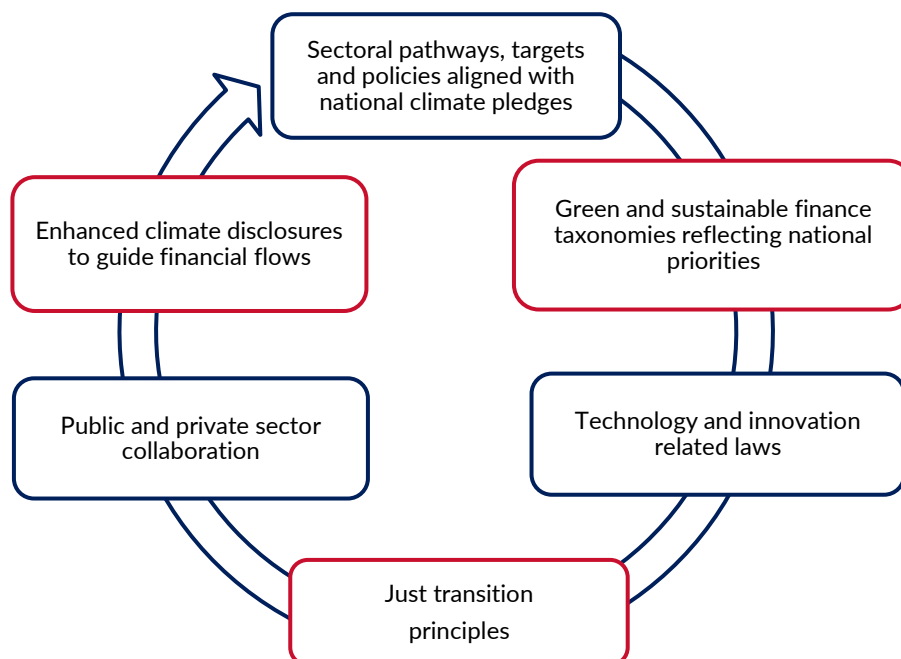


Figure 4 Enablers of net-zero strategies for effective economic transition

Sectoral pathways, targets, and policies: The implications of net-zero scenarios on energy-intensive sectors of electricity, transport, building, and manufacturing need to be identified first. It should then be translated into actionable targets and steadfast policies enabling



transition in the real and the financial sectors. Incentivization (e.g., subsidies for electric vehicles) and penalization (e.g., carbon tax) for non-performance to push corporates, consumers, and capital providers to make greener choices would provide the much-required momentum (Chaturvedi, Vaibhav, & Malyan, 2022). Stakeholder consultations for effective implementation and capital alignment with climate targets is also crucial to produce desired short to medium term outcomes and long-lasting impacts.

Green and sustainable finance taxonomies: Globally, economies are formalizing criteria to identify and classify business activities that can be labelled green to guide stakeholders' priorities and actions (PwC, 2022). However sustainable capital flows can be boosted only if taxonomies reflect national priorities, are internationally harmonized, provide granularity at project levels and aggregation at entity levels, include transition-relevant classifications and mandate quantifiable outcome-based disclosures with third-party verification (BIS, 2021). Comprehensive taxonomies mitigate the risk of greenwashing and provides better access to international sources of capital (D'Souza, 2021). FGD respondents have also opined that having a green taxonomy which is aligned with international standards but is contextualised to local priorities can go a long way in enhancing capital flows to climate action.

Technology and innovation: Adequate laws and vigorous support to emerging technologies such as the Carbon Capture Utilization and Storage (CCUS) can be formulated into comprehensive legal frameworks and compliance requirements - example EU CSC Directive (Rickels, Proelß, Geden, Burhenne, & Fridahl, 2021). Alternatively, such CCUS governing regulations can be built on existing laws - example safe drinking water legislations in US also cover CCUS requirements. Implementation of such technologies needs policy push and financing capabilities, and emerging markets could consider establishing technology-specific legislations supported by enforcement and monitoring mechanisms, and administrative capacities, and hub and cluster models to advance climate goals and action can be integrated



Source: nationalgrid.com



in economic models of emerging markets. Developed market examples include Netherlands' synthetic fuel production, Norway's carbon storage and UK's Hydrogen Strategy built around industrial hubs (Economic Research Institute for ASEAN and East Asia (ERIA), 2020). International and local stakeholder collaboration for technologies, technical assistance and capacities and regulatory regimes supported by financing could be more relevant to the region.

Just transition principles: Transitioning away from coal-based energy is at the crux of a net-zero strategy. Policy and technology driven transitions have tremendous impacts on local communities, with dire consequences such as loss of livelihoods and labour displacement issues, especially in emerging economies. A just transition places the socio-economic angle at the centre of greening the economies (ILO, 2022). Just transitions need to reflect the vast differences in each country's economic structure, coal dependencies and unique socio-economic dimensions.

A just transition considers the unique economic structure, coal dependencies and the socio-economic dimension of the country

Role of public and private finance in net-zero: Long-term decarbonization hinges heavily on scalable and cost-efficient breakthrough technologies for energy transition and industrial transition. While emerging technologies such as CCUS, green hydrogen, green ammonia, and sustainable aviation fuels are under development, there is a huge financing gap to test and build these technologies. Innovative financing structures and collaboration of public and private sectors is essential to deliver net-zero targets (WEF, 2021). As emphasized earlier, several trillions of investments that is needed to achieve net-zero goals can be facilitated only by the financial market regulators and policy interventions.

