

**Principles for
Responsible Banking:
Guidance for banks**

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Principles for
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**Climate Adaptation
Target Setting**

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Contents

List of abbreviations	x
1. Introduction.....	1
1.1 Purpose of the guidance	1
1.2 PRB Target-Setting Framework for Adaptation	2
2. Understand the context: Alignment with climate resilience goals	7
2.1 Understanding the context	7
2.2 Alignment with climate resilience goals and consistency with national/international adaptation frameworks	8
3. Setting the baseline: Physical risk assessment.....	12
3.1 Approach to physical climate risk assessments	12
3.2 Data gathering and use	16
3.3 Identifying risk mitigation and adaptation measures	17
3.4 Assessing risk mitigation and adaptation measures	18
3.5 Other elements of baseline setting	19
4. Set SMART targets.....	20
4.1 Practice targets	20
4.2 Considerations for setting impact targets.....	22
5. Action plans	26
5.1 Developing action plans	26
5.2 Core indicators	27
5.3 Harnessing interlinkages.....	30
6. Implementation.....	34
6.1 Strategy/internal policies and processes	34
6.2 Client engagement	35
6.3 Business opportunities and financial flows—mobilising capital	36
6.4 Policy advocacy	42
Appendices	44
Appendix 1: Definitions	44
Appendix 2: Case studies—adaptation financing by banks.....	47
References	51

Executive summary

The impacts of climate change on societies and ecosystems are already being felt and are likely to intensify as the climate enters into uncharted territory.¹ In the summer of 2023 the world experienced record temperatures, with impacts being felt across the world: large wildfires in North America, heatwaves in Europe, and severe floods in North Africa and Asia causing loss of life, property, livelihoods, and natural resources. Climate change affects first and foremost individuals and local communities across the world and is a key driver of humanitarian crises particularly impacting the least developed countries. It exacerbates existing vulnerabilities in economies and natural systems or creates new ones.

Adapting to and building resilience for a new climate reality is becoming more urgent: the UNEP Adaptation Gap report finds that the adaptation finance needs of developing countries are between USD 215 billion and USD 387 billion, 50% higher than previous estimates (UNEP, 2023). The need for building resilience to a changing climate is highlighted in the Paris Agreement, article 2.1c: “Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development”. However, currently only 9% of climate financing is focused on adaptation with public sources representing the vast majority² of adaptation finance flows (CPI, 2023).

The lower private finance flows for adaptation vs. mitigation is driven by several reasons, including:

- i. Many adaptation needs in developing economies not being bankable or investable in the current financial architecture due to country, currency and credit risk, and a mismatch between investment horizons and return periods,
- ii. Lack of established and harmonised frameworks, data, metrics and taxonomies to integrate adaptation and resilience in financial decision making, and to build investor confidence for scaling up the still nascent adaptation markets,
- iii. Lack of the specialised knowledge in the private banking sector required for assessing adaptation solutions in their sectoral, regional and systemic contexts, something that has so far been the focus of development finance institutions,
- iv. Slower policy responses and often unclear or uncertain priorities that are necessary or the private sector to catalyse to catalyse adaptation actions in the real economy,
- v. The perception that adaptation is focused primarily on disaster risk reduction, which falls under the sphere of public sector, development banks and re-insurance.

1 news.un.org/en/story/2022/09/1126511

2 Private sector finance for adaptation was USD 2 billion according to CPI, although there are limitations in disclosures and classification as taxonomies have not yet been developed in several regions.

Scaling up adaptation finance can help prevent, prepare for, and respond to climate-caused crises and make communities, economies and natural systems more resilient. It can also be a source of opportunity. Recent estimates show that the adaptation market could worth USD 2 trillion annually by 2026.³ Indeed, private sector investment in adaptation extends beyond project infrastructure. It can support a profit driven adaptation of business models in response to shifts in supply chains and demand for goods and services as these adapt to new climate realities. At early stages it can take the form of higher expenditure in innovation, research and development (Randall, 2023). As with investment in green technologies, companies upgrading infrastructure, developing weather resistant building materials or climate resilient crops, will become investment opportunities for adaptation and resilience.

Banks themselves face climate-related financial risks in their business, which they need to manage. They also have a key role to play in supporting adaptation in the real economy by providing financial products and services, investing in adaptation projects, and engaging with clients to raise awareness of climate risks and opportunities. Working with governments and industries, they can advocate for enabling conditions for mobilising private sector finance. And they can work with development finance institutions to innovate and structure blended finance solutions to finance adaptation in developing economies.

Adaptation and resilience markets are still nascent, but there is evidence that banks already finance some projects and activities contributing to adaptation in the regions they operate. Some banks have incorporated adaptation and resilience criteria in their green and sustainability investment and finance frameworks. In developing economies banks participate in blended finance with de-risking mechanisms such as concessional capital and credit guarantees; however such case studies are sparse and project-specific, making them less scalable. These examples indicate that the business impetus is there, but additional innovation is required to catalyse private sector investment towards climate resilient development. Scaling adaptation finance requires policy interventions to remove some of the barriers discussed above. But some action can already be taken; this report provides an overview of the adaptation finance landscape for banks and draws out guiding structures and potential product developments to support financial innovation.

