

REALIZING CLIMATE FINANCE OPPORTUNITIES



Ilya Khaykin
Edwin Anderson
Sayli Chitre
Daniel Holod
Coby Sippel

CONTENTS

Executive Summary	3
Introduction	5
Setting the overall commercial strategy	9
Implementing the commercial climate strategy	12
Products and services	12
Deal-level capabilities and enablers	20
Risk management and portfolio steering	26
Organizational enablers	30
Phased approach to enable climate and transition investment	34

EXECUTIVE SUMMARY

Financial institutions are launching strategies to capitalize on the opportunities stemming from the low carbon economy transition. However, they still must navigate between the enormous potential of the emerging climate and transition finance market while capitalizing on more conventional lending, investment, and insurance deals that already fit their existing investment philosophies involving such areas as risk appetite and tenor of investment. Oliver Wyman and International Association of Credit Portfolio Managers (IACPM) conducted interviews with 25 leading financial institutions alongside market research to assess current market progress. In this context, our study has identified four concrete areas where financial institutions have developed innovative ways to deliver against their commercial strategy and climate and transition goals. These efforts fall into four categories:

- **Products and services:** Most business and risk teams are building on their existing strengths, often through project and transition finance and capital markets activity. Early innovators are developing new products and services, ranging from performance guarantees from insurance providers, to transition bonds and funds from banks and asset managers that support decarbonization efforts of high-emitting sectors.
- **Deal-level capabilities and enablers:** There are currently limited deal opportunities in the climate and transition finance market that work with financial institutions' risk appetite and investment profiles, and those that do fit the criteria are often highly competed. To navigate these challenges, financial institutions have been building capabilities across the deal lifecycle. This has included engaging with potential clients earlier in the investment lifecycle to enable increased deal origination and integrating transition plans and emission projections into the underwriting process.
- **Risk management and portfolio steering:** Risk measurement tools and techniques are at the center of financial institutions and climate strategy is no exception. To navigate nuanced risks within the financial market, financial institutions have begun to create risk-sharing partnerships to achieve greater investment scale, as well as re-develop financial management practices to match their climate commercial objectives, such as preferred fund pricing for greener investments.
- **Organizational enablers:** Business teams are finding that positioning themselves for climate- and transition-related opportunities requires thinking about how their organization provides services and how it interacts internally. For example, financial institutions are starting to establish large low-carbon go-to market teams, ranging in size from a few dozen to hundreds of employees. They are also developing internal centers of excellence to provide expertise and hiring non-traditional skillsets like engineers for technical advisory.

These commercialization efforts take up time and resources. As companies move forward in their climate commercialization journey, business and risk teams can consider certain strategies, depending on their ambition and the amount of effort they're willing to invest.

Exhibit: The three segments of financial institutions' climate journey spectrum

1

Establishing “no regret” moves

Meeting the needs of current customers and build on existing strengths.

2

Building a foundation

Aligning organization structure and risk management with climate strategy, while exploring additional products and clients.

3

Innovation and expansion

Pushing boundaries of risk management and commercial strategies, developing fundamentally new products and investment opportunities.

Source: Oliver Wyman

Not every firm will want to be a leader in the climate and transition finance market, with some financial institutions prioritizing their existing capabilities that are relevant to the climate and transition financing market. Companies can continue forward in the spectrum by building up capabilities via reassessing their risk appetite and investment profile. Innovators will have to decide how to orient their organization's climate commercialization through existing and new actions at scale across the firm.

INTRODUCTION

The record-breaking temperatures this summer are a continuing reminder of the global climate crisis and the huge investment necessary to stop the advance of continued global warming.^{1,2} The growing need to reduce emissions through innovation and new technologies has created a monumental investment opportunity. There is a projected \$50 trillion investable market in the transition to a net zero economy by 2050, including the expansion of annual clean energy investment from \$1.3 trillion today to \$5.2 trillion by 2030.^{3,4} These investments will be tailored to both established low-carbon technologies, like wind and solar, as well newer technologies that could become integral parts of future low carbon economy, including hydrogen fuels, carbon capture and storage, and electric charging stations.

Recognizing both the need and the financial opportunity, governments have announced incentive packages over the last few years designed to encourage investments in climate and transition solutions. Among the most notable is the United States' Inflation Reduction Act (IRA), signed into law in 2022, which may create over \$1 trillion in clean energy tax and lending incentives over the next 10 years.⁵ Additionally, the EU adopted the Green Deal Industrial Plan, which offers €250 billion (\$268 billion) of funding to ensure Europe doesn't fall behind in the green tech race.⁶

Meanwhile, in Asia, China has led in global clean energy investment \$546 billion in energy transition investments, nearly half the global total in 2022. Japan has a plan to issue an estimated ¥20 trillion (\$153 billion) of "green transition" bonds to finance net-zero investment.^{7,8}

There has also been a push for equitable transition financing, such as the European Commission's Just Transition Mechanism which seeks to mobilize between €75 billion and €85 billion (\$83 billion to \$93 billion) of transition investments to regions most affected by the low-carbon transition, such as those heavily dependent on coal for energy and revenue.⁹

1 NASA, 2023. [July 2023 as the hottest month on record ever since 1880.](#)

2 Oliver Wyman, 2021. [Financing the transition to a net zero future.](#)

3 IEA, 2022. [World Energy Outlook, 2022.](#)

4 We acknowledge not all investments offer an attractive return.

5 Goldman Sachs, 2023. [The US is poised for an energy revolution.](#)

6 European Commission, 2023. [The Green Deal Industrial Plan.](#)

7 Bloomberg, 2023. [Global low-carbon energy technology investment surges past \\$1trillion for the first time.](#)

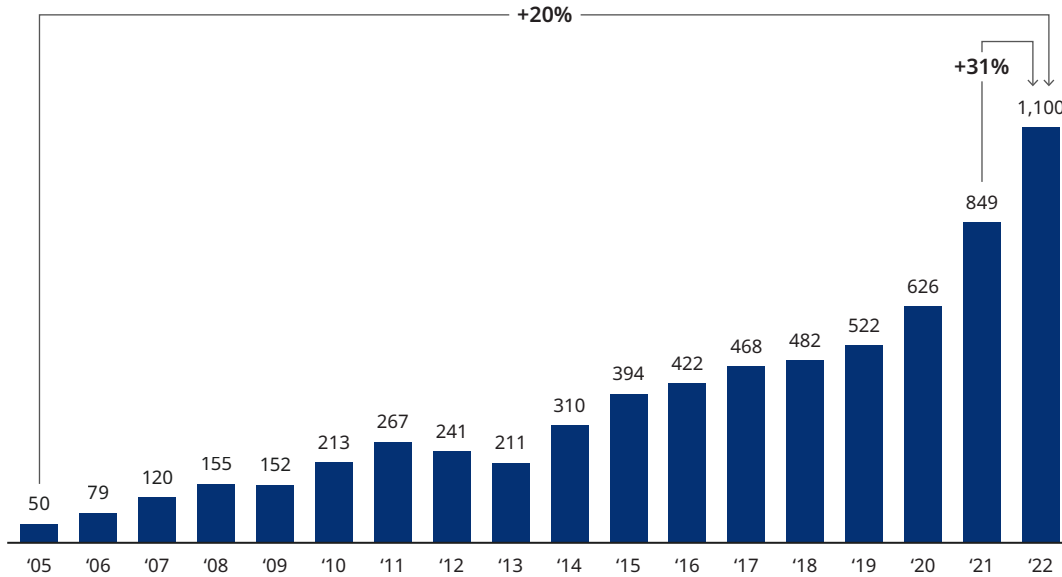
8 Nikkei, 2023. ["Transition bonds" are new favorite for Japanese investors.](#)

9 EU, 2021. [Just Transition Mechanism: Role of the EIB.](#)

Corporates and financial institutions have also been committing resources to capitalize on the opportunities stemming from the low-carbon transition. Global investment has maintained a compound annual growth rate of 20% from 2005 to 2022. In 2022, there was a record investment totaling \$1.1 trillion and year over year growth of 31%.¹⁰

Exhibit 1: Global investment in the low carbon transition

\$ billion



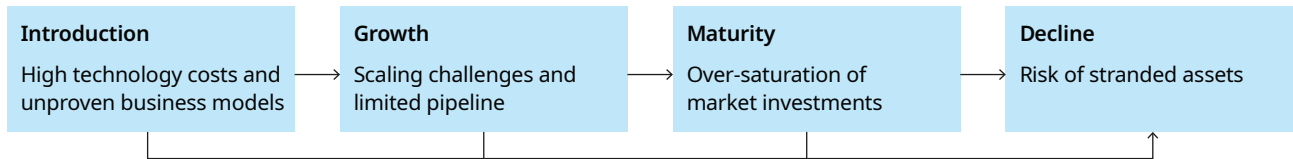
Source: Bloomberg NEF

While the low carbon solutions market continues to grow, financial institutions are encountering industry barriers limiting their ability to expand climate and transition financing strategies and seize the commercial opportunities. These industry barriers occur across the climate and transition solutions market, individual institutions’ financing portfolios, and specific project risks.