Enhanced climate disclosures to guide financial flows: Climate disclosures by companies and financial institutions are being mandated not only by the developed economies but also by emerging economies. Large corporations adopt voluntary disclosures due to market incentives and investor pressure (IFAC, 2022). Institutional investors affirm the use of climate data for making investment decisions and for engagement with high-emitting companies for emission reduction initiatives (Shira, Kadach, & Ormazabal, 2022).



4 | STATE OF FINANCIAL MARKETS AND NET-ZERO TRANSITION

ROLE OF FINANCIAL SECTOR IN ACHIEVING NET-ZERO

Net-zero commitments need to translate into action and impacts and needs redirection of capital towards transition efforts. The International Energy Agency maintains that there is a huge “implementation gap” between the net-zero targets and the current policy responses. The financing gap for global net-zero energy transition is enormous, requiring \$5 trillion annual investment by 2030 and more than \$50 trillion in incremental investment each in the following two decades by 2050 (Morgan Stanley, 2022). The funding needs estimate for net-zero transition in emerging markets is pegged at \$94.8 trillion (Standard Chartered, 2022).

Balancing growth in an economy that is heavily dependent on cheaper sources of energy and heavy industries, alongside furthering net-zero transition is challenging for emerging markets, vis-à-vis developed nations whose emissions have peaked and who have already reaped the benefits of industrialization and growth (Ganske, 2022). Primary respondents highlighting the financing challenges also stated that the financing estimates increase at every COP by a trillion dollars for climate mitigation and adaptation.

The financial sector thus has a pivotal role in spearheading the net-zero agenda, given the scale of investments required. FIs can exert greater influence on economic activity through leveraging the power of capital flows and financing decisions. FIs’ commitments to decarbonization and net-zero initiatives therefore impact the real economy sectors, as capital is re-directed to greener avenues or emission reduction linked targets. Regulatory and supervisory bodies are also demanding mandatory climate related disclosures from FIs, which in turn require borrowers to provide this information. Using climate data, FIs can drive a low-carbon transition through their investments, lending practices, and risk management strategies. FIs can encourage their clients to adopt sustainable practices by offering incentives for environmentally responsible behaviour, such as lower interest rates for businesses that reduce their carbon footprint, thereby aiding the achievement of net-zero pledges.

FIs can drive a low-carbon transition through their investments, lending practices, and risk management strategies

PILLARS OF EMERGING NET-ZERO FRAMEWORKS FOR FIs

A net-zero ambition involves a long-term view on the impact of climate risks and pivoting business models over short-, medium-, and long-term, towards the net-zero targets. These goals need to be supported by actionable data, net-zero aligned products and practices, and efficient reporting and accountability structures.

As seen in Figure 5, it is suggested that the core focus areas of a net-zero transition framework for FIs comprise of: data, target setting, financed emissions and portfolio alignment, climate risk integration in risk management, reporting and validation.

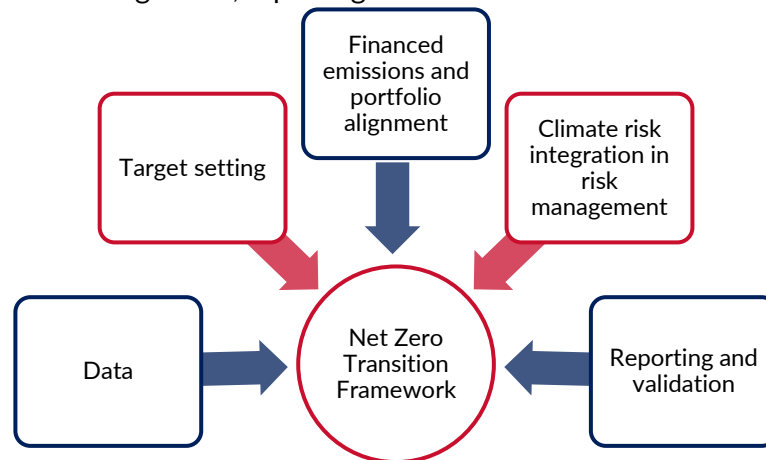


Figure 5 Pillars of a net zero-transition framework for FIs

Data: Reliable and decision-useful data is at the core of all strategies that seek to bridge the gap between ambition and action. Identification of material parameters and climate-related metrics, both at the level of operations and portfolio is critical to monitor and steer the transition, reduce financed environmental impacts and recalibrate business models in line with the net-zero narrative. Currently FIs lack high-quality, verifiable and comparable data to guide their climate risk pricing and financing decisions. Lack of access to high-quality data, non-availability of quantifiable metrics, and absence of evidence-based common language are some of the most common challenges in navigating the path to net-zero as highlighted by primary respondents. Despite increasing impetus on mandatory and regulatory disclosures, data challenges such as insufficient coverage and granularity, inaccessibility, lack of high-quality, verifiable, and comparable data persist (NGFS, 2022).

Financed emissions and portfolio alignment: Partnership for Carbon Accounting Financials (PCAF) (PCAF, 2022), GFANZ (GFANZ, 2022), and Investor Agenda’s Investor Climate Action Plans (The Investor Agenda, 2022) provide guidances on portfolio emissions measurement, forecasting, alignment, and benchmarking. While divestments from high-emitting assets is the easiest solution, it does not lead to automatic real transition. Managing phasing out of high carbon emitters from the portfolio over time horizons and engaging with them on emission reduction initiatives would help in achieving better environmental impacts. Financing of climate solutions and assets/ projects with zero emissions is one of the portfolio alignment strategies that is critical for increased momentum towards an orderly transition. Engagement and stewardship with borrowers to assess, measure, and set targets is needed to accelerate portfolio decarbonisation.