Recognising the importance of the topic for banks, this guidance was co-developed with 27 signatories to the Principles for Responsible Banking (PRB) from across the globe. The PRB community currently represents almost half of the world's banking assets and constitutes banks who recognise the importance of assessing and managing climate-related risks, impacts and opportunities to support the sustainability and resilience of their business. PRB Signatories include a wide range of banking business models (universal, retail, investment, credit unions, wealth management, development banks, etc.)—and within each, a range of banking activities in different sectors, geographies, and economic and political contexts. Setting targets on climate adaptation is complex and the responsibly of individual banks, while at the same time action on building climate resilience is urgent and more guidance is needed.

This guidance builds on a framing paper published in 2022 (UNEP FI, 2022) and aims to help banks accelerate their efforts on managing climate-related impacts and financing climate adaptation. It sets out an initial, guiding approach for setting adaptation targets and incorporating adaptation considerations in their transition plans and sustainability strategies, while leveraging co-benefits of adaptation with climate, nature, and other aspects of the UN Sustainable Development Goals (SDGs).

3 weforum.org/agenda/2022/11/climate-change-climate-adaptation-private-sector/

It also offers additional context and practical guidance on how to better understand and tackle the physical impacts of climate change and associated risks and opportunities, while being consistent with global disclosure frameworks, including the Taskforce on Climate-Related Financial Disclosures (TCFD) and International Sustainability Standards Board (ISSB). Importantly, it is a guiding document to be interpreted by each, individual bank against its own business and country context, and does not seek to interfere in members' own obligations to comply with their regulatory and/or supervisory requirements.

The pilot PRB Theory of Change framework for setting adaptation targets is based on the following steps:

- **Step 1: Understand the context.** Understand the climate adaptation policy context through national and regional adaptation planning and assessment frameworks and identify the most relevant goals and frameworks to align with. This step helps banks identify the priorities for climate resilient development in the contexts they operate.
- **Step 2: Set a baseline.** Use climate risk assessments and scenario planning to understand climate impacts relevant to clients and own portfolios, utilising regulatory and/or supervisory approaches where these already exist. The results of the assessment are used to identify regions and sectors prioritised for developing adaptation measures.
- **Step 3: Set SMART targets.** Set targets that aim to align finance and investment with global goals and support national adaptation plans. The guiding targets contained within focus on: (i) internal strategies, policies and processes including risk management; (ii) client engagement; and (iii) business opportunities and financing.
- **Step 4: Develop action plans.** Develop adaptation action plans, embed in internal processes and set performance indicators for tracking progress. Consider interlinkages with climate mitigation, nature, and socio-economic development. The output of this step is a roadmap and internal strategy towards achieving the targets.

The table outlines examples of practice targets banks could set, depending on where they are on their journey on climate adaptation, their business and country context. These are relevant for banks setting climate adaptation targets under the PRB framework or those wishing to tackle the physical climate risks to their portfolios and the society positively and proactively. It is recommended that banks progress on physical risk assessments and set headline targets on finance mobilisation and client engagement, as relevant to their portfolio contexts.

Practice target	Purpose	Examples
Strategy/Internal policies and processes—Risk assessment and management	<p>Process for assessment and disclosure of climate impacts and resilience plans.</p> <p>Adaptation strategy/plans included in climate transition or sustainability policies.</p>	<p>Early stage:</p> <p>Physical risk assessments completed for X% of (the relevant) portfolio.</p> <p>Physical risk assessment integrated in risk management policies and processes.</p> <p>More mature:</p> <p>Proportion of portfolio (%) highly exposed to key indicators of physical risks, by geography/sector.</p> <p>Adaptation/resilience incorporated in climate transition plans or sustainability strategy and approved by Senior Management.</p> <p>Strategy for business opportunities and product development in high-risk sectors and regions.</p>
Client engagement	<p>Gather information on risks and opportunities, and make clients aware of risk mitigation and resilience options.</p>	<p>Early stage:</p> <p>X engagements with clients with highly exposed assets, to incentivise climate resilience measures.</p> <p>More mature:</p> <p>% increase of clients with adaptation and resilience strategies in place.</p>
Business opportunities and financial flows	<p>Shift financial flows towards adaptation aligned activities, by mobilising finance towards climate-resilient development and mitigating high exposures to physical risk.</p>	<p>Early stage:</p> <p>Integration of adaptation in product development processes for high impact regions or sectors.</p> <p>More mature:</p> <p>USD X million/billion adaptation finance mobilised towards adaptation as identified by state-of-the-art taxonomies.</p> <p>Increase in % of property, infrastructure or other alternative asset portfolios with adaptation measures or insurance in areas subject to high physical climate risk.</p>

- **Implementation actions:** The target setting steps are supported by key actions: incorporate adaptation in internal policies and processes, consult with stakeholders and clients, and identify adaptation opportunities leading to mobilisation of finance (Chapter 6). These actions, as specified in the Theory of Change, can lead to
 - Investment in adaptation projects and interventions
 - Engagement with clients to understand and support their adaptation needs
 - Develop and implement financial products and services that support adaptation
 - Participate in public-private partnerships and blended finance

This pilot framework was developed by the PRB Climate Adaptation Working Group in partnership with UNEP FI, and with support by an Expert Review Group with participants from the European Commission, the International Financial Reporting Standards (IFRS), Cadlas, Oxford University, Climate Champions including the Race to Resilience and the United Nations Environment Programme (UNEP). The framework is designed at portfolio level to encompass different types of business models, thus providing an overarching approach that is applicable to all contexts. It allows the possibility of setting targets for the most relevant segments of the lending portfolio as suitable for each bank.