¹⁰ Bloomberg, 2023. [Global low-carbon energy technology investment surges past \\$1trillion for the first time.](#)

Exhibit 2: Key barriers financial institutions will have to work through

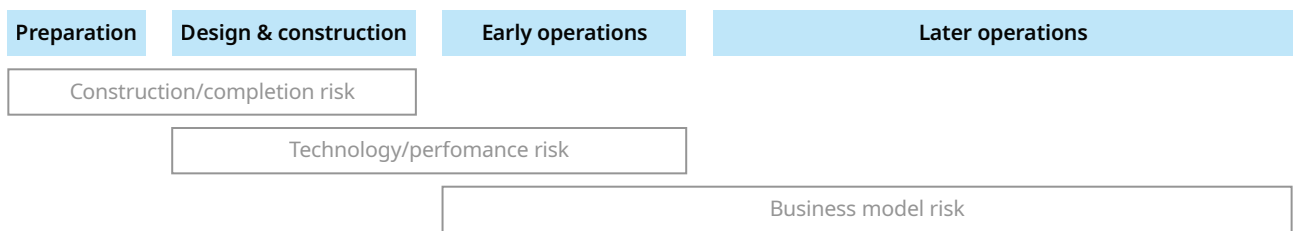
A MARKET LIFECYCLE RISKS



→ Potential market trajectory

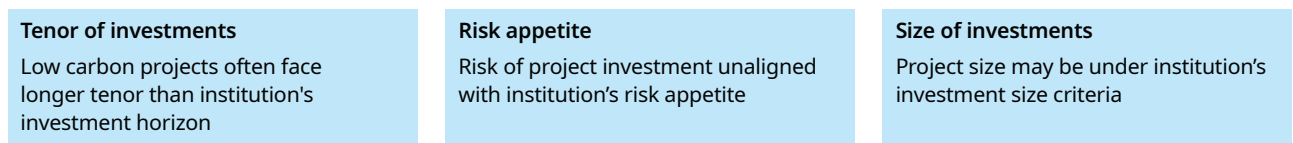
Introduction	The market has uneconomical commercial models due to high technology costs; the solution doesn't become commercially viable
Growth	The commercial and market deployment risks that come along with scaling market; A low number of investable opportunities which leads to lower margins as investors "race to the bottom"
Maturity	There are low margins due to an over-saturation of market investments
Decline	The solution becomes redundant, and the assets become stranded

B PROJECT LEVEL RISKS



Construction/ completeness risk	Limited availability to offtake project development risks
Technology/ performance risk	New technologies with limited track-records on profitability at scale
Business model risk	Business models are unestablished and management teams may not have a proven track record

C FINANCIAL INSTITUTIONS' INVESTMENT CONSTRAINT



Tenor of investments	<ul style="list-style-type: none"> • Early market investments include financing the whole project from construction with limited capital market solutions • Costs often decrease and capital market solutions increase as market matures
Risk appetite	<ul style="list-style-type: none"> • Categories of market lifecycle and project level risks are outside of what firms traditionally invest in • FIs cannot be overly exposed to a particular market or technology
Size of investments	<ul style="list-style-type: none"> • Ticket size of current investments too low for insurers and alternative investors; alternatively, ticket size may be too large for climate-focused boutique investors

BACKGROUND ON THIS REPORT

Despite the barriers, it has been important for financial institutions to make progress on the climate and transition financing market because of the opportunities' potential to maximize value for shareholders and the risk being shut out of growth market.

The International Association of Credit Portfolio Managers (IACPM) and Oliver Wyman sought to understand how business and risk teams are looking to overcome barriers within the climate and transition finance market. To inform our assessment, the IACPM and Oliver Wyman conducted interviews with 25 of the leading global banks, asset managers, insurers, export credit agencies (ECAs), and multilateral development banks (MDBs) to learn about their approaches to financing climate and transition solutions.

We investigate the newer financing needs for climate and transition finance, articulating the practices, solutions, and approaches financial institutions are bringing to the growing market. This includes engagements with traditional fossil fuel heavy industries, either through shifting away from financing these industries or supporting their transition to lower carbon alternatives.

This study assesses dimensions in which financial institutions have set both established and emerging actions. We outline how financial institutions frame their commercial strategy alongside their climate strategy and how their climate strategy shaped concrete actions for realizing commercial opportunities in the climate and transition finance market. These actions spanned the following categories: 1) products and services, 2) deal-level capabilities and enablers, 3) risk management and portfolio steering, and 4) organizational enablers.

Under this framework, our study sought to understand how financial institutions are pursuing commercial opportunities in climate-and transition-related investments, despite the hurdles within the market. The study's objective was to provide a primer for business and risk teams at financial institutions on how to navigate current obstacles and support commercial objectives and strategy.

SETTING THE OVERALL COMMERCIAL STRATEGY

Financial institutions have taken a range of approaches to integrating climate into their overall commercial strategy. While some aim to lead the pack in proactively offering climate-oriented products and services, others still consider the issue of climate to be a distraction from their business strategy. We summarize the range of strategies observed into five archetypes that are described below.¹¹

Exhibit 3: Summary of typical climate strategy archetypes

Agnostic	“Climate is not a competitive differentiator for us, and we will only comply with minimum regulatory requirements.”
Follower	“We do not want to lead on climate, but we should selectively enhance our climate offerings and capabilities to ensure we remain competitive.”
Opportunist	“We should anticipate our clients’ needs and proactively address them, particularly with respect to launching new climate-focused products and services.”
Advocate	“We engage with public stakeholders and our clients to promote our climate position and strategy within our current business profile, and work with our clients to help them become more involved in the latest climate solutions, to reduce their emissions and climate risk exposure.”
Champion	“We believe that climate change is a key competitive differentiator and want to work with clients that share our position and ambition in order to push the economy toward net zero and decarbonization, including divestment of poor performing clients if necessary.”

Source: Oliver Wyman

In some cases, the climate strategy is a result of explicit and coordinated decisions from senior management or external pressure. But in other cases, strategies result organically and may differ across parts of the same organization as a function of the teams in those areas and the commercial context. We observe four main drivers of the overall strategy.

Current business profile

- For some financial institutions, climate change and its impact may be a low priority for their clients. For example, while some small business and commercial banking clients may be considering decarbonization, it may come second to current economic pressure for most.
- On the other hand, clients within energy, utilities and infrastructure sectors, transition and physical risks are often critical topics.

¹¹ Oliver Wyman, 2023. [Defining a climate strategy for private market investors.](#)

- Large financial institutions with diverse businesses and client bases are often less likely to be at either far end of the spectrum. They must meet the needs of their varied clients, who are themselves placing different emphasis on the issue.

Economic, political, and regulatory context

- Financial institutions may face risks if they position themselves as opponents of policy in the regions where they operate. They need policy to provide real-economy incentives and help their lending and investment align with commercial realities. This topic becomes complicated for financial institutions that span multiple geographies.
- Business and risk teams must also consider the needs of their clients, which include issues such as energy affordability and security. This becomes the energy trilemma when energy transition is thrown into the mix, with the magnitude of these issues varying across countries. In some regions, this can result in a greater focus on increasing energy production, ideally using more renewables.

Risk appetite

- Ambitious commercial climate strategies must be reconciled with the firm's risk appetite. While conventional wisdom suggests that financing for decarbonization can help reduce climate risks in the future, there is nonetheless uncertainty about commercial viability for many climate and transition solutions. In this context, financing in some areas is commonly outside of the risk appetite of different pools of capital. Given their prudential regulation, banks often find it difficult to invest in new technologies, limiting their ability to pursue an ambitious commercial strategy on climate.
- Asset managers must manage investments in line with the risk appetite and objectives of their clients, determining their range of maneuver.

Organizational culture

- While much of the strategy is a result of commercial- and risk-related considerations, firmwide culture and individual views on the topic can also impact the overall strategy.

ARTICULATING THE STRATEGY

To drive action in the organization, climate strategy is being implemented across four dimensions. This includes the range of products and services offered, the deal-level processes and enablers, the financial management structure and tools and portfolio level capabilities, as well as broader organizational capabilities and enablers. Through our interviews we have observed that business and risk teams are making some now well-known enhancements and adjustments to traditional approaches to pursue their climate strategy and overcome key hurdles financing. In some cases, they are continuing to innovate with novel approaches.

- **Products and services:** Teams are both integrating climate and transition solutions into existing offerings and developing new financial instruments to access climate- and transition-related opportunities. This integration goes beyond standardized product structures like loans, bonds, and funds with some financial institutions re-considering how they provide services and incorporating climate into the broader value they can provide to clients.

- **Deal-level capabilities and enablers:** The climate commercial strategy must eventually impact the deal level decisions made. There are important levers throughout a deal's lifecycle, ranging from enhanced client engagement models at origination to risk transfer mechanisms at the distribution and mitigation stage.
- **Risk measurement and portfolio steering:** Risk measurement tools and techniques are at the center of financial institutions and drive behavior across business and risk teams — the climate strategy is no exception. Traditional tools used in risk measurement and portfolio steering are being updated and employed in the interest of achieving the climate strategy.
- **Organizational enablers:** Business and risk teams are finding that positioning themselves well for climate- and transition-related opportunities requires thinking about the structure of the organization, how teams provide varying services and offerings, and how teams interact internally. The knowledge and skillsets of the employee base also need to evolve to support the firm's ambitions.

Across each of these four dimensions, we observe that teams are taking a range of actions — through established and emerging solutions. “Established” solutions include those in the industry that we find more commonly and often represent a modest modification of the ways of doing business. “Emerging” solutions include those that are newer actions that may have less evidence of their effectiveness as of yet and may often imply greater structural change. While advocates and champions are typically exploring these emerging solutions, these two categories are not one-to-one.

The following chapter explores the key climate solutions identified within the four strategy dimensions, differentiated across established and emerging solutions. The chapter identifies how some business and risk teams are enabling climate and transition financing amidst current business environments.

IMPLEMENTING THE COMMERCIAL CLIMATE STRATEGY

PRODUCTS AND SERVICES

Approach: Business teams are building climate and transition products and services, starting with actions that align with their existing capabilities, client base, and expertise.

The primary form of innovation of financial sector products in relation to climate issues to-date, has been combining traditional products with a set of climate-related characteristics and a corresponding “label” that is an indicator of the characteristics. Examples of this span from green bonds, green loans, and other climate-linked products. Emerging products may seek to further capitalize on the green and transition finance market while also addressing current market challenges.