Target Setting: Setting of credible, science based targets provide for an ideal decarbonisation pathway over the long-term with interim goalposts and checkpoints. In addition to helping monitor progress, articulation of ambition in the form of specific targets and quantitative metrics also serve as an effective communication tool to internal and external stakeholders. Target



setting for financed emissions, i.e. Scope 3 emissions, is very important for FIs as Scope 1 and 2 emissions are negligible. Regular review of progress and adjustment of actions and targets is important to remain on track. Target setting is critical to drive action as emphasised across many frameworks such as TCFD, Principles for Responsible Banking (PRB) launched by UNEP FI (UNEP FI, 2022), and The Institutional Investors Group on Climate Change (IIGCC)'s Net-zero Implementation Guide (IIGCC, 2021).

For example, PRB necessitates undertaking an impact analysis exercise of a bank's portfolio to assess the impacts of its financing operations on the people and planet. Principle 2 of the PRB (Impact & Target Setting) emphasizes the importance of enhancing positive impacts, minimizing negative impacts, and managing risks to people and the environment that may arise from banks' activities, products, and services. As a founding member of Net-Zero Banking Alliance, UK's Barclays Bank has set an ambitious net-zero target by 2050 and is focusing on reducing not only its direct and indirect emissions but also financed emissions (Scope 3). Financed emissions assessment and targets were set on high-emitting sectors of energy, cement, steel and power to begin with and the coverage were expanded to include automotive industry and residential real estate portfolios recently (Barclays PLC, 2022).

Case study: Austria's Raiffeisen Bank International (UNEPFI, 2022)

- Firstly, the portfolio composition was analyzed and categorized into consumer, corporate banking and SME segments. For corporate and business segments, a sectoral exposure analysis was conducted and for the consumer segment, products such as vehicle loans, mortgages, credit cards, personal loans were examined in detail. Based on the impact analysis, the bank identified 2 key impact areas - climate protection and resource efficiency
- Specific targets for each business segment and associated ESG KPIs were mapped out for oversight, governance, reporting and performance accountability
- Examples of specific targets to reduce GHG emissions from two sectors. (i) commercial real estate sector within the corporate loan portfolio is targeted to achieve a 56% reduction in emissions per square meter by 2030 from the 2020 baseline and (ii) electricity generation project finance portfolio is targeted to achieve a 48% reduction in emissions per MWh from the 2020 baseline

Climate Risk Integration in Risk Management: FIs must identify, assess, and measure both physical and transition risks and analyse its potential impacts on its operations, assets, and financial performance. Internal risk management frameworks and credit appraisal mechanisms must include climate risk parameters. This involves translating climate risks into traditional risks that can be quantified and managed using existing risk management tools. For example, physical risks can be translated into credit risks, market risks, and operational risks, depending on the nature of the risk and its impact on the institution. Transition risks, on the other hand,



can be translated into market and credit risks, as well as reputational risks (Campiglio, Daumas, Monnin, & Jagow, 2022). Integrating climate-related risks into the risk management framework and credit appraisal mechanisms allows FIs to effectively manage these risks and make more informed investment decisions towards transition to a low-carbon economy.

The data and metrics for risk management, oversight, and reporting are the same as that is needed for a net-zero transition. There is clear intent on the part of FIs as indicated by primary respondents and they are already undertaking climate risk due diligence on large projects and strengthening their risk teams with climate risk capacities and sustainable finance. However the discussants also highlighted that FIs continue to be challenged by lack of robust methodologies.

Reporting and validation: Transparent reporting and non-financial disclosures increase credibility and minimizes the risks of greenwashing. In addition to mandatory requirements by country authorities such as India's Business Responsibility and Sustainability Reporting (BRSR) and TCFD adoption, Net-zero Alliances provide best practices to report both qualitative and quantitative non-financial parameters.

ROLE OF FINANCIAL REGULATORS IN NET-ZERO

The trickle-down effects of regulations by banking and capital market regulators influence the monetary and financial climate in global economies. Independent climate action from each regulator, as well as synergies between the two regulators, would therefore be key to creating an enabling ecosystem for financing global net-zero journeys.

As international regulations evolve, it is bound to create ripple effects in emerging markets as well, with a requirement to align with international standards. For instance, EU's Carbon Border Adjustment Mechanism (CBAM) that shall come into full effect from January 2026 proposes to levy a carbon tax on non-EU imports starting with imported electricity, cement, aluminium, fertilizer as well as iron and steel and later shall be expanded to cover other areas. This will have grave spillover effects on export-oriented emerging economies. Global perspectives need to be considered in developing policy options (Xiaobei, Fan, & Jun, 2022). However, during the transition phase starting October 2023 till the end of 2025, a simplified CBAM with carbon footprint reporting requirements will be implemented. Post this period, a charge linked to EU's carbon prices shall be levied to cover the GHG emissions (PwC, 2023). CBAM would represent an additional cost related to export to the EU market, which would be shared with the exporter or producer and could influence their marketing strategy. There are expectations that other countries may also implement measures like CBAM and the levy – linked to the EU's carbon market price, currently around €90/tonne – will be payable.