Approaches to adaptation and climate resilient development measures vary by sectors and regions just as the climate hazards, exposures and vulnerabilities are different. The next step in this process is to put the guidance in practice by piloting this framework in a few key sectors in 2024 with a small group of banks. This will enable an update the guidance with more sector-specific elements, and lessons learnt and publication of case studies and examples to inspire action.

List of abbreviations

CBI	Climate Bonds Initiative
CFRC	Climate Financial Risk Forum
CISL	Cambridge Institute for Sustainability Leadership
CPI	Climate Policy Initiative
DFI	Development Financing Institution
DNSH	Do No Significant Harm
EBRD	European Bank for Reconstruction and Development
EC	European Commission
ECB	European Central Bank
EIB	European Investment Bank
ETF	Exchange-Traded Fund
FSB	Financial Stability Board
GDP	Gross Domestic Product
GFANZ	Glasgow Financial Alliance for Net Zero
GGA	Global Goal on Adaptation
GIS	Geographical Information Systems
GlaSS	Glasgow-Sharm el-Sheikh
IFC	International Finance Corporation
IISD	International Institute for Sustainable Development
IPCC	Intergovernmental Panel on Climate Change
ISIMIP	Inter-Sectoral Impact Model Intercomparison Project
ISSB	International Sustainability Standards Board
KPI	Key Performance Indicator
LNOB	Leaving no one behind
MENA	Middle East and North Africa
NAP	National Adaptation Plan
NBSAP	National Biodiversity Strategy and Action Plan
NBS	Nature-Based Solutions
NDC	Nationally Determined Contributions
NGFS	Network for Greening the Financial System

NGO	Non-Governmental Organization
OECD	Organisation for Economic Cooperation and Development
PCRAM	Physical Climate Risks Assessment Methodology (Coalition for Climate Resilient Investment)
PRB	Principles for Responsible Banking
SDGs	Sustainable Development Goals
SMEs	Small and Medium-sized Enterprises
SUNREF	Sustainable Use of Natural Resources and Energy Finance
TCFD	Taskforce for Climate-related Financial Disclosures
ToC	Theory of Change
TPT	Transition Plan Taskforce
UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNDRR	United Nations International Strategy for Disaster Reduction
UNEP FI	United Nations Environment Programme Finance Initiative
UNFCCC	United Nations Framework Convention on Climate Change
WASP	World Adaptation Science Program
WMO	World Meteorological Organisation

1. Introduction

1.1 Purpose of the guidance

The sixth IPCC Assessment Report (IPCC, 2022a) warns that the climate crisis is happening faster than we thought. Global warming is already causing more extreme weather events, and these events are putting people and ecosystems at risk. The poorest and most vulnerable people are the least able to cope with the effects of climate change. The UNEP *Adaptation Gap Report* (UNEP, 2023) estimates adaptation needs in developing countries alone to be USD 215 billion to USD 387 billion annually between 2021 and 2030, 10–18 times higher than public international flows in 2021. Yet, public financing for developing economies reduced by 15% in 2021 vs. 2020.⁴ Only 9% of all climate financing is focused on adaptation (CPI, 2023), with the majority of these funds coming from public sources.⁵ Adaptation is a critical component of the long-term global response to climate change to protect people, livelihoods and ecosystems (UNDESA and UNFCCC, 2023). The rising adaptation finance gap is a global concern, which acutely impacts the ability of developing economies and small island developing states to adapt to climate change and requires urgent action.

Compared to climate mitigation, adaptation remains a nascent field for the private financial sector, although the two are of equal importance in Article 2.1(c) of the Paris Agreement (UNFCCC, 2015). At the same time, most PRB signatories identify climate adaptation as the second most significant impact⁶ through their portfolios and business strategies in the near term, especially those with operations in regions most vulnerable to climate impacts. Building on the framing paper published last year (UNEP FI, 2022), this guidance aims to bridge the gap by setting out the first version of a target setting framework to support banks accelerate their efforts on climate adaptation.

Since the physical impacts of climate change and its associated risks and opportunities are relevant to most banks the document has a dual purpose:

- Provide guidance to help banks set adaptation targets under the PRB framework.
- Support banks wishing to tackle climate-change related risks to their portfolios and the society positively and proactively. This could be done for example by developing adaptation plans, incorporating adaptation considerations in their climate transition plans and sustainability strategies, and by leveraging co-benefits of adaptation with climate, nature, and other aspects of the SDGs.

4 In contrast, finance for mitigation continued to increase during the same period.

5 Private sector finance for adaptation was USD 2 bn according to CPI, there are some limitations in tracking private finance flows due to the lack of taxonomies in several regions.

6 Based on PRB member survey carried out in 2021.

The journey towards setting targets is not the same for all banks. Several jurisdictions have set legislation on disclosures, supervisory requirements, or developed adaptation taxonomies, while others are still in the early stages of developing their adaptation approach. Consequently, capacity, data and measurement constraints vary across different regions. This guidance acknowledges these differences by supporting banks of different levels of maturity to navigate the complex field of adaptation, with an emphasis on taking action to mitigate climate impacts. Banks at the early stages of their journey can focus efforts on capacity building and understanding their impacts, while more mature banks can take action to develop financial products to support their clients' adaptation efforts. In developing economies vulnerable to climate hazards prioritising climate efforts on financing adaptation will have most impact, and setting adaptation targets supports banks in this regard. Many banks in developed and advanced economies have already set climate targets on reduction of greenhouse gas emissions, and want to make their transition plans consistent with climate resilient development. In contexts where the most significant vulnerabilities are socio-economic in nature, adaptation plans may be integrated in the bank's social or broader sustainability strategy.