Exhibit 4: Primary labeled products identified

	Established	Emerging
Capital markets	Green bonds* with proceeds designated for green activities.	Low carbon commodity hedges* for transition-related commodities. Transition bonds* for high-emitting companies’ investment into transitioning to lower emissions. Tax credit transfers* for climate and transition projects looking to transfer credits for additional capital.
Corporate lending	Green loans with proceeds designated for green activities. Project finance* for climate- and transition-focused projects.	Supply-chain, climate-linked lending* for clients to enhance “greening” of supply chains. Transition finance: Loans to support decarbonization efforts (often to traditionally high-emitting firms).
Asset managers and owners	Climate-focused funds* that invest in low-carbon climate technology. Green minus brown tilt funds that prioritize so-called green investments over brown.	Transition funds that invest in technologies and companies to support decarbonization. “Carbon-improver” funds* and portfolios that invest in firms progressively reducing emission footprints.
Insurance	Low-carbon insurance discounts* with expanded coverage and better terms for insurance on low-carbon investments. Extended warranty warranty claims on green products. Carbon credit guarantees for the performance of carbon credit projects.	Weather-based derivatives* that allow clients to hedge against weather shocks. Performance guarantees* on the performance and technical qualities of low-carbon technologist. Repair-over-replace claims that offer better terms for repairing damaged assets. Incentive-related premiums with discounts for clients that achieve transition-related KPIs.
Retail lending	Green mortgages and green home equity lines of credit* with better terms and incentives for climate-friendly housing. Green cards that are sustainably produced.	Electric vehicle loans* with better rates and education platforms for potential EV purchasers. Green credit rewards that offer higher cash back for climate-conscious purchases. Climate-linked deposits earmarked for climate financing.

* Products detailed in the following pages
Source: Oliver Wyman

Established labeled products

Capital markets — Green bonds

Green bonds, which finance “green” activities, have been a dominant fixture in climate-related financing and were often an integral part of our interviewees’ climate product offerings. These bonds are typically issued under frameworks like the Climate Bond Taxonomy or the International Capital Market Association’s (ICMA) bond principles. Currently, green bonds remain the primary climate product for financial institutions, with green bonds predominantly focused on emissions-based impacts. Originating in 2008 with the World Bank Group’s first issuance, the global green bond market reached \$440 billion in 2022, up 540% from 2016.¹²

Today, most climate-related green bonds are being written on late-stage or at least relatively mature companies, aligned with the standard risk appetite of most financial institutions. Green bonds have had more limited ability to support low-carbon alternative technologies still in the R&D stage, which are necessary to support the low carbon transition.

Corporate lending — Project finance

Given the long-term project development horizons and predictable sources of revenue (post-construction) for most renewable energy projects, many banks have looked to leverage project finance to capture the climate financing opportunity. Banks have increased the amount of focus in direct project finance into established climate technologies such as solar and wind power, with experts projecting 2023 renewable project financing to be about \$21 billion compared with \$18 billion in 2022.¹³ These sources of funding focus specifically on capital deployed for constructing and operating renewable energy projects via a special purpose vehicle to avoid liability for the project developer.

Climate-related project finance has also begun to focus on financing newer and rapidly growing climate technologies, such as battery storage and charging stations for electric vehicles, buoyed by the market of these two products growing globally 175% and 55% respectively in 2022.^{14,15}

Further, banks are also beginning to expand into emerging markets to access more project finance opportunities. For example, Citigroup is working to build up its blended finance capabilities across development and low carbon infrastructure financing.¹⁶

Asset management — Climate-focused funds

Investment institutions have established climate-impact focused funds as part of their climate strategy. January 2021 to November 2022 had \$94 billion of assets under management in newly announced climate investment funds, with 15 funds, each over \$500 million, introduced in 2022.¹⁷ Momentum has continued into 2023, including Goldman Sachs’ \$1.6 billion Horizon

¹² Climate Bond Initiative, 2023. [State of the Market](#).

¹³ S&P Global, 2023. [Renewable project financing to rebound in 2023](#).

¹⁴ IEA, 2023. [Tracking clean energy progress](#).

¹⁵ IEA, 2023. [Global EV outlook](#).

¹⁶ Economic Times, 2023. [Citigroup hires former IFC exec von Friedeburg to boost development bank ties](#).

¹⁷ CTVC, 2022. [New dry powder for a new climate](#).

Environmental & Climate Solutions fund¹⁸ and Brookfield looking to fundraise for an additional \$20 billion climate fund alongside their \$15 billion Transition fund.¹⁹ These funds have grown apace disclosure regulation, including the EU's Sustainable Finance Disclosure Regulation's Article 8 and 9 labels, which cover products that promote and or target sustainable investments. Establishing funds as Article 8 and 9, both in sum totaling over \$5 trillion in 2023, has allowed business teams to provide investors with vehicles that meet their desire to invest in sustainability-focused assets, which include climate-focused assets. In turn, these climate-focused funds help with capital deployment to climate solutions. Beyond the investments themselves, receiving financing from reputable financial institutions may provide the "stamp of approval" that climate solutions may require to continue to solicit debt financing.

Insurance — Low carbon insurance discounts

Insurance providers are offering insurance coverage with preferential pricing and broader coverage for low carbon investments. Financial institutions specifically have focused on providing insurance discounts, reduced rates, and greater coverage of products that support decarbonization. For example, some insurance firms offer electric vehicle (EV) insurance premium discounts alongside expanded insurance coverage for EV roadside breakdowns and electrical surges. These insurance product offerings for low carbon investments also include premium discounts on energy-efficient buildings and renovations as well as broadened terms such as additional damage coverage and increased liability limits.

Retail lending — Green mortgages and HELOCs

Business teams, including some of our interviewees, have been offering discounts on mortgages for purchasing energy-efficient houses as well as discounts on home-based solar installations, both often labelled as "green mortgages." Banks offering these types of home financing have tried a variety of ways to enhance their green mortgage offerings, for example, FirstRand sought partnerships with solar panel manufacturers to enable a strong pipeline of panels to their customers.²⁰ Retail lending has also expanded to home equity lines of credit (HELOCs) that provide the financing to upgrade the energy efficiency of a property.

Some interviewees noted that, so far, the uptake of these retail products has been lower than expected. In the face of negative pressures like supply chains bottlenecks, increased mortgage rate rises, and policy implications, business teams have been seeking to address the lower uptake through client engagement and education.^{21,22,23} For example, the Commonwealth Bank of Australia partnered with a fintech provider for personalized household emissions footprints and with Harvard University on developing opportunities for customers to understand and act on their climate impacts.²⁴ Building client engagement has also supported financial institutions' data gathering and financed emissions tracking.

18 GSAM, 2023. [GSAM completes final close of Horizon Environment & Climate Solutions fund.](#)

19 Bloomberg, 2023. [Brookfield seeks \\$20 billion for next Energy Transition Fund.](#)

20 Reuters, 2023. [SouthRand to double green energy home loans.](#)

21 Marsh, 2023. [Assessing the bottlenecks facing renewable energy developers.](#)

22 Mortgage introducer, 2023. [Green mortgage market — why is it struggling to attract interest?](#)

23 Consumer Financial Production Bureau, 2023. [CFPB Proposes New Consumer Protections for Homeowners.](#)

24 CommBank, 2023. [2022 Climate Report.](#)

For example, Scotiabank has partnered with LightSpark, an energy efficiency software firm, to help customers understand and improve the energy efficiency of their houses as well as create more accurate representative emissions data for the real estate sector.²⁵

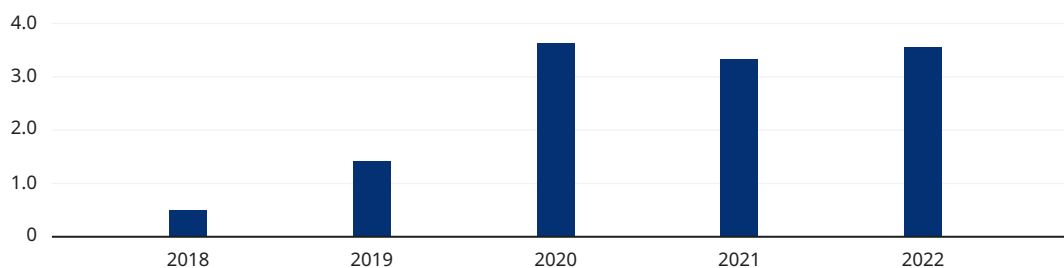
Emerging labeled products

Capital markets — Transition bonds

Over the past few years, a new category of bonds has emerged: transition bonds. Although green bonds have channeled capital to environmentally sustainable corporate companies, this newer category of bonds serves a necessary role of helping fund other, high emission, companies’ transition to a low carbon economy. These transition bonds have the promise of expanding the investible universe of climate-responsible investing by pushing the horizon beyond just “climate-friendly” companies to ones that are looking to transition towards a lower emission future, going from “brown” to “less brown” to “green” companies. Transition bonds have had little take-up since the market’s origination in 2017, often attributed to limited precedence and agreed-upon taxonomies, as one interviewee noted. Many large issuers have not offered transition bonds out of similar fear of criticism for how they understand transition and what projects can be included. However, the market may begin to scale shortly, given the growing focus of transitioning companies²⁶ and the growing financing from governments, especially in Japan.²⁷ Transition bonds are the only sustainable bond to demonstrate (modest) growth from 2021 to 2022 — up 5%.²⁸

Exhibit 5: Global investment in transition bond market

\$ billion



Source: Climate Bond Initiative

Capital markets — Commodity hedging

Some banks are exploring opportunities to build upon their commodity trading capabilities and help clients hedge against climate-related risks. Certain commodities are particularly important to the climate transition. They can be used to hedge both more traditional loans, like construction risks, and newer categories. For one interviewee, this included looking into

25 Scotiabank, 2023. [Helping homeowners find their own path to lower emissions.](#)

26 Environmental Finance, 2023. [Transition bonds: Could 2023 be the year we see them take off?](#)

27 Nikkei Asia, 2023. [Transition bonds are new favorite for Japanese investors.](#)

28 Climate Bond Initiative, 2023. [State of the Market.](#)

providing new hedge-able categories like sustainable aviation fuels and biofuels, as well as new asset classes linked to materials like cobalt and lithium derivatives. All of this is in addition to the more widely recognized carbon market derivatives.

CASE STUDY 1

TAX CREDIT TRANSFER BETWEEN INVENERGY AND BANK OF AMERICA

Market opportunity

The Inflation Reduction Act (IRA) creates incentives for renewable energy, including in the form of tax credits. Financial Institutions are looking at how they can support clients in realizing the opportunities stemming from these incentives.