Evolving international regulations such as carbon border adjustment tax will have ripple effects across markets

Carbon markets will play an increasingly fundamental role in incentivising and accelerating a net zero transition in the short to medium-term. More than two-thirds of the countries intend



to use carbon markets to meet their NDCs. It is projected that the implementation cost of NDCs could be cut by up to \$250 billion by 2030 through carbon credit trading. As every country reaches net zero emissions, carbon markets are expected to become redundant over time (World Bank, 2022). Global carbon markets experienced significant growth globally, with auctions raising \$141.2 billion between 2017 and 2021, and voluntary markets predicted to generate \$100 billion annually by 2050. However, various standards have emerged under different schemes, making it difficult for institutional investors to navigate, find price transparency, and define high-quality carbon credits. This lack of trusted marketplaces and obstacles to finance and verification for small project developers may hinder the flow of capital towards carbon reduction and removal efforts (World Economic Forum, 2023).

As the net-zero roadmap takes shape in emerging economies, climate oversight is pivotal to reinforce financial stability and balance the economic growth in the country. Taking cues from global developments, the financial sector in emerging countries need to mainstream and internalize climate risks and opportunities. A slack pace and action on this front can translate into a missed opportunity for the financial sector. Central banks are broadening the scope of prudential norms, directing commercial banks to factor in material climate risks (both physical and transition) into their strategies, risk management practices and disclosures.

The central Bank of Malaysia, BNM, has announced a climate change and principles-based taxonomy that mandates banks, insurance companies and regulated financial entities to conduct environmental impact assessment of their financing activities (Bank Negara Malaysia, 2021). Malaysian FIs shall be mandated to adopt basic TCFD recommendations within a two-year period as published by the Joint Committee on Climate Change in its guidelines for TCFD adoption (ESG Investor, 2022).

Mandatory emissions disclosures will prompt companies to consider their models and operations from a carbon footprint perspective

The central bank of South Africa, South African Reserve Bank (SARB) is developing macroprudential and supervisory frameworks to respond to climate risks. In 2021, SARB included drought scenario for stress testing of portfolios of systemically important banks and continues to work on developing additional climate risk scenarios and models (Caswell, 2022). Industry associations such as the banking association and pension fund association have developed their own sector-specific initiatives, principles, and codes to drive climate disclosures and action (WWF South Africa, 2022).

In India, the Reserve Bank of India (RBI) discussion paper on climate risks brought out for public consultation in 2022 recognises that climate risks are “ascending in the hierarchy of threats to financial stability” and therefore identifies key areas of intervention across governance, strategy, risk management, and reporting (RBI, 2022). India’s capital market regulator SEBI’s guidelines on green bond issuances on disclosures, verification on use of process and impact reporting (SEBI, 2022) (SEBI, 2023) are enablers of sustainable finance. The push for TCFD disclosures in many countries is also suggestive of important next steps. Primary research



findings maintained that robust good governance practices needs to be adopted both by the FIs and the supervisory bodies.



Source: ADEC Innovations

UK announced its 2030 Green Finance Strategy in March 2023 with the core objective of mobilizing capital for green investments and includes a green taxonomy. It also outlines a roadmap towards establishing UK as a net-zero aligned financial centre where FIs are urged to create and implement transition plans with adequate monitoring and reporting mechanism (UK Government, 2023).

Among others, the assessment report cited the “gaps” such as the lack of a holistic examination of the impact of climate change and nature loss in financial decision-making; the lack of policy incentives to enhance system’s robustness and long-term stability; the need to add Environmental and Social factors into monetary policy recommendations and actions; and a more realistic transition plans in their climate and sustainability finance framework strategies. The central banks, regulatory and financial supervisory bodies are thus part of the solution to the problems of climate change and must use its full arsenal of its policy tool kits to mitigate the harmful effects of fossil-fuel based industries in the global economic activities.

It is evident that increased demand for mandatory emissions disclosures from regulators globally has forced companies to re-think their business models and operations from a carbon footprint standpoint. In addition, government pledges towards net-zero and green growth, and investment programs towards climate issues and renewable energy are expected to drive changes across the real economy sectors (Kuykendall, 2022). FIs and banks are also being urged to align their portfolios and risk management mechanisms to become more climate . Regulators therefore have a critical role in steering the net zero narrative globally. In the emerging economies especially, a strong regulatory-driven push is expected to shape the financial ecosystem.



5 | RECOMMENDATIONS

The banking sector and capital markets are the facilitators of capital flows. The role of each regulator varies from one country to another, based on the maturity of the financial system. The objective in sustainable finance intermediation is two-pronged – (i) to channel funds into greener avenues and (ii) to manage increased climate-related financial risks, and related credit and market risks. Primary research respondents opined that while there is increased development and uptake of ESG frameworks/ reporting, there needs to be greater focus on the “E” which is the environment, with the chief component being climate action and emission reduction. The role of the regulator is therefore to intervene and incentivize the financial sector to accelerate capital flows towards emission reduction and net-zero goals.

Further the primary research findings also highlighted that there is a strong need to ensure a just transition for climate funds/green funds to reach its intended beneficiaries. Recently, it was reported that while 70% of the world’s population who are mostly residing in developing and emerging economies, it is unfortunate that they only received 15% of global investments in 2020 (IRENA, 2023). Further, transition to clean energy represents the best opportunities for emerging and developing countries to accelerate and hasten its economic growth trajectories. Proponents for green investments will lead and create values and jobs which will ultimately lead to decarbonization. For example, solar and wind power to nuclear, green hydrogen, electric vehicles and carbon capture will ensure energy security (Hausmann, 2022). Based on our findings and primary consultations, we draw following recommendations to the banking and capital market regulators in emerging markets to accelerate net zero action.