This guidance offers a step-by-step process to support banks better understand climate risks and opportunities for their context and start developing adaptation strategies and financing solutions to support their clients. This guidance does not seek to interfere with banks' own obligations to comply with their regulatory and/or supervisory requirements, including disclosure standards (such as TCFD and ISSB) on physical climate risk assessment and management.

1.2 PRB Target-Setting Framework for Adaptation

Theory of change for adaptation

The framing paper (UNEP FI, 2022) preceding this work introduced a framework for climate adaptation for commercial banks based on the Theory of Change shown in Figure 1. The Theory of Change identifies pathways leading to integration of climate adaptation in the economy in order to build, enhance and maintain climate resilience of systems and societies. Set from the perspective of banks, it identifies actions, outputs and outcomes that lead to portfolio alignment with climate-resilient development.

The present target setting guidance focuses on the two types of internally facing actions and their corresponding pathways: strategy and internal policies and processes including risk management, and business opportunities and portfolio strategy. It also outlines the essential role of externally facing actions: client engagement and advocacy in delivering them; and partnerships with key stakeholders. The Theory of Change and target setting guidance form the first step towards developing an adaptation framework specific to banks.

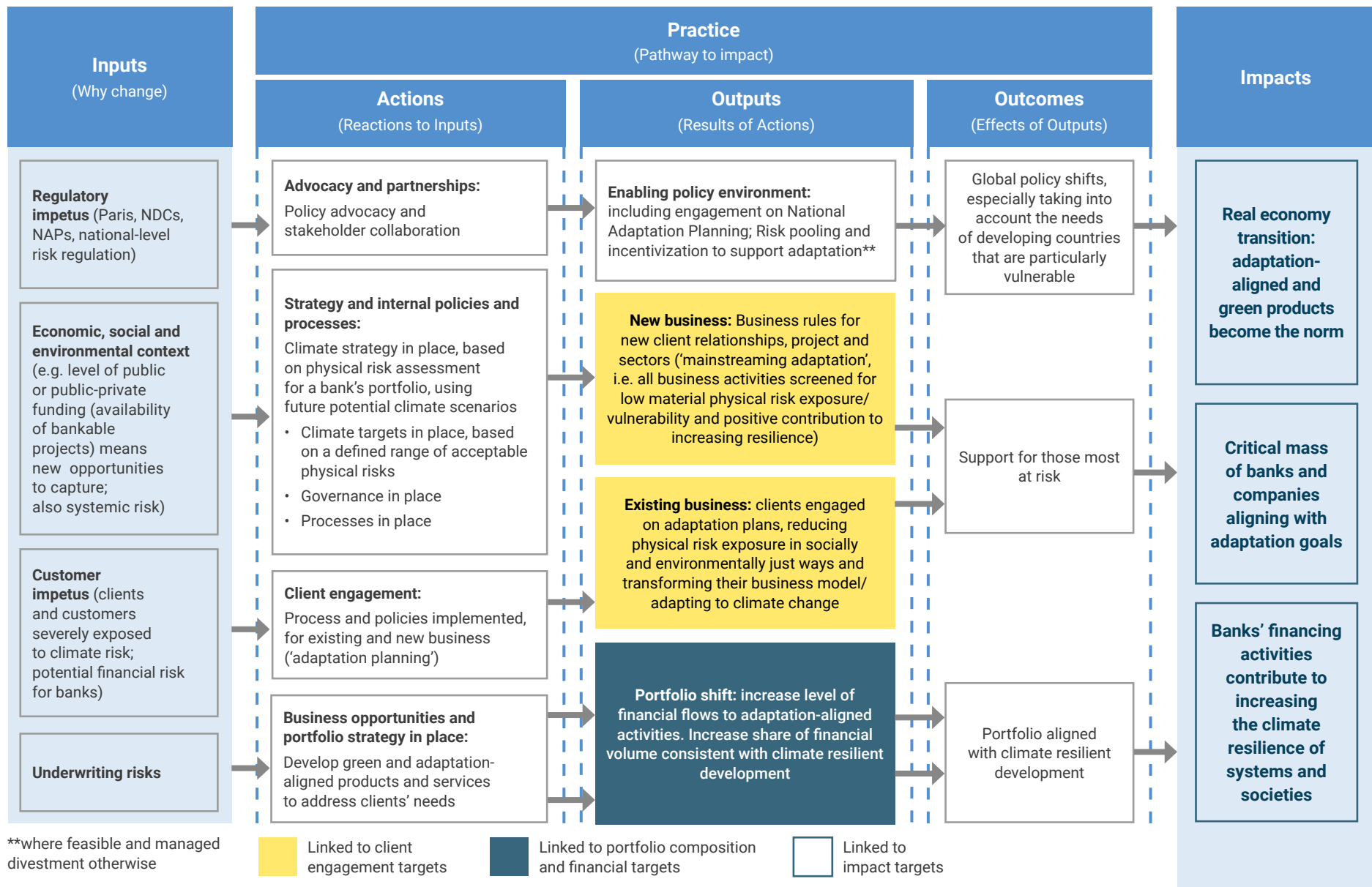


Figure 1: Theory of Change for climate adaptation as applied to commercial banks based on the overall sustainability Theory of Change for banks⁷

Framework for target setting

The PRB adaptation target setting approach builds on the Theory of Change, and a framework for aligning finance and investment with climate-resilient development initially proposed in a paper by Mullan and Ranger (Mullan & Ranger, 2022) and developed by UNEP FI in its framing paper (UNEP FI, 2022). It outlines the process and key steps towards setting adaptation targets and developing action plans. The remaining chapters of this report are structured around these key steps.