Tax credit transfers are tax breaks from the IRA that are allowed to be sold to other companies. This allows project developers that may not have high taxes to sell their credits to other companies. For the project developer, credit transfers allow them to raise additional capital more easily into climate and transition project development. For the investor, the transfers open up low carbon project financing beyond the traditional tax equity structures that only large banks could manage. Further, these investments support investors in achieving their clean energy goals. Leading financial institutions are exploring other areas for tax credit transfers from IRA tax incentives, including battery storage and carbon capture.

Bank of America executed the first public tax credit transfer utilizing IRA incentives, purchasing \$580 million of tax credits from Invenergy Renewables, a renewable energy developer primarily owned by Blackstone and CDPQ. The purchase allowed Invenergy to invest in an additional \$1.5 billion in renewable projects from American Electric Power, totaling an additional 1,265 MW of renewable capacity.

Tax credit transfers are becoming an increasing option given the IRA, and banks are looking to expand to transition technologies including battery storage and carbon capture.

Source: Invenergy, 2023. [Purchase of American Electric Power](#).

Corporate lending — Supply chain-linked financing

As part of scaling climate and transition financing, there is increased focus on enabling the greening of client supply chains. Lending programs are reflecting this increased focus on supply chains that aims to help clients reduce emissions at current suppliers or find new suppliers with smaller carbon footprints. The supply-chain lending products are attracting more interest as newer governmental regulations and disclosure guidance are increasingly mandating disclosure of Scope 3 emissions from upstream and downstream supply chains,

including the International Sustainability Standards Board (ISSB) Scope 3 requirements.²⁹ To support supply chain product offerings, banks are frequently working directly with key clients to provide preferential terms to suppliers based on their emission levels and transition plans. For example, HSBC partnered with Walmart to offer a sustainable supply chain finance program in which suppliers can qualify for financing if the suppliers meet established sustainability criteria, as part of Walmart’s Scope 3-driven Project Gigaton.³⁰ Similarly, DBS provides sustainable supply chain financing products for its clients, offering to develop sustainability-linked KPIs, in which suppliers get preferred pricing if the KPIs are met.³¹ In addition to building out their clients’ supply chain climate resiliency, these financing activities enable the scaling of financial institutions’ climate and transition finance ambitions.

Asset management — “Carbon improver” funds

Like with the growth of transition bonds, investors are beginning to build funds that prioritize companies focused on reducing their emissions, seeking to be a “carbon improver.” Rather than build out funds of companies that already have low emissions, such as software companies with low operational footprints, these carbon improver funds seek to tackle emission reductions in high emitting sectors, which account for the bulk of global private sector emissions. These “carbon improver” funds can include reference to the new MSCI’s Climate Action Index, which estimates future reductions in emissions, as well as Bloomberg’s Climate-Transition Index which incorporates clients’ decarbonization trajectory and stated emission reduction targets.³²

Insurance — Weather-based derivatives and performance guarantees

Insurance agencies are utilizing their increased climate and weather data management capabilities to provide weather-linked derivatives. Here the insurance provider bears the risk of weather-related impacts for a premium. Weather-based derivatives began prior to 2000 but have become more relevant with the increase in climate change-driven extreme weather events.³³ Insurance firms have also utilized their data and technology capabilities to provide performance guarantees for climate and transition technologies.

29 ISSB, 2022. IFRS — [ISSB announces guidance and reliefs to support Scope 3 GHG emission disclosures.](#)

30 HSBC, 2023. [Walmart and HSBC establish a sustainable supply chain program.](#)

31 DBS. [Green and sustainable trade financing.](#)

32 Financial Times, 2023. [New generation of funds signals evolution of ESG.](#)

33 IPCC, 2022. [IPCC 6th assessment report. Chapter 11: Weather and climate extreme events in a changing climate.](#)

CASE STUDY 2

MUNICH RE GREEN SOLUTIONS BUSINESS PERFORMANCE GUARANTEES HELP ENABLE INVESTMENTS IN LOW CARBON TECHNOLOGIES

Market opportunity

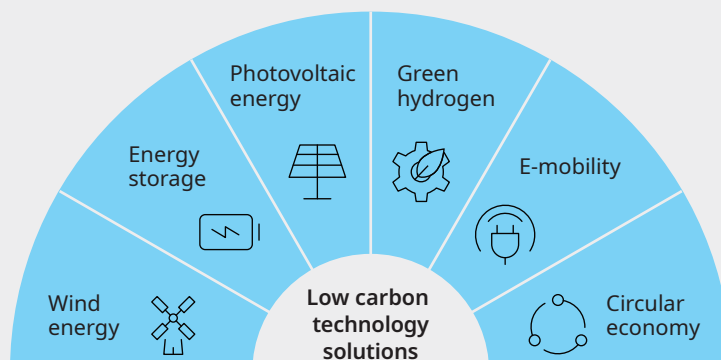
Insurance agencies are using their technical know-how to help project emerging climate tech performance, improve investor insight, and support low carbon solutions.

- Munich Re offers a range of performance guarantees tailored for low carbon technologies, assuring the long-term performance and quality, and absorbing potential technical risks of emerging “green” technology solutions.
- These performance guarantees may result in more attractive financing terms and improve bankability of climate- and transition- technology solutions.

Munich Re offers performance guarantees for low carbon technology manufacturers and project developers. While initially offering only solar performance guarantees, the insurance company has since scaled up its offerings to encompass such emerging low carbon technology as green hydrogen and energy storage. Its performance guarantees, offered primarily for manufacturers and developers, provide revenue and production output assurances alongside equipment coverage including against both supply and weather shocks. Munich Re has been able to offer these guarantees by pooling its expert technology resources and know-how in the field of low-carbon technologies, risk management, and underwriting capabilities.

One key hurdle for lenders have faced has been their lack of experience with new technology risks, and Munich Re’s product seeks to help identify, guarantee, and optimize against these risks. Its performance guarantee products may provide a risk mitigation option that can better align with financial institutions risk appetites, as the assurance changes the risk of net cash flow projections.

Exhibit: Munich Re’s performance guarantee product



Solution offerings (non exhaustive)

- Due diligence on solutions and products to ensure and guarantee performance
- Contractual warranty mitigation
- Faulty construction, material, and production coverage
- Revenue guarantee and repair coverage

Improved investor appetite (non exhaustive)

- Seeks to foster revenue and cost stability of suppliers, manufacturers, and developers
- Assurance of performance and revenue may improve bankability to investors and lenders

Source: [Munich RE's Renewable Energy and Energy Efficiency platform page](#)

Retail products — EV loans and green deposit and credit incentives

A growing number of banks are beginning to offer green deposit and credit products for retail clients to expand on their climate offerings. Like green mortgages, banks are offering beneficial terms and information programs for electric vehicle (EV) car loans. Royal Bank of Canada (RBC), for example, offers specialized rates and alternative payment options for retail clients looking to purchase EVs. Complementing their preferential rates, RBC has an online platform that provides EV purchasing locations, auto partners, and information on how to utilize government incentives.³⁴

Some retail banks are offering cash rewards, debit offerings, and loyalty programs to incentivize green spending. These incentives include higher cash-back options on purchases labeled sustainable and donating a percentage of transaction fees to environmental non-profits, in addition to deposit guarantees for sustainable financing. Standard Chartered launched a sustainable time deposit offering in Singapore and Taiwan. Funds in these deposits are earmarked to be spent against sustainable loans and projects such as green financing and sustainable infrastructure projects.³⁵

Business services

Outside of these labeled products, innovation is also occurring in the broader business service offerings from financial institutions. As the needs of their clients evolve because of the low-carbon transition, business teams are evolving as well. In some cases, financial institutions are becoming advisors on the climate strategies and pathways of their clients. Financial institutions are utilizing these advising engagements to plug gaps in the markets created by the low carbon transition.

Exhibit 6: Primary business services identified

	Established	Emerging
Services	<ul style="list-style-type: none"> • Carbon calculators* provide emission inventorying for clients in addition to high-level guidance on decarbonization levers. • Client engagement and education efforts allow client engagement on climate change via webinars, conferences, focus groups, or one-on-one. • Carbon-credit access programs that provide clients guidance on carbon credits and helps them purchase credits and offsets to reduce their emissions footprint. 	<ul style="list-style-type: none"> • Partnership-based offerings* with third-party organizations to enable investment and engagement initiatives related to climate and transition investments. • M&A advisory that helps clients identify and acquire assets that lower their carbon footprint. • Cross-portfolio services that connect portfolio companies and corporate clients to help enable additional climate and transition solutions.

* Services detailed in the following pages
Source: Oliver Wyman

³⁴ RBC, 2023. [Electric vehicle car loans.](#)

³⁵ Standard Chartered, [Sustainable time deposits.](#)

Established business initiatives — Carbon calculators

Financial institutions have built up extensive ESG and climate-focused capabilities. This has led to business teams utilizing their climate expertise as an advisory offering to their clients. For example, many asset managers offer carbon inventorying services to their portfolio companies, which both enable asset managers to calculate and track their financed emissions while also identifying key areas to decarbonize for portfolio companies. In the retail space, Mastercard developed a carbon calculator which informs clients on their “carbon footprint” based on their purchases.³⁶ These calculators often provide less-climate-focused clients a first step in their decarbonization journey and enable them to identify low hanging fruit to reduce emissions.

Emerging business initiatives — Partnership-based offerings

Financial institutions have also developed third-party partnerships that enable them to expand their climate platform offerings. Examples of such offerings include ESG advisory and data-driven assessments to help inform clients on their decarbonization journeys. Some business teams help portfolio companies and corporate clients pursue low carbon activities by offering emission forecasting and detailed decarbonization lever analyses, often through third party partnerships.

DEAL-LEVEL CAPABILITIES AND ENABLERS

Approach: Business and risk teams have established deal-level capabilities and enablers through action-oriented partnerships as well as fostering team innovation.

Beyond establishing clear climate- and transition-linked products and business initiatives, business and risk teams are also establishing deal enabling capabilities across the entire deal lifecycle — from origination and underwriting to distribution, risk mitigation, and management. Like with product and business initiatives, some deal enablers have become established climate strategies, while some climate-ambitious teams are deploying additional emerging deal enablers.

³⁶ Mastercard, [Carbon Calculator](#).