RECOMMENDATIONS TO BANKING REGULATORS

Despite the pressing need to act, banks are just starting to address climate risks, on account of recent regulatory and policy directions. Awareness on climate risks in the banking sector is still very nascent, with multiple gaps in capacities and expertise, as most banks do not have any specialised Board or senior management level expertise in this space. For instance, climate risk consideration in Indian banks for credit and risk decisions are missing, leading to prolonged and frequent credit exposure to carbon-intensive assets (ODI; auctusESG; Climate Bonds Initiative, 2022). There is also a demonstrated shortfall in expertise across risk and credit teams, with little provisions for climate training outside of the ESG/sustainability team. This is reflective of how banks view climate/ESG risks a “departmental responsibility” versus an “organisational requirement.” Given such instances, it is important to ramp up action as a delayed and restrained response would have significant consequences, such as worsening credit scores and deterring investible interest from investors worldwide, besides direct financial impacts of climate-related risks on the lending portfolio.

Mandatory emissions disclosures will prompt companies to consider their models and operations from a carbon footprint perspective



This context is also suggestive of the numerous and diverse challenges that emerging markets will need to tackle on its path to net-zero. It foregrounds the potential threat to the financial stability of the country, as climate impacts become increasingly material in countries that are highly vulnerable to climate change risks. The absence of a roadmap landmarked by short-term goals and a national taxonomy to provide supporting finance flows, further create a pressing need for prompt action from financial regulators to safeguard the economy while pivoting towards a low-carbon economy.

We make the following recommendations (Figure 6) for banking regulators in emerging markets to guide net-zero pathways in the banking sector:

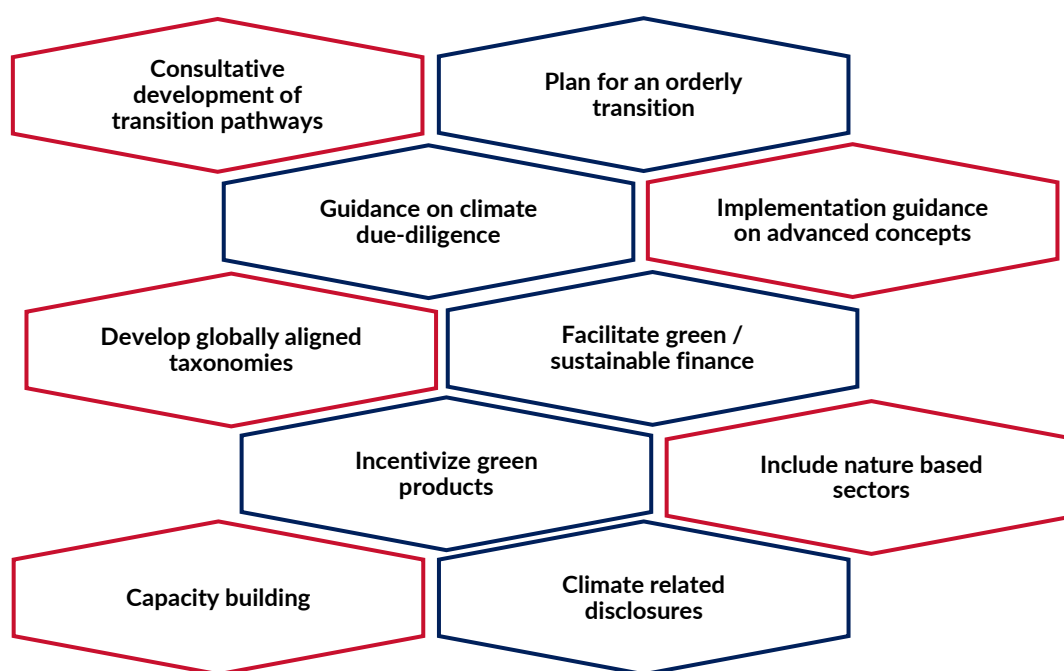


Figure 6 Recommendations to banking regulators

Consultative development of transition pathways: Business disruptions on account of physical risks and the acceleration in climate-related regulations for the financial sector would need banks to respond appropriately. Embedding climate risk metrics in credit analysis would therefore be effective to mitigate business risks, especially credit risks caused due to climate impacts. An integrated approach that considers climate factors at every step of risk management would be instrumental in achieving this (Deloitte, 2022). Development of transition pathways is a crucial step in the context of climate risk management. With increasing pressure to stop coal financing, combined with a growing risk of coal becoming a stranded asset, there is a need to not only reduce fossil fuel exposure but also divert finance to climate-aligned and green sectors (Mercure, et al., 2021).

It is suggested that central banks set a mandatory roadmap with timelines for setting transition targets in the high emitting sectors with expected impacts and outcomes in the form of sectoral

pathways. This can then be scaled up to other sectors as well over time. This may be undertaken through a consultative process to ensure a level playing field for all banks and provide direction to plan and implement net-zero strategies. Once the overall direction is set, banks will automatically be urged to build capacities, and develop systems and process to integrate transition plans in their lending models.

Primary respondents opined that one of the first steps to develop transition pathways would be to identify the key industries which will create a significant impact on the goals of achieving the country's net zero emission objectives. Primary respondents identified those industries as transportation, building, and construction and renewable energy and energy efficiency projects as they create the necessary impacts from up and downstream the climate innovation value and supply chains. The IPCC Report 6.0 has similarly identified the above manufacturing industries plus innovative agricultural practices and technologies as key levers or drivers to deliver more emission cuts than any other technologies within the next 7 years or by 2030 (IPCC, 2023). Primary research held that wind and solar technologies are more cost-effective than fossil fuels, with over 50% of their abatement achievable at no cost. The only comparable technologies that offer such outcomes are efficiency measures in vehicles, appliances, and shipping (Parkinson, 2023).