PRB adaptation framework—key steps to follow

- **Step 1: Understand the context.** Understand the climate adaptation policy context through national and regional adaptation planning and assessment frameworks and identify the most relevant goals and frameworks to align with (Chapter 2). This step helps banks identify the priorities for climate resilient development in the contexts they operate.
- **Step 2: Set a baseline.** Use climate risk assessments and scenario planning to understand climate impacts relevant to clients and own portfolios, utilising regulatory and/or supervisory approaches where these already exist (Chapter 3). The results of the assessment are used to identify regions and sectors prioritised for developing adaptation measures.
- **Step 3: Set SMART targets.** Set targets that aim to align finance and investment with global goals and support national adaptation plans (Chapter 4). The guiding targets contained within focus on: (i) internal strategies, policies and processes including risk management; (ii) client engagement; and (iii) business opportunities and financing.
- **Step 4: Develop action plans.** Develop adaptation action plans, embed in internal processes, and set performance indicators for tracking progress. Consider interlinkages with climate mitigation, nature, and socio-economic development (Chapter 5). The output of this step is a roadmap and internal strategy towards achieving the targets.
- **Implementation:** The target setting steps are supported by key actions: incorporate adaptation in internal policies and processes, consult with stakeholders and clients, and identify adaptation opportunities leading to mobilisation of finance (Chapter 6). These actions, as specified in the Theory of Change, can lead to
 - Investment in adaptation projects and interventions
 - Engagement with clients to understand and support their adaptation needs
 - Development of new financial products and services that support adaptation
 - Participation in public-private partnerships and blended finance

Figure 2 outlines these steps and links them to practices supporting impact management.

Positive adaptation alignment (Mullan and Ranger, 2022)

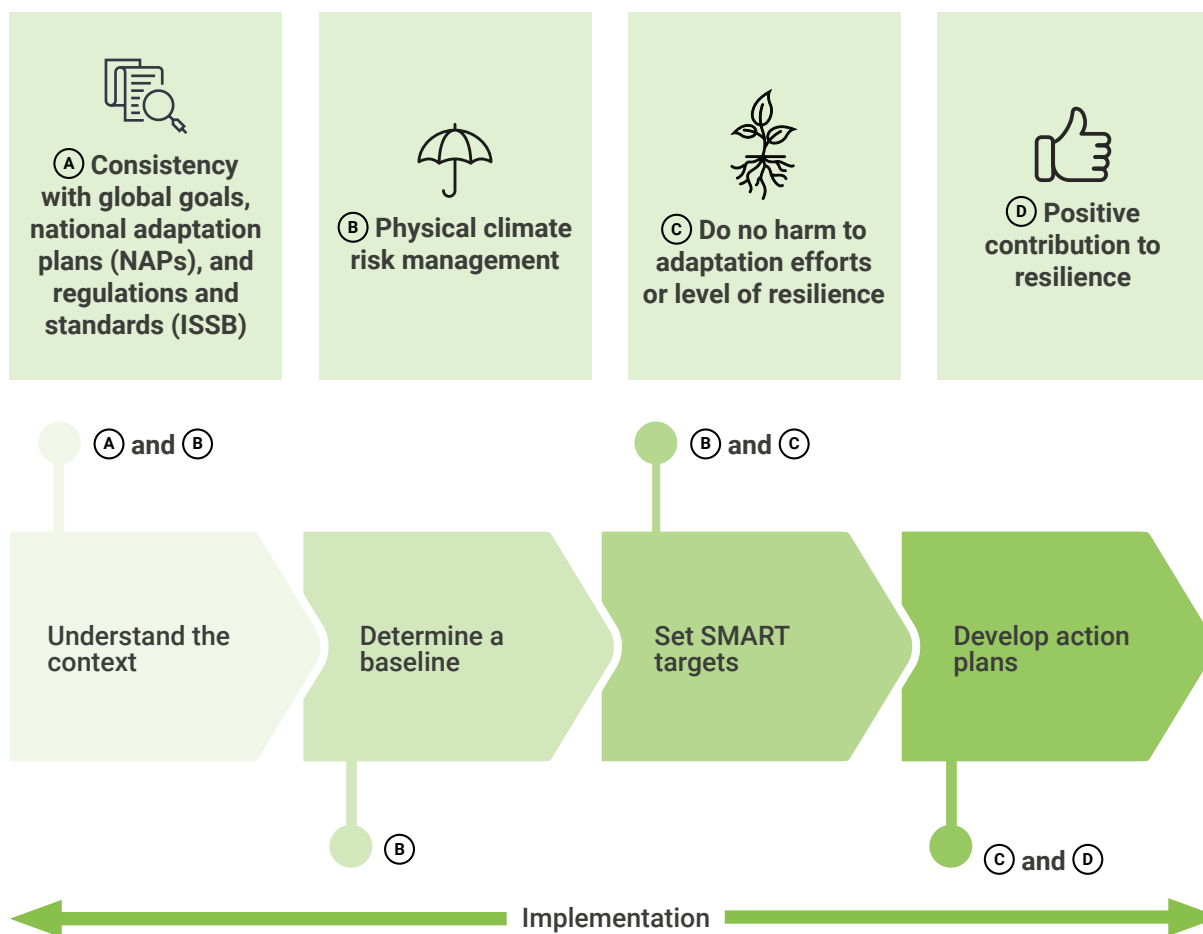


Figure 2: Overlay of UNEP FI target setting steps with positive adaptation alignment (Mullan and Ranger, 2022)

One of the core commitments within the Principles for Responsible Banking is the measurement and management of impact on environment and society. The Principles consider evidence-based target setting as a pathway to impact. There are two distinct types of targets in the PRB framework. **Practice targets** focus on categories of actions a bank can pursue to manage its impacts, including how sustainability issues are integrated into the bank’s strategy, business, and systems. These targets are typically internal and form the principle framing for disclosures. **Impact targets** speak to performance objectives, which is the positive impact to be achieved and negative impact avoided in the real economy. PRB promotes the alignment of impact targets with international, regional, or national frameworks, informed by science and policy.