Exhibit 7: Primary deal level capabilities and enablers identified

	Established	Emerging
Origination	<ul style="list-style-type: none"> • Staff upskilling that provides training on available offerings to relationship managers. • Third-party data* that's used to assess customer emissions and transition plans. • Blended finance* that matches public and private capital to scale the investable universe for private investors. 	<ul style="list-style-type: none"> • Enhanced customer engagement models* that support new and existing clients to decarbonize.
Underwriting	<ul style="list-style-type: none"> • Climate-related assessments* of emissions data and transition plans incorporated within the credit memo. 	<ul style="list-style-type: none"> • Extended timelines that match low-carbon infrastructure time horizons. • Risk defeasance* utilized to de-risk climate- and transition-related solutions. • Risk modeling and analysis* that incorporate physical and transition risks into underwriting. • In-house emissions projection tools that show impacts of financed emissions on targets.
Distribution and mitigation and hold	<ul style="list-style-type: none"> • Climate risk monitoring that provides climate-related performance assessments of portfolio holdings. • Loan sales and participations* that enhance diversification and risk reduction. • Originate to distribute models that allows higher risk lending or longer-term time horizons. 	<ul style="list-style-type: none"> • Transition plan assessments* of clients' transition plans to ensure alignment with financial institution's expectations. • Emerging risk mitigation solutions* that transfer risk of climate and transition financings and/or portfolios. • MDB capital markets distribution that expands usage of capital markets by MDBs to support distribution of risk.

* Capabilities and enablers detailed below
Source: Oliver Wyman

Established deal enablers

Deal origination — Third-party data

Business teams are utilizing third-party data to assess potential customers' emissions and transition plan alignment. This increased push has been, to a large extent, in response to disclosure regulation such as EU's Sustainable Finance Disclosure Regulation (SFDR), pending required climate disclosure from the SEC, and the Corporate Sustainable Reporting Directive (CSRD).^{37,38,39} However, this data is also the necessary foundation to assess deal risks and opportunities in a low carbon transitioning economy. Many deal teams, especially within private markets, are conducting climate-related due diligence efforts that include manual data collection and assessment. However, front office teams, including one interviewee with exposure to listed equities, are seeking to improve automated capabilities for diligence, alongside utilizing data providers with suites of climate-related company-level data.

37 European Union, 2019. [Regulation on sustainability-related disclosures in the financial services sector](#) (Article 4).

38 SEC, 2023. [Climate-related disclosures and ESG investing](#).

39 European Union, 2022. [Regulation as regards to corporate sustainability reporting](#).

Further, teams are utilizing third-party expertise to help inform their risk management and navigating risks of emerging climate technology, especially related to initial negative cashflows and unproven technologies at scale.

Deal origination — Blended finance

Blended finance is another established practice to increase climate and transition financing, especially within emerging markets. For example, Goldman Sachs partnered with Bloomberg Philanthropies to launch a Climate Innovation and Development Fund alongside the Asian Development Bank to increase sources of funding in South and Southeast Asia for climate and transition solutions.⁴⁰ However, one bank highlighted challenges in blended finance engagements referencing risk mismatches alongside blended finance participants as a driver in the “race-to-the-bottom” of financing renewables. Given these challenges and the continued need for opportunities to mitigate risk, some interviewees noted they were seeking to prioritize blended finance engagements for early-stage low carbon solutions that require concessional funds such as through export credit agencies and multilateral development banks.

Underwriting — Climate-related assessments

Financial institutions have been developing ESG tools to utilize across their business teams as part of the underwriting process. These tools can include elements like emissions data and an assessment of transition plans. For example, one interviewee had established an ESG-embedded pricing tool which includes emissions and energy diligence. This tool acts as a control to ensure ESG analysis, as their bankers cannot get a price for a loan without the ESG assessment. Depending on the ESG risk level identified, the deal may be escalated for review.

Distribution, risk mitigation, and management — Loan sales and participations

As project finance in climate and transition solutions scale, banks are employing traditional approaches to distributing the credit risk. Two measures employed are through the selling of the complete loans or selling some fraction of the loan’s risk, either by only selling a portion of the loan or by a loan participation. Selling of loans and participations both require their buyer to have nearly the same level of climate knowledge and ambition as the bank. This transfer then allows the banks to continue to scale their climate-focused loans while diversifying their credit risk.

Emerging deal enablers

Deal origination — Enhanced engagement models

Business teams are beginning to develop customer engagement strategies that consider the sector and company-specific technology needs and financing options. Building these strategies allows teams to move beyond ad hoc engagements and build climate solutions for clients within a pragmatic structure, often engaging with clients earlier than before

40 Goldman Sachs, 2021. [Bloomberg and GS deploy \\$25 million to advance clean energy solutions.](#)

within the deal lifecycle. These relationship engagement strategies differ for carbon-intensive sectors like oil and gas (O&G), where in-house climate expertise more often already exists, versus other corporates that may benefit from more foundational support on climate activities. For example, one bank interviewed segmented their client landscape into archetypes to help inform the bank's engagement timeline, service lines, and products offered to clients. With clients in hard to abate sectors, they focused on supporting their client's decarbonization and transition roadmap and facilitating financing of emerging technologies. Their engagements included M&A services for investments related to client's decarbonization commitments, as well as guidance on divestiture of legacy high-emitting assets. On the other end of the spectrum, they segment businesses where carbon is not a core part of the business model. Engagement in this segment focused on training the clients on approaches to reduce their operational emissions and Scope 3 upstream emissions.

With increased engagements, business teams have had to ensure they interject the right knowledge into the deal teams. As new climate and transition technologies cut across traditional industry segments, such as hydrogen which involves both the energy sector and industrial sectors, the expertise cannot sit in just one group. Some of the interviewees addressed this by building centralized expertise on these emerging technologies, and providing that service to various vertical segment teams, including having those experts participate in client discussions.

Banks are beginning to engage earlier with emerging low carbon and transition solution companies that may not be big enough for traditional large scale commercial debt. Banks have gone beyond supporting these smaller clients' deposit services to providing climate advisory services including M&A. As the clients grow, they will get larger and need lending, which can in time provide commercial opportunities for the banks, thus scaling the investible universe of financing demand for banks.

Underwriting — Risk defeasance

Business and risk teams are looking into opportunities to utilize risk defeasance to de-risk climate and transition solutions where commercial equity and debt may otherwise not be possible. Business teams often leverage other financial institutions with deep climate expertise, such as insurance firms, export credit agencies, and MDBs, to offtake their financing risks. Additionally, business teams are working alongside project developers to arrange offtake agreements that ensure that there is sufficient demand for the products and that some or all the price risk has been mitigated. These offtake arrangements provide financiers with assurances that products will garner a set price or volume, which can reduce risk and make funding the project financially viable. The most common offtake are the guaranteed sales of power purchase agreements (PPAs) where established cashflows can be used to hedge financial risks. One interviewee noted an increase in purchasing of these products from oil and gas clients. The interviewee remarked that for green hydrogen loans, O&G majors and chemical companies were familiar with the specific financing structures and were often the most willing to participate in the guaranteed sale offtake agreements. Some teams are beginning to look beyond offtake agreements to develop new pricing tools to hedge against revenue risks. Climate-focused investors, such as Newmarket Capital's

International Infrastructure Finance Company (IIFC), seek to structure financing alongside banks to enable additional credit creation for green solutions while generating favorable risk-adjusted returns for banks.⁴¹

Underwriting — Risk modeling and analysis

Some risk teams are utilizing climate models for scenario analysis of climate risk in addition to projecting emission forecasts, such as through temperature alignment scores. The outputs of these climate-related underwriting mechanisms may not force a specific outcome at a defined threshold but can be used as additional information in the underwriting process. For example, one investor developed detailed climate risk scenario analyses on individual deals, assessing the climate impacts on projected financial performance. Subsequently, the business teams integrated these models into their due diligence for company valuation assessments, and in turn, attracted like-minded co-investors because of their scenario analysis capabilities.

Credit teams are also developing climate risk scores, considering both physical and transition risks into a framework that provides a summary assessment. These scores are increasingly integrated into underwriting and credit processes. Tools looking at climate risk, transition plans, climate scenario analysis, and implications of individual deals on portfolio emissions targets are developing into potential constraints on financing of industries and companies in transition to lower carbon operating and business models. Ideally climate risk tools predict shifts in traditional measures like probability or default, but even relative measures can be of some value. If transition finance is going to help companies finance their decarbonization efforts, then these tools must be used to gauge the viability of that transition plan.

Distribution, risk mitigation, and management — Transition plan assessments

Business and sustainability teams have begun to both establish their own transition plan framework as well as to assess their clients' decarbonization transition plans. Over the last few years, there have been several frameworks from leading institutions on guiding financial institutions in their transition plan assessments, from the Institutional Investors Group on Climate Change's (IIGCC) guidance on assessing clients' transition plans, to the UN's Global Financial Alliance for Net Zero (GFANZ) which provides guidance on client transition plans alongside financial institutions' transition plans.^{42,43,44} Financial institutions have utilized these frameworks to begin to focus more on forward-looking metrics to track transition progress, in addition to backward-looking emissions inventorying. The exhibit on the next page shows the metrics financial institutions can utilize to monitor their clients' transition plans, from GFANZ's Expectations for Real-Economy Transition Plans.

Beyond ensuring alignment with the financial institution's ambitions, having a robust understanding of clients' transition plans can lead to more informed fundraising and exit strategies, potentially raising the valuation of the financing and attracting more capital.