Transition pathways should identify the key industries that will create huge impacts on achieving the net-zero goals

Plan for an orderly transition: Building capabilities for transition planning is an essential element of a net-zero strategy, especially in countries with high economic dependence on carbon-intensive sectors. Transition planning would also help establish a progressive decarbonisation strategy with short- to medium-term goals serving as checkpoints. Moreover, a rapid shift in certain sectors, such as renewable energy would require financial institutions to





align their business models, products, and strategies to reduce their exposure to transition risks. This would involve scope setting, selection of emission scenarios, and portfolio alignment measurement, among others. The NGFS Scenarios Matrix offers a range of scenarios that can facilitate an orderly transition towards a low-carbon economy which may be adopted. (NGFS, 2020)

Momentum for transition planning has increased globally. For example, banks which have signed up to the GFANZ have set a 2050 target year to align business practices with net-zero. This is also accompanied by a decarbonisation plan with intermediate targets for 2030 or sooner along with annual reports to record the progress made. The ECB has also proposed mandatory climate transition plans for banks, including the ones with a net-zero target. Therefore, directions from the banking regulators on transition planning within banks would be favourable from a level-setting standpoint as well. Primary respondents agreed that this would help tone down the significant exposure of the financial sector to carbon-intensive industries, preventing a possible “Minsky” moment in the economy.

Primary research further emphasized that it is critical for the banking regulators to seriously start a dialogue on how to take a deep dive into their loan portfolio and fossil-fuel based investments. A clear roadmap on how to move away from fossil-fuel projects that would minimize the disruptions within the ecosystem must be established and that mitigating measures are put in place to ensure just energy transition.

Guidance on climate due diligence: Granular due diligence guidance documents for project loans, specifying climate change parameters – quantitative and qualitative – and mandatory climate due diligence for potential projects/ loans that cross a particular threshold would help mainstream climate risks. Central banks can specify materiality and business size criteria; carbon intensive sectors could be a starting point that can be replicated to other sectors.

Implementation guidance on advanced concepts: As confirmed by the primary respondents, banks are convinced about the need to assess climate risks but are however challenged due to absence of standardized climate risk assessment tools such as climate stress testing and scenario analysis. Central banks can provide guidance on these advanced concepts, that are contextualized to local climate vulnerabilities, to help banks identify and manage their exposure to climate-related risks. Scenario analysis can help organizations identify their exposure to climate-related risks and opportunities and develop strategies to manage and mitigate these risks. Climate stress testing, on the other hand, involves the use of different stress test scenarios to evaluate the resilience of an organization's financial position to climate-related risks. This can help organizations identify potential vulnerabilities and respond appropriately to address them. Platforms such as NGFS can be leveraged to develop best practices documents. In addition, the central banks in emerging markets may provide specific guidance and methodologies related to climate risks as part of banks' ICAAP calculations, which is critical to denoting the strength of

Absence of standard risk assessment tools such as climate stress testing and scenario analysis pose significant challenges to banks

the banks' balance sheets. Banking associations and banking regulators can be encouraged to join platforms such as IFC-supported Sustainable Banking and Finance Network (SBFN) which mobilizes knowledge, resources, and best practices to support net zero initiatives.

Develop globally aligned taxonomies: It is recommended that regulatory bodies, and state actors align their objectives, language and policies to national context and develop taxonomies that allow interoperability with global taxonomies and frameworks. This helps guide the local financing towards sustainable activities as well as access to global pools of capital. Developing and providing guidance on sectors and activities that are unsustainable from a climate standpoint is also recommended. This can be a reference point for banks to create their own exclusion list of unsustainable activities that have a harmful impact on the climate.

Facilitate green/sustainable finance: In addition to providing guidance on climate related risks, the regulators play an instrumental role in redirecting finance to climate-aligned sectors and support increased quantum of financial flows towards transition themes. Through incentivisation policies or institutional arrangements, sustainable finance, led by the banking regulator can help financial institutions to participate more actively to finance a net-zero goal. For example, sustainable financing solutions from development financial institutions have been successful in crowding in green capital from private sources to finance climate-oriented interventions and similar mechanisms may be explored with banks leading from the front. FGD findings suggest that the key factor that can improve climate finance flows is to strengthen the supply side of such projects. Making readily available a database of pre-screened and verified sustainable projects, makes it simpler for banks to redirect capital into sustainable avenues. Primary respondents stressed upon the importance of climate finance as a key driver for worldwide decarbonization and switching to renewable energy sources will jumpstart the economy.



Source: IMF

Incentivize green products: Provision of fiscal incentives in terms of subsidies and, differential interest rates are slowly gathering momentum. Uptake of green products such as electric vehicles or solar panels can be incentivised through better interest rates for the consumer. Another example is green mortgages, which may be categorized as low risk and therefore be provided at lower interest rates. While pricing decisions on such loans can be taken at an individual bank level, depending on the country, banking regulators could facilitate uptake of such products by mandating lower capital requirements.



Expand the purview to include nature-based sectors: Nature-based sectors have stayed away from the limelight despite their key role in carbon sequestration in the form of carbon sinks. Given the interlinkages between climate change and nature loss, in a recent call to action, over 90 organizations urged central banks to bring biodiversity-related financial loss into their supervision (WWF, 2022). For instance, in India, the agriculture sector that contributes to over 20% of India's GDP (Ministry of Agriculture & Farmers Welfare, Government of India, 2021) and with a 38% share in total employment (The Economic Times, 2021) is subject to high physical risks. 54% of the commercial lending portfolio of Malaysian banks are dependent on smooth functioning of ecosystem services that are significantly predisposed to physical risks. 87% of the lending portfolio is vulnerable to transition risk due to its exposure to sectors impacting ecosystem services (World Bank Group; Bank Negara Malaysia, 2022). 112 nations supported a landmark pact to conserve 30% of the earth's land at The United Nations Biodiversity Conference in December 2022 (UNEP, 2022).