As impact metrics and indicators for adaptation are still being developed, this guidance follows the PRB progressive approach to target setting,⁸ initially focusing on practice targets:

- **Early-stage target setting:** Develop practice targets and outcome indicators for prioritised climate vulnerable sectors and regions as identified through context analysis and assessment of physical climate risks
- **Advanced target setting:** Develop practice and impact targets for all climate vulnerable sectors and regions relevant to the bank's context

The framework and approach presented in this guidance will evolve and develop further as we gather insights and lessons from pilots in key sectors throughout 2024.

8 [Principles for Responsible Banking Target Setting FAQ—UN Environment Programme Finance Initiative \(unepfi.org\)](https://unepfi.org/)

2. Understand the context: Alignment with climate resilience goals

Portfolio alignment aims to make financial flows consistent with climate-resilient development (UNFCCC, 2015). Climate resilience is context- and counterparty-specific; even within the same sector, measures to enhance resilience will depend on the hazards most relevant for the region, systemic vulnerabilities and location of the assets (e.g., land, coast, mountain, urban environment). Banks therefore need to understand the context in terms of:

- i. the urgency, driven by the materiality of climate change impacts estimated using science-based approaches, and
- ii. the highest priority adaptation needs of the regions they operate in.

Understanding the context and scoping out the most significant impacts is a crucial starting point for developing a structured approach to target setting.⁹ Portfolio alignment reflects both the global resilience goals, as well as the way they are reflected in national priorities and regional planning.

2.1 Understanding the context

Firstly, banks can familiarise themselves with national or regional adaptation priorities for key markets, sectors and economic activities. These will inform the bank's plans and roadmap towards developing its adaptation strategy. Section 2.2 provides an overview of the international, national, and regional frameworks which can be considered for alignment. As a minimum, PRB banks could consider the Paris Agreement and Global Goal on Adaptation at international level, and national adaptation plans (NAPs) for country-level priorities,¹⁰ to understand which aspects of these frameworks to align with when setting targets, for example some NAPs set priority sectors and activities for adaptation. For practical reasons, banks with global and diverse portfolios could prioritise the review of NAPs in the regions that are most vulnerable to climate change and where they

⁹ Users of the UNEP FI Impact Analysis Tools can consider data in the Needs Database, contained in the Context Module. The Context Module can help banks collect and analyse findings from relevant sources.

¹⁰ In countries where there are no NAPs, or NAPs are not sufficiently well-specified on sectoral priorities or ambitions, banks may also refer to Nationally Determined Contributions (NDCs), the Country Climate & Development reports by the World Bank, or other relevant regional strategies and plans. This includes all legally binding jurisdictional commitments.

have significant presence. For global contexts, the Sharm El Sheikh adaptation agenda can also serve as a guide specifying the adaptation finance priorities in five key impact systems: food and agriculture, water, and nature, coastal and oceans, human settlements, and infrastructure.

Secondly, they need to familiarise themselves with the actions and initiatives of governments, businesses, and other financial sector actors, as these can influence priorities, legislation, and future opportunities. Understanding the respective adaptation taxonomies, relevant climate regulation and banking sector supervisory requirements in the jurisdictions they operate, as well as real economy business needs are elements of the context analysis that will help define alignment objectives of the bank. This includes identifying gaps in legislation and policy and exploring ways to engage in national coordination or implementation programmes. It is important to note that currently few NAPs have set clear strategies or finance pipelines for the private sector; adaptation planning. Implementation is however a dynamic and iterative process and integration of private sector in adaptation planning processes is becoming more common. (Crawford & Church, 2019).

Lastly, banks can learn from good practices shared by other banks, insurers, and development banks to enhance their adaptation efforts.

2.2 Alignment with climate resilience goals and consistency with national/international adaptation frameworks

Once the context and the risks associated with the physical impact of climate change for the countries the bank operates in have been sufficiently understood (see also Chapter 3), the recommended next step is to align adaptation strategies with the global and national adaptation goals. Alignment, a core Principle under the PRB framework, in this context may include incorporating climate resilience objectives in strategies by considering how it affects the bank's business model and long-term sustainability goals. NAP adaptation objectives and priorities relevant to the private sector and financing needs may inform internal policies for risk management, lending criteria and investment guidelines and aligning action with prioritised sectors and economic activities as they relate to the bank's portfolio.

NAPs set national goals, but vulnerabilities and adaptation needs can vary significantly at the local and sector levels. Where possible and practical, considering local factors, such as regional climate impacts and community vulnerabilities can support tailoring adaptation efforts to local realities as subsector resilient growth strategies can help address real economy vulnerabilities, especially in vulnerable and economically significant sectors.