41 Newmarket Capital, 2022. [IIFC impact analysis](#).

42 IIGCC, 2023. [Investor expectations of corporate transition plans](#).

43 GFANZ and Oliver Wyman, 2022. [Expectations for real economy transition plans](#).

44 GFANZ and Oliver Wyman, 2022. [Financial institution net-zero transition plans](#).

Exhibit 8: GFANZ metrics and targets for measuring clients' transition progress

Metric	Approach	Examples
GHG emission metrics	Quantify company's level of ambition through interim GHG reduction targets.	Emission reduction targets dates, scopes, and metrics utilized alongside baseline year.
Sectoral pathways	Clarify company's level of ambition in terms of alignment with recognized pathways.	Sectoral pathway disclosed and alignment of company target and current progress.
Carbon credits	Disclosure of carbon credits to understand if and how companies are adhering to their own commitments.	Disclosure of carbon credits including quality indicators and third-party verification.
Business, operational, and financial metrics	Translate climate targets into tangible key performance indicators for the company.	Percent of capital expenditures utilized for the transition plan. Percent procurement from low-carbon suppliers.
Financing strategies	Categorize financing into the four GFANZ financing strategies: Climate solutions (products that contribute to net zero), managed phase-out (early phase out of high-emitting assets), aligned (Entities aligned to a 1.5 C pathway), aligning (Entities committed to aligning to a 1.5 C pathway).	Financing provided in each strategy as USD financed (\$) or split of portfolio (%). Number of clients newly engaged on the net zero transition. Number of clients with new net zero-aligned transition plans.
Expected emissions reduction*	Benchmark via a business-as-usual pathway, project an entity's forward-looking emissions profile, calculate difference across temporal and risk-weighting features.	Absolute emissions reduced relative to business as usual. Physical intensity at target date relative to BAU intensity.

*GFANZ, 2023. [Consultation of Defining Transition Finance and Considerations for Decarbonization Contribution Methodologies](#)

Source: GFANZ and Oliver Wyman, 2022. [Financial Institution Net-zero Transition Plans](#)

Distribution, risk mitigation, and management — Emerging risk mitigation

Banks often finance low carbon solutions through project finance, partially in response to navigating risk profiles different than what they are accustomed to dealing with. These financial institutions are looking to identify ways to reduce capital requirements and credit risk and stay within existing risk appetite. Some business and risk teams have utilized synthetic securitization on renewable products, thereby sharing their financing risks across a variety of investors, often those with like-minded climate ambitions. Two such investors include PGGM and Alecta, who invested €500 million in a synthetic securitization of BBVA's project finance loan book, with one third of the synthetic portfolio consisting of renewable energy-related projects. The securitization then allowed BBVA to recycle regulatory capital and reduce risk-weighted assets.⁴⁵ PGGM has been investing in synthetic securitizations since 2006, and beyond securitization increasing diversification of PGGM's portfolio, they also recognize securitizations' role in supporting the low carbon transition through unlocking banks' additional capacity to lend.⁴⁶

45 PGGM, 2022. PGGM, [Alecta invest in BBVA's inaugural project finance risk sharing transaction](#).

46 PGGM, 2023. [Green securitization, it's all about the data](#).

RISK MANAGEMENT AND PORTFOLIO STEERING

Approach: Financial institutions' willingness to innovate and seek partnerships is supporting business and risk teams in developing risk management and steering solutions.

Business and risk teams are also utilizing internal risk and steering measures to integrate climate into their financing decisions. These measures help to better capture climate risks as well as align portfolios with the firm's climate strategy.

Exhibit 9: Primary risk management and portfolio steering approaches identified

	Risk management	Portfolio steering
Established	<p>Qualitative climate risk assessments that use climate risk and opportunity heatmaps to categorize key climate risks across portfolios.</p> <p>Quantitative climate risk assessments* that support scenario analysis models at the portfolio level.</p>	<p>Green taxonomies* on what is "green" to guide financing strategy.</p>
Emerging	<p>Integrated climate risk assessments* that aggregate and integrate climate risk into portfolio-level risk metrics or external metrics to inform portfolio steering.</p> <p>Risk sharing partnerships* that strategically engage with climate-focused investors to enable risk-sharing opportunities related to climate and transition solutions.</p>	<p>Financing steering mechanisms* that incentivize financial solutions and/or disincentivizes financing high-emitting clients such as through carbon prices and climate-related fund transfer pricing.</p>

* Approaches detailed below
Source: Oliver Wyman

Established risk measurement and portfolio management approaches

Risk measurement and sharing — Quantitative climate risk assessments

Some firms' business and risk teams have utilized quantitative scenario analysis across their portfolio to check the viability of their portfolio in line with the firm's commercial climate strategy. These climate risk assessments can serve as a constraint on transition financing of high emitting companies and climate-focused portfolios — as the analysis should show how these companies will survive/transition.

Portfolio management — Green taxonomies

Many business teams with climate action ambitions have developed green taxonomies to help categorize and steer financing decisions, alongside policy guidance, such as the EU Taxonomy for sustainable activities.⁴⁷ For example, Deutsche Bank's green financing framework includes investment categories, linked to the Green Bond Principles and UN's Sustainable Development Goals, alongside an exclusion list which incorporates oil and gas exploration and production

⁴⁷ [EU Taxonomy for sustainable activities.](#)

and deforestation. Their framework also includes their evaluation criteria alongside their process for managing “green” proceeds and reporting commitments.⁴⁸

Emerging finance and portfolio risk measurement approaches

Risk measurement and sharing — Climate risk integration

Risk teams are beginning to translate their deal level climate risk assessments to the portfolio level to help steer their climate- and transition- focused portfolios. These portfolio-level climate risk measurements identify the potential constraints and implications of key sectors and company characteristics that impact portfolio emission targets. The risk scores integrated into risk management, either through adjusting their existing risk measurements or through external adjustments and guidance via climate risk scores, to sense-check the viability of their clients and portfolios to ensure alignment with their climate- and transition-commercial strategies. For example, NatWest is building out their climate risk scorecards to incorporate their customer transition plan assessments (CTPA). Their risk scorecards assess the transition and physical risks of their financing activities, in addition to their clients’ ability to mitigate identified transition risks and their ability to decarbonize. The outputs from the tool help inform NatWest on their portfolios’ climate-related risks and how NatWest can help best address the identified risks in relation to their climate strategy.⁴⁹

Evaluating risk appetite in light of climate and transition finance market opportunities

Risk appetite remains an important constraint and protection mechanism for financial institutions. Many financing deals fall outside of firms’ risk appetite either because the risks are too high or because the organization is unfamiliar with certain risks. Especially within the climate and transition finance market space, there can be a grey zone where a certain climate- or transition-related solution may not have been traditionally within a firm’s risk appetite but do not necessarily violate the risk appetite. The risks may stem from a lack of knowledge and experience with the product or technology.

Some financial institutions have developed a structured approach for evaluating the appetite of newer climate- and transition- related markets in a controlled manner, such as through increased research, updated risk appetite memos, and smaller, sandbox investments to pilot. In the case of new technologies and risk types, approaches for evaluation of these risks are also being examined to determine if different capabilities are needed in the context of risks with limited historical experience or data.

Many financial institutions have not taken additional steps and left the potential financing opportunity as too risky, choosing to eschew the potential revenue but remaining conservative on their risk profile.

48 Deutsche Bank, 2022. [Green Financing Framework](#).

49 NatWest, 2023. [2022 Climate-related disclosures report](#).

Risk measurement and sharing — Risk sharing partnerships

Business and risk teams are beginning to solicit partnerships to share risk in climate and transition financing. These partnerships can be established at the deal level, but some teams are seeking to create or engage with broader, portfolio-wide partnerships with climate-focused investors, with the potential to establish a pipeline of engagements to enable risk sharing for the financial institution. This has ranged from working with insurers earlier in the investment lifecycle for technical advisory and risk management guidance, to engaging in private-public partnerships for innovative blended finance mechanisms with financial institutions, governments, and corporate clients.

CASE STUDY 3

THE ASIAN DEVELOPMENT BANK'S ENERGY TRANSITION MECHANISM TO ENABLE PRIVATE SECTOR CAPITAL AND SHARE FINANCING RISK

Market opportunity

Many multilateral development banks (MDBs) are integrating climate as a core component of their mandate and strategy. This has led to MDBs scaling their partnerships and engagement with private financial institutions to achieve the desired impact in the economies they invest in. Aligning the risk profile of low carbon investments with the risk appetite of private financial institutions helps in crowding in the private sector.

Key Features

- The Energy Transition Mechanism (ETM) is being developed by the Asian Development Bank (ADB) in partnership with developing member countries (DMCs) to leverage public and private capital for accelerating the transition from fossil fuels to clean energy. It is being piloted in Southeast Asia, namely Indonesia and the Philippines.
- The ETM accelerates early closure of the coal-fired power plants and their replacement with sustainable and renewable energy. It helps participating countries to reach more ambitious emissions targets than under their current commitments while also demonstrating that early retirement of coal power plants, previously deemed unfeasible, is now possible through crowding in investment.
- The Mechanisms provides a scalable model that could be replicated to reduce global emissions.

Funding

The Energy Transition Mechanism Partnership Trust Fund (ETMPTF) was established in 2022 as a multi-partner trust fund under the Clean Energy Financing Partnership Facility⁵⁰ to mobilize resources for the ETM. The Government of Japan was the first supporter, followed by Germany, both providing ~\$26 million in funding. The ETM also benefits from the \$2 billion pledged by the United States, United Kingdom, Germany, and Canada to the Climate Investment Funds. These funding sources compliment ADB's own pledge of \$12 billion to support private sector financing for the low carbon transition, alongside its broader climate financing target of \$100 billion to member countries from 2019 to 2030.⁵¹

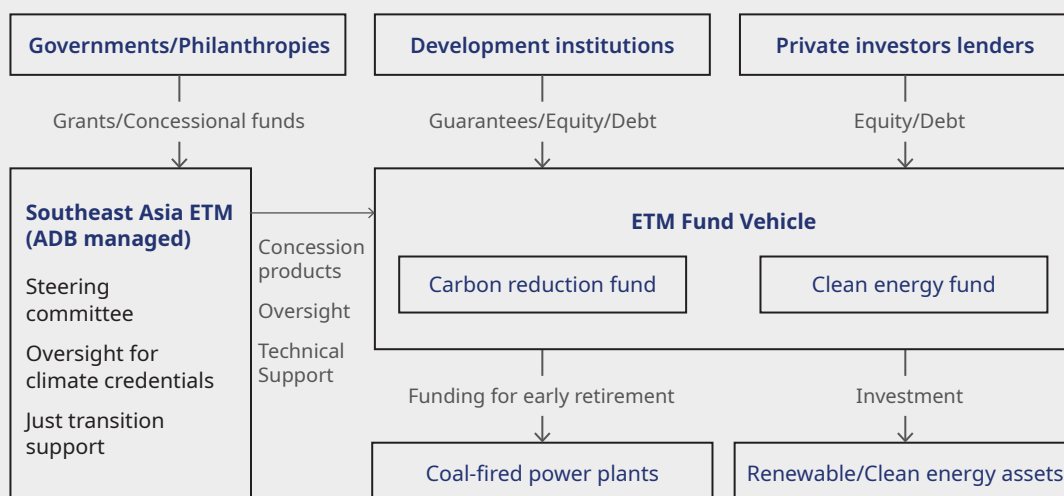
⁵⁰ [Clean Energy Financing Partnership Facility](#)

⁵¹ [ADB Raises 2019-2030 Climate Finance Ambition to \\$100 Billion](#)

CASE STUDY 3 (CONTINUED)

The ETM plans to use both concessional and market-based funding through 1) a carbon reduction fund set up to retire coal-fired power plants early; and 2) a clean energy fund set up to finance clean energy projects. In addition, the ETM provides regulatory support, technical analyses, and guidance on carbon finance to address the intersectional implications of transition finance across stakeholders. At scale, the ETM targets to retire up to 50% of coal generation in Indonesia, the Philippines, and Viet Nam over the next 10 to 15 years. Furthermore, the ADB envisions the ETM as a model that can be replicated across other MDBs and regions.