Regulators entrusted with financial stability will now need to proactively engage with the twin objectives of climate change and biodiversity recovery that could pose systemic financial risks. It is therefore recommended to integrate biodiversity parameters into the climate-related risk assessment and management frameworks that are currently still evolving. Co-developing roadmaps to integrate nature-based metrics from a net-zero perspective would also strengthen the prudential oversight mechanisms.

Regulators need to proactively engage with biodiversity recovery besides climate change to maintain financial stability

Implementation of climate-related disclosures: Driving climate action that aligns with the demands of climate science requires enhanced transparency by banks. Such disclosures

Regulatory guidance on disclosures

- Regulators' guidelines to include appropriate climate scenarios, climate risk assessment tools and quantification of financed emissions. Standardized methodologies and tools to assess climate risks - physical and transition - need to be provided by the central bank to ensure consistency amongst all banks
- It is also recommended to mandate reporting of financed emissions including at facility-levels of high priority/ carbon-intensive sectors that would push banks to measure, report and monitor portfolio emissions for transition planning.
- Mandatory climate related disclosures and guidance notes from regulators can be used to align other voluntary disclosure standards, which can help to streamline the reporting process and make it more efficient. It also reduces reporting burden, improves quality and provides consistency and comparability

increase credibility of and accountability for their net-zero strategies. In India, RBI's discussion paper on TCFD-aligned climate disclosures for banks is a welcome step and is expected to bring



forth crucial and actionable data from the underlying credit portfolios of banks. Disclosures related to lending and investment practices can help identify risks emanating from certain sectors across the portfolio, paving the way for effective climate risk management as well as transition planning. Additionally, disclosures as a tool to develop green assets may also be explored further (Green Finance Platform, 2022). While the BNM has issued a guidance document on TCFD adoption by Malaysian banks, qualitative and effective disclosures from banks are still far behind. South Africa is in the process of co-developing standards and guidance frameworks with industry stakeholders for climate disclosures (South Africa Sustainable Finance Initiative Related Risks and Opportunities, 2021).

Capacity building: Central banks can play a crucial role in helping banks to build on their climate capabilities. A recent survey by the European Central bank (ECB) of 186 banks in EU shows that even in the climate-progressive countries, FIs have only covered ground on the basic required climate practices. 85% of the banks still lack detailed and granular data on climate risks and do not have well-developed methodologies to assess climate risks. The survey also concluded that 95% of the banks lacked the capacity to identify the scope and severity of material climate risks and often underestimated them (ECB, 2022). This gap in capacities is even more pronounced in emerging markets.

Mandatory capacity building for banks

- Training and technical assistance to banks on climate risk management becomes critical to see through net-zero plans. In this regard, RBI's discussion paper on climate risks in 2022 identifies capacity building as a crucial component for banks in their climate journey.
- Mandatory training programs should be organized based on the strategic and operational needs of the top-level management, front-line staff and risk management teams
- Biodiversity-linked products such as biodiversity bonds and nature-related financial disclosures along the lines of Task Force on Nature-related Financial Disclosures (TNFD) may become prominent in the years to come. Incorporating these elements into training programs should be considered at the earliest

Primary respondents highlighted the example of Philippines where the central bank of Philippines mandated banks to embed sustainable financing principles into their lending operations and risk management frameworks by 2023. Among the big universal commercial banks in the country, only the Bank of the Philippine Islands, RCBC and Security Bank, have publicly declared that they will stop funding coal plants by 2030, while Banco de Oro Universal Bank committed only halving its coal project exposures. Thus, there has been little activity and progress from the banks to craft transition plans. The poor response from the banks was attributed to due to lack of technical knowledge to conduct climate risks assessments, to craft



and implement sustainability principles, difficulty in mining, collections and analysis of relevant institutional environmental and social risk factors and initial cost of investment in undertaking this type of initiatives.

Overall, data from the central bank of Philippines, Bangko Sentral ng Pilipinas (BSP), showed that loans extended for electricity, gas, steam, and air-conditioning supply grew more than three times in the period June 2014 to October 2022, or from P372 billion to as much as P1.1 trillion. This was proportional to the expansion of power generation of fossil-fuel powered plants, especially coal-fired ones in the country. As of September 2022, only 21% of the total loans disbursed for this sector had been allocated to renewable energy development (Lopez, 2023).

RECOMMENDATIONS TO CAPITAL MARKET REGULATORS

Capital markets are critical in mobilizing and allocating financial resources efficiently to promote economic growth and development. They play a crucial role in financing the transition to a low-carbon economy, as the private sector is expected to provide a significant portion of the funding needed to achieve net-zero emissions. Figure 7 highlights key recommendations for capital market regulators in emerging markets to facilitate the net-zero journey.