Urgency and ambition

Government ambition on adaptation and policy development will increase as climate impacts are felt more acutely. The Global Goal on Adaptation,¹¹ once agreed, will set the global ambition levels for climate resilient development (UNFCCC, 2015) and may lead to updates in national adaptation plans. Climate risk reporting is increasingly required by banking regulators and supervisory institutions. The TCFD provided a voluntary framework for climate risk disclosure that has been increasingly mandated, particularly in OECD countries and in emerging markets. The launch of the S2 Climate Disclosure Standards by the International Sustainability Standards Board (ISSB, 2023) should promote the alignment of different regulations and catalyse greater disclosure worldwide. Several central banks have also piloted climate stress tests for banks, including of physical risks, to identify vulnerabilities in the financial sector to tail risks over the medium to long term (FSB, 2022).

Nature and climate crises are closely interlinked because protecting natural capital is an adaptation to climate change, with nature-based solutions and/or ecosystem-based approaches having the potential to increase the resilience of ecosystems and human livelihoods. Given these synergies, considering global and national goals on nature (as manifested in the Kunming-Montreal Global Biodiversity Framework, the equivalent of the Paris Climate Agreement for nature, and NBSAPs) is recommended.

It is recommended that banks periodically review the context and their alignment, as national adaptation plans and global frameworks evolve in response to urgency in addressing the impacts of climate change.

11 Paris Agreement Article 7.1

Global and national frameworks for alignment

Global frameworks

Paris Agreement

Article 2.1(c) establishes the goal of making “finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development” (UNFCCC, 2015). Aligned portfolios will shift composition and financial flows towards a greater proportion of assets that are resilient to climate change. This requires assessment of the adaptation plans of individual counterparties and harmonised resilience indicators. The priorities and measures for resilience are context dependent and developed by individual countries, however the Paris agreement should be viewed as the main overarching global framework agreement for alignment establishing the global goals and requirements for adaptation planning.

Global Goal on Adaptation (GGA)

Article 7.1 of the Paris Agreement established a GGA to ensure an adequate adaptation response in the context of the climate mitigation temperature goal (UNFCCC, 2015). At present, the definition is too broad to guide banks on portfolio alignment, due to the lack of frameworks and indicators defining and tracking climate risk and vulnerability reduction (WASP, 2022).

The 2022–2023 Glasgow-Sharm el-Sheikh (GlaSS) Work Programme aims to define the key elements of the goal, including the methodologies, indicators, metrics, and data sources to support the assessment of overall adaptation progress. The agreed frameworks and indicators will enable operationalisation of the GGA and progress tracking, which allow the development of a vision for what can be achieved as a result of global adaptation efforts.

Marrakesh partnership and the Sharm El Sheikh Adaptation Agenda

The Marrakesh Partnership was launched in 2016 as a framework for collaboration between governments and non-state actors to accelerate climate action and achieve the goals of the Paris Agreement. The Sharm El Sheikh Adaptation Agenda¹² (UNFCCC, 2022) defines thirty global priority adaptation outcomes for 2030 in terms of “impacts” and finance mobilisation, which then need to be adapted to the bank’s regional context. It focuses on five key impact systems: food and agriculture, water and nature, coastal and oceans, human settlements, and infrastructure. Planning and finance goals are cross-cutting enablers across these categories, although there is no distinction between the contributions of the public and private sector. Priority outcomes for Africa can serve as a complementary reference for alignment of medium-term objectives for banks operating in the region or as a guide for targeted participation in blended finance.

12 Developed in collaboration with COP27 presidency, Climate Champions, and the Marrakech Partnership.

National frameworks

National Adaptation Plans

A National Adaptation Plan (NAP) is a strategic document developed by a country to outline its approach to adapting to the impacts of climate change. NAPs are developed in accordance with the guidance provided by the United Nations Framework Convention on Climate Change (UNFCCC) and serve as a framework for a country's efforts to enhance resilience and reduce vulnerability to climate change. The Paris Agreement requires all countries to develop and implement NAPs. National Adaptation Plans outline (i) most significant climate hazards, (ii) key sectors affected and (iii) policy measures to enhance resilience. NAPs: increasingly focus on the role of the private sector in climate adaptation with some countries specifying sector-specific resilience approaches.

Disclosure standards

ISSB

The TCFD framework first set voluntary disclosures for physical climate risk assessments under four pillars: governance, strategy, risk management, and metrics and targets. This is now incorporated in the global ISSB disclosure standards. The S2 Climate-related Disclosure standard requires disclosure of vulnerabilities to climate risk as a percentage or amount of assets exposed to climate risk and the resilience of the strategy and business model to climate related changes, developments, and uncertainties, using scenario analysis. Companies must disclose their risk assessment approach, including inputs and key scenario assumptions. The ISSB standards also contain industry-based guidance covering sectoral disclosures, which include more detailed reporting of specific adaptation-related topics such as water-related risks.

Taxonomies

Some regions are enhancing their green taxonomies to include adaptation, which can also support banks on alignment, by shortlisting the most relevant adaptation activities in the region.

The EU Taxonomy (EC, 2021) is a tool for capital mobilisation that defines what can be considered as a green activity. Annex 2 specifies such activities for the EU and technical screening criteria, including scenario analysis and screening for unintended harm. Aligning adaptation banking transactions with the EU taxonomy requires transaction level scenario analysis and adequate technical capacity and resources.

In Latin America, Colombia's Green Taxonomy classifies economic activities contributing to the country's environmental objectives to support finance mobilisation in certain types of projects, while Mexico's Sustainable Taxonomy considers both mitigation and adaptation for activity climate objectives. Several other countries, including Panama and the Dominican Republic, are advancing development of sustainable finance taxonomies.