Exhibit: ADB'S ETM



Source: ADB DG Ramesh Subramaniam's [Insights on Financing Coal to Clean Transition \(Nov. 2022\)](#).

Portfolio management — Financing steering and fund transfer pricing

Some business teams are assessing the impact of investments and corporate clients' emissions and transition plans on the firm's financed emissions, transition plan commitments, and decarbonization targets. These assessments, in the context of the financial institution's commitments, inform portfolio steering, require teams to think about which potential clients could positively or negatively impact their broader climate strategy, and highlight which current clients need further engagement and support in their transition activities.

In some institutions, risk teams are integrating climate into their fund transfer pricing (FTP) and other forms of internal carbon pricing to incentivize capital flows in a manner consistent with their climate strategy. Carbon pricing is more common for operational emissions but is also sometimes considered for the lending portfolio. Some firms also seek to pass on funding benefits from green financing activities back to the performance

measurement on those sources of funding. For example, FirstRand has incorporated climate considerations into their pricing adjustments for low carbon solutions, as their pricing seeks to reflect the different nature of green assets and to adjust prices to match deal’s marginal cost of funding.⁵²

ORGANIZATIONAL ENABLERS

Approach: Financial institutions are breaking down internal siloes to enhance and build on existing organizational capabilities, while also bringing in new experts to ensure their business and risk teams can capitalize on climate and transition financing.

Financial institutions are working to ensure their business and risk teams have the capacity and skills to deliver on the product and business initiatives, deal enablers, and finance and portfolio risk measurement approaches. This includes identifying the skills needed across the firm’s technology and data capabilities, governance, compensation, training, and culture building to enable climate offerings.

Exhibit 10: Primary organizational enablers identified

	Established	Emerging
Organizational enablers	<p>Climate centers of excellence* that drive firm uniformity and expand capacity of climate-capable employees.</p> <p>Upskilling and education of staff that’s conducted regularly across financial institutions on both climate strategy and products, as well as key emerging trends within climate action.</p> <p>Board-level engagement on climate that includes climate-focused managers on business committees.</p> <p>Climate leadership and “tone from the top” that establishes a firmwide stance on climate action.</p>	<p>Cross-sectional coverage teams:*</p> <ul style="list-style-type: none"> • Hiring of engineers to inform sectoral-level expertise on climate and transition solutions. • Teams integrated to work outside of silos, including building out balance sheet-lite advisory engagements across first line teams. • Teams developed for specific sectors and climate and transition technologies, incorporating knowledge transfer across business lines. <p>Compensation and performance: Climate targets and variable sustainability KPIs tied to executives’ year-end compensations.</p>

* Enablers detailed in the following pages
Source: Oliver Wyman

52 FirstRand, 2023. [2022 Climate-related financial disclosures](#).

Established organizational enablers — Centers of excellence and governance

Many financial institutions have sought to curate their climate skillset by building centers of climate excellence, which provide the required internal expertise to navigate the climate and transition finance market. While building these centers, firms are working to maintain and enhance relevant capabilities that already exist within business lines. Employees focused on climate issues can use these centers of excellence as resources. Boutique investment managers have utilized their centers of climate excellence to drive desired consistency across elements of their investment management firms' climate strategies, which may be on varying parts of their climate strategy journey. Further, these centers also engage in external advisory conversations with clients, enhancing clients' climate strategy development and subsequently driving along the firm's climate strategy.

There has also been an increasing emergence of financial institutions having board-level engagement on climate, including through a dedicated climate committee as well as ensuring there are climate-focused sustainability individuals on business committees. For example, Allied Irish Bank's group board has a sustainable business advisory committee alongside an executive sub-committee on group sustainability, both of which incorporate climate into their strategy considerations.⁵³

Emerging organizational enablers — Cross-sectional coverage teams

Financial institutions have built out cross-sectional coverage teams through 1) hiring of technical staff, 2) breaking down silos across business lines, and 3) incorporating knowledge transfers across the institution.

1. Hiring of technical staff. Financial institutions have increased direct hiring for new technical expertise across their business and risk teams, including environmental engineers, policy and development experts, and climate scientists. Deep subject matter experts within climate can move across sectors as well as provide nuanced perspectives on technologies that are just emerging as investable products, such as implications of transition minerals and metals within battery supply chains. This has been especially applicable in the project finance space, where technical teams can provide support for balance sheet-lite activities including advisory and structuring to help enable potential climate and transition financing.

Interviewees noted a significant challenge with emerging climate and transition technologies, as deal teams may not have strong comfort with newer low carbon technologies, and as such, the relevant financing opportunities are often marked as high risk. However, the increase in new technical expertise can help financial institutions to inform deal and risk teams in understanding previously unknown risks and opportunities of emerging climate products. This in turn improves the risk mitigation opportunities and capacities for deal teams to engage with low carbon financing.

2. Breaking down silos across business lines. Financial institutions have also begun to move their centralized climate knowledge and capabilities out of siloes and disseminate the capabilities over time throughout the firm's business lines and asset classes. Some financial institutions have updated their operating model to see how they can better offer client solutions and maximize engagement impact.

53 Allied Irish Bank, 2023. [2022 Sustainability Report](#).

For example, Macquarie has sought to promote and advance cross-Group collaborate and knowledge sharing on climate capabilities through the creation of the Climate Solutions Taskforce (CST). The CST has representatives from all operating and support groups and is working to support Macquarie's expansion into new climate aligned technologies such as hydrogen and CCUS as well as Macquarie's ambition to strengthen the support it provides to carbon intensive industries and clients, like the oil/gas sector.⁵⁴

- 3. Incorporating knowledge transfer across the institution.** Organizational enhancements have also included building knowledge transfer opportunities. For example, one interviewee provided incentives to collaborate and rotate within the organization from climate center of excellences to first line deal teams. This in turn enhanced the capabilities of first line deal teams to then extend their typical financing roles to climate advisory, supporting the company's broader climate commercialization ambitions.

⁵⁴ Macquarie Group, 2022. [Net zero climate risk report](#).

CASE STUDY 3

BNP PARIBAS' LOW CARBON TRANSITION GROUP ("LCTG") SUPPORTS CLIENTS' CLIMATE TRANSITION

Market opportunity

Financial institutions are looking to leverage their existing organizational capabilities and solutions, while bringing on sector and technical expertise to accelerate their commercial climate strategies.

- BNP Paribas' LCTG is a global, integrated, and growing platform of 200+ sector specialists developing strategic dialogue with corporate and institutional clients in their low-carbon transition, leveraging the full breadth of capabilities of BNP Paribas Group to provide clients with the relevant solutions across business lines.
- Where specific technical expertise is required, BNP Paribas can bring in-house experts, developing deep technical content on the low-carbon technologies, further strengthening the thought leadership of the Bank in the low-carbon transition.
- Beyond the LCTG, BNP Paribas has also sought to develop the climate-relevant capabilities for all staff, notably client-facing teams to ensure the bank's broader commercial climate strategies and products can be scaled to support clients.

BNP Paribas Low Carbon Transition Group ("LCTG"):

- BNP Paribas launched the LCTG, their in-house setup, in 2021 to accompany corporate and institutional clients in their transition to a low-carbon and more sustainable economy. The team provides clients with the continuum of solutions that are relevant to their transition needs, focusing on investment banking and financing solutions, and leveraging on the relevant capabilities across the Bank's integrated model (risk management, asset management, insurance, leasing solutions, mobility solutions, etc.).

CASE STUDY 3 (CONTINUED)

- The LCTG helps connect established transitioning corporates, with climate tech companies and investors, to support the development of low-carbon projects and ventures. It provides clients with the relevant solutions at all stages of their low carbon transition journey. The bank's climate strategy recognizes the circular nature of financing: to attract equity investors, new climate ventures must also demonstrate the ability to raise debt.
- The LCTG also seeks to ensure that there is senior technical engineering expertise within their team to ensure the bank provides the right industry know-how to clients and to the broader BNP Paribas ecosystem. For example, in-house engineers bring the technical expertise to help assess carbon capture and storage value chains, or battery manufacturing supply chains.
- To support knowledge transfer throughout BNP Paribas, the LCTG trains broader teams on decarbonization technologies, to ensure that carbon transition engagement with clients is a key aspect of relationships for all teams. More broadly, the Bank has developed a "Sustainability Academy", to upskill all staff, including senior management, client facing teams, on the ESG transition thematic.
- Building on BNP Paribas' firmwide strategy, the LCTG aims to contribute to the Bank's net zero ambitions, which were strengthened early 2023.⁵⁵

⁵⁵ [BNPP's Low Carbon Transition Group](#).