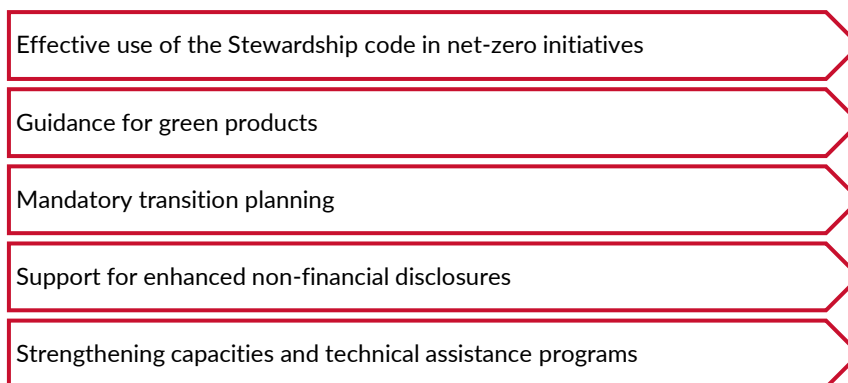


Figure 7 Recommendations to capital market regulators

Effective use of the stewardship code in net-zero initiatives: Institutional investors' oversight on the activities of investee companies would help secure and allocate capital efficiently, preserving the stability of the market. It is important for capital market regulators and stock exchanges to mandate the inclusion of net-zero interventions as a part of their stewardship responsibilities. Institutional investors can influence companies' behaviour and approach towards climate change. The first step to set this into action would be for mutual funds and exchange traded funds to clearly define their policy objectives. Further, monitoring and verification of investees' net-zero action plan and climate impact would be important to actualise the objectives for net-zero. Such a process would also feed into the disclosure processes of both companies and investors, making the financial ecosystem more robust.

Inclusion of net-zero interventions as a part of stewardship responsibilities can be mandated by capital market regulators and stock exchanges



- Globally, institutional investors have hardened their stance on investee companies' ESG risks and are using their position to influence behaviour
- For example, ABP of the Netherlands and The New York State Common Retirement Fund, the third-largest US pension fund, are planning to sell out of energy companies which do not have a transition plan (Business Green, 2021) (Financial Times, 2022)

Guidance for green products: Similar to issuance norms for green bonds, guidance for other green products would be useful in building the ecosystem for green instruments. In the absence of a fully developed taxonomy, guidelines from the regulator would lend credibility to the niche and nascent space of green products, thereby fuelling investor interest in the issuance of such products.

For instance, SEBI's guidelines on green debt securities played a key role in kickstarting the green bond market in India with issuances reaching ~\$ 18 billion over the past ten years from 2012-2021 (Amundi Asset Management, 2022). Similar guidelines and support are needed to establish other sustainable finance products, especially those related to transition finance. Instructions from regulators to institutionalise these processes would help democratise green issuances within markets as well as traditional financial institutions. While product structuring and issuance models from other geographies can be seen, aligning these to national context needs to be spearheaded by a regulatory authority.

Mandatory transition planning: An analysis of 25 major global companies highlighted that 50% of these companies did not have a clear emission reduction plan to support their net-zero pledges. The companies that had a plan potentially only covered a cumulative reduction of 40% by their respective target years of headline net-zero pledges. (Thomas Day, et al., 2022). A regulator-endorsed transition plan will help allocation of capital to businesses with clear and viable decarbonization plans. This mitigates fears of green washing and builds credibility for investors. For example, the UK's Transition Plan Taskforce (TPT) launched a "gold standard" transition plan framework that has been adopted by the Bank of England and the Financial Conduct Authority in the country. This could be key to achieving net-zero objectives and managing climate-related financial risks (Quest & Hoyler, 2022). Similarly, the capital market regulators in emerging markets can mandate that net-zero pledges should be accompanied by credible transition plans and interim targets.

Support for enhanced non-financial disclosures: While regulations on non-financial disclosures are being rolled out across markets, climate related reporting requirements need to be strengthened. Further, regulations on non-financial parameters also needs to be complemented with a plan that supports, enables, and facilitates disclosures, as these can be difficult to quantify. For example, a report on Nifty 500 companies in India suggests that only a small number of companies follow a structured approach for disclosures in India (Business



World, 2023). This trend is likely to get reflected in the new reporting format which is more robust and granular. Extending support to firms in the form of workshops, consultation with investors and financial institutions as well as sector-specific guidelines for disclosures would create a more co-operative ecosystem and build competence for climate disclosures. Further, encouraging digitisation of the entire process would also be favourable from a data collection, monitoring and verification standpoint.

Strengthening capacities and technical assistance programs: Comprehensive capacity building initiatives at multiple levels (systemic, institutional, and individual levels) is critical to enhance awareness amongst companies for managing climate-related risks. This can be done in a collaborative manner where the capital market regulator can undertake such programs with other relevant stakeholders. For example, the capital market regulator can collaborate with industry associations and stock exchanges for delivering training. Primary research respondents also agree that building capacities within FIs is crucial to move forward in the net-zero journey. The capital markets regulator can also design and deliver technical assistance programs in partnership with organisations having the required expertise. Such initiatives from the regulator will help in setting the direction and guide market players to drive the sustainability and net-zero movement.



6 | CONCLUSION

Net-zero, as an approach to address and mitigate climate change impacts, has pervaded companies and countries alike, and is gathering scale with local regulatory mandates, international trade regulations and investor demand. Net-zero goals in emerging markets will require rapid changes in how businesses operate in the real economy as well as in financial sectors. Given the significant role of banks and investors in determining the course of action for net-zero, there is a need to develop a holistic framework and roadmap for the financial sector and market participants. This puts the onus on central banks and capital market regulators to steer regulatory conversations in this regard. Regulatory oversight over climate related aspects will have major implications across both the financial sector and the real economy, providing the push to re-orient focus. Providing regulatory guidance and oversight over such critical facets would therefore not only help in aiding an orderly transition but also help in boosting investor confidence and facilitating greater access to capital to emerging markets.



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