As both new and existing staff are being to capitalize on the climate and transition financing market, financial institutions have faced challenges with defining roles and responsibilities across their climate, risk, legal, marketing, and financing teams. To address these challenges, some interviewees' have engaged in developing target operating models across relevant teams. These models ensure clarity on the responsibility to inform on relevant risks and opportunities. The next step is to establish how these outputs get integrated into the final decision-making at the deal and portfolio level.

We observed among the interviewees that a critical component in utilizing organizational enablers, especially when incorporating new technical expertise into risk management and investment strategy, is ensuring a culture that supports innovation. Scaling climate-related dimensions across an organization's business and risk teams requires leveraging both existing and new employees and capabilities, and to support financial institutions' growth in addressing commercial opportunities, interviewees noted the firmwide push needed to encourage and build out refined and improved capabilities.

PHASED APPROACH TO ENABLE CLIMATE AND TRANSITION INVESTMENTS

Throughout this paper, we've observed five main themes that financial institutions have taken to push forward in commercializing on the low carbon transition.

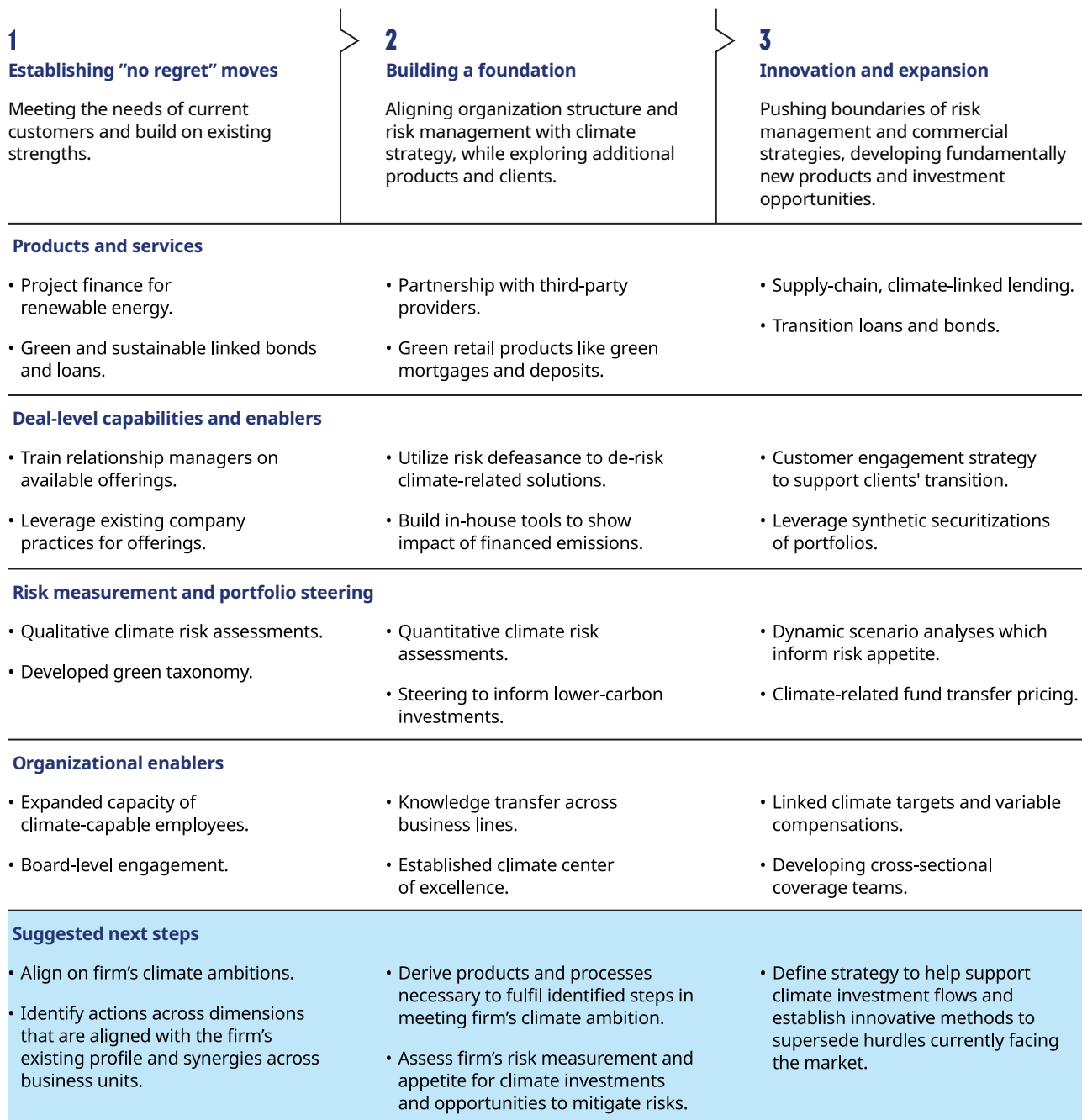
- **Playing to their strengths:** Financial institutions have expressed early success by commercializing on climate action through their existing capabilities, building off their product expertise, the demands of their existing client base, and their sectoral priorities.
- **Breaking down silos to enable knowledge transfer:** Financial institutions have been taking stock of where their relevant knowledge bases and skillsets are located and subsequently bringing the identified experts together across business lines, focusing on how they can better offer client solutions and maximize engagement impact related to climate and transition financing.
- **Bringing in new talent to deal with new market risks and support business development:** When recruiting new staff, the search has shifted to non-traditional sources to the financial institution help mitigate risks of the unknown from climate and transition solutions. The hiring has primarily focused on engineering, climate technology, and low carbon investment-related expertise.
- **Demonstrating the willingness to innovate and experiment:** Capitalizing on the climate and transition financing market may require significant changes in operational management and a new look at risk appetite. As such, leading financial institutions have prioritized innovation and the openness to experiment new products and actions, that may not be part of their standard practices.
- **Enabling investment-oriented partnerships:** Financial institutions have begun to focus on developing partnerships so that investments in climate and transition financing can increase through them.

To capture the financial opportunity via these approaches, as well as address key climate concerns and overcome the existing climate and transition investment challenges, we think that business and risk teams should consider the following steps:

1. **Establishing “no regret” moves:** Not every team will want to be a leader in the climate and transition finance market. “No regret” moves include building on existing client relationships and current strengths to address the emerging needs and demands.
2. **Building a foundation:** As most teams continue their journey, they can ensure their organization and risk management teams are set-up to enable climate and transition finance opportunities over the medium term. Financial institutions can begin to explore additional products and new clients.
3. **Innovating and expanding:** Champions in the climate and transition finance market push the boundaries of their organizational structure and risk management. These teams are exploring new technologies and radically different and or new products and services to their existing business capabilities.

In the exhibit below, we outline possible steps available across dimensions within financial institutions' climate journey spectrum. Each institution will need to decide what is appropriate for them across each dimension, balancing what actions they think they should take today versus preparing to take in the future.

Exhibit 11: Illustrative steps business and risk teams can take across the four climate strategy dimensions



Source: Oliver Wyman

IACPM and Oliver Wyman would like to thank and acknowledge the contributions of the following firms, who contributed their insights to this paper both through interviews and working groups. This paper is not a reflection of the positions, policies or approaches of any single contributor but rather identifies trends related to commercial opportunities in climate and transition finance.

- Asian Development Bank
- BBVA
- BNP Paribas
- DBS
- European Investment Bank
- FirstRand Ltd.
- Goldman Sachs
- International Finance Corporation
- Lloyd Banking Group
- Macquarie Group
- Munich Reinsurance
- NatWest Group Plc
- Newmarket Capital
- PGGM
- Royal Bank of Canada
- Standard Chartered
- UK Export Finance
- US Bank
- Wells Fargo & Company

Oliver Wyman is a global leader in management consulting. With offices in more than 70 cities across 30 countries, Oliver Wyman combines deep industry knowledge with specialized expertise in strategy, operations, risk management, and organization transformation. The firm has more than 6,000 professionals around the world who work with clients to optimize their business, improve their operations and risk profile, and accelerate their organizational performance to seize the most attractive opportunities.

For more information, please contact the marketing department by phone at one of the following locations:

Americas
+1 212 541 8100

EMEA
+44 20 7333 8333

Asia Pacific
+65 6510 9700

AUTHORS

Ilya Khaykin

Partner
ilya.khaykin@oliverwyman.com

Daniel Holod

Associate
daniel.holod@oliverwyman.com

Edwin Anderson

Partner
edwin.anderson@oliverwyman.com

Coby Sippel

Associate
coby.sippel@oliverwyman.com

Sayli Chitre

Principal
sayli.chitre@oliverwyman.com

About the IACPM

The IACPM is an industry association established to further the practice of credit exposure management by providing an active forum for its member institutions to exchange ideas on topics of common interest. The Association represents its members before regulatory and administrative bodies in the US and internationally, holds bi-annual conferences and regional meetings, conducts research on the credit portfolio management field, and works with other organizations on issues of mutual interest relating to the measurement and management of portfolio risk. Currently, there are over 130 financial institutions based in 30 countries that are members of the IACPM. More information is available at: www.iacpm.org

IACPM CONTACTS

Som-lok Leung

Executive Director
somlok@iacpm.org

Marcia Banks

Deputy Director
marcia@iacpm.org

Juliane Saary-Littman

Senior Director, Research
juliane@iacpm.org

Copyright ©2023 Oliver Wyman

All rights reserved. This report may not be reproduced or redistributed, in whole or in part, without the written permission of Oliver Wyman and Oliver Wyman accepts no liability whatsoever for the actions of third parties in this respect.

The information and opinions in this report were prepared by Oliver Wyman. This report is not investment advice and should not be relied on for such advice or as a substitute for consultation with professional accountants, tax, legal or financial advisors. Oliver Wyman has made every effort to use reliable, up-to-date and comprehensive information and analysis, but all information is provided without warranty of any kind, express or implied. Oliver Wyman disclaims any responsibility to update the information or conclusions in this report. Oliver Wyman accepts no liability for any loss arising from any action taken or refrained from as a result of information contained in this report or any reports or sources of information referred to herein, or for any consequential, special or similar damages even if advised of the possibility of such damages. The report is not an offer to buy or sell securities or a solicitation of an offer to buy or sell securities. This report may not be sold without the written consent of Oliver Wyman.