The list of adaptation activities in these taxonomies is limited at present, but the taxonomy approach is a major step towards harmonisation of approaches to adaptation finance and providing safeguards against greenwashing.

3. Setting the baseline: Physical risk assessment

Understanding the physical impacts of climate change on a bank's business provides a foundation for developing a science-based strategy for climate adaptation. Risk assessment is an important step towards understanding how a portfolio may be impacted by climate change and to identify and prioritise the most effective interventions and measures.

Banks, particularly those with greater capacity and in regions where disclosures are mandated and data is more easily accessible and of greater quality, have assessed and disclosed physical climate-related risks facing their businesses in increasing numbers over the past five years, although the breadth and depth of these assessments are often limited by data and modelling constraints to certain sectors, hazards, and geographies.

From risk to impact management

The primary objective of prudential regulatory approaches is the financial resilience of institutions and the financial stability of the economy. As such, they focus on mitigating of climate-related financial losses. The objective of impact management, a core element of the PRB framework, on the other hand is to take action that will not only help address portfolio risk but also help to address adaptation by enhancing the resilience of clients and by extension the resilience of the economy and society in which they operate.

In the context of this guidance, physical risk assessment serves as a way for banks to understand their starting point as part of the PRB framework's impact analysis step preceding target-setting: identify what climate hazards the portfolio is exposed to, and which regions, sectors, and client types are most vulnerable. Once the risks are identified, these may be considered and prioritised in the bank's adaptation strategy, and be the focus of efforts to identify opportunities and actions to support clients' adaptation needs. This approach will support both risk and impact management.

3.1 Approach to physical climate risk assessments

Assessing the risks from the physical impacts of climate change for target setting is about taking the first steps in identifying the sectors, sub-sectors and clients that are most exposed to potential impacts, rather than a comprehensive assessment of climate-related financial risks. It is important to note that banks follow regulation and supervisory guidance on climate-related risk assessment in the jurisdictions in which they operate, and this is likely to provide banks with the information they need to identify

opportunities to support their clients' climate adaptation needs, while enhancing the climate resilience of their portfolio. Given the widespread accelerating assessment of climate-related physical risks in the finance sector, there are numerous guidance documents and reports for banks. In many cases banks and their clients may lack the internal capacities to carry out these assessments and may rely on third party providers.

For banks in jurisdictions where such regulations or supervisory expectations are absent, or provide little guidance, this chapter provides a guiding indication of the key high-level steps a bank may take to set a baseline:

1. Desk study of historical vulnerabilities of portfolio to climate-related shocks, and identify potential sources of data for all steps of the physical risk assessment, including existing, publicly available, country, or regional-level assessments
2. Screen for physical risks at portfolio level considering geographical footprint and identify high-risk sectors and regions. This can be done using qualitative risk scores and heat maps
3. Conduct a more granular risk assessment for identified high-risk clients, sectors and regions, accounting for:
 - Proportionality: focusing on most material impacts
 - Context: specific regional and sectoral complexities and issues
 - Client and counterparty exposures and vulnerabilities
 - Comprehensive: broad range of hazards, and analysis of exposure, and vulnerabilities of clients and counterparties in high-risk sectors and regions.

This step is important for developing adaptation solutions that respond to the context and local realities, but it may not be feasible where data availability is limited. In this case, banks may begin their work on adaptation using their adaptation using their portfolio-level assessment, while continuing to build their capacity and resources for more granular assessments. It may be useful to engage with clients at this stage, as they may have specific information and data on their exposure to hazards, vulnerabilities, adaptive capacity and potential adaptation solutions.

4. Assess the impacts of adaptation and resilience-building solutions as well as measures for managing residual risks

When assessing climate-related physical risks, and in line with market best practices, it is recommended to:

- Respond to recommendations of the TCFD, the ISSB S2 disclosure standard, or mandatory reporting requirements in the jurisdiction(s) in which the bank operates, in relation to physical climate risks. Many jurisdictions and other organisations such as the NGFS also provide guidance to help banks assess climate-related physical risks (NGFS, 2022).
- Select appropriate time horizons, both in terms of the material time horizons for the bank's exposures and including a longer time horizon to assess the impacts to at least 2050.

- Conduct a forward-looking assessment, incorporating appropriate science-based high physical impact scenarios, such as the NGFS Climate Impact Explorer¹³/ISIMIP or IPCC.
- Assess the impacts of adaptation and resilience-building solutions as well as measures for managing residual risks.
- Consider inter-dependencies with climate mitigation, social, and nature-related impacts (see Chapter 5 or Section 5.3).
- Consider contributing to research on physical risk measurement and initiatives towards closing data gaps, share case studies, and boost internal capacity building and client engagement.
- The below diagram provides a rough summary of the steps to be taken in identifying risk hotspots and zeroing in on the potential opportunities for adaptation and resilience financing.

The UNEP FI Impact Analysis Tool (Context and identification Modules in particular) can be used to this effect.¹⁴

13 ngfs.net/ngfs-scenarios-portal/data-resources/

14 [Portfolio Impact Analysis Tool for Banks—UN Environment Programme Finance Initiative \(unepfi.org\)](https://www.unepfi.org/Portals/0/Portfolios/Portfolio%20Impact%20Analysis%20Tool%20for%20Banks-UN%20Environment%20Programme%20Finance%20Initiative.pdf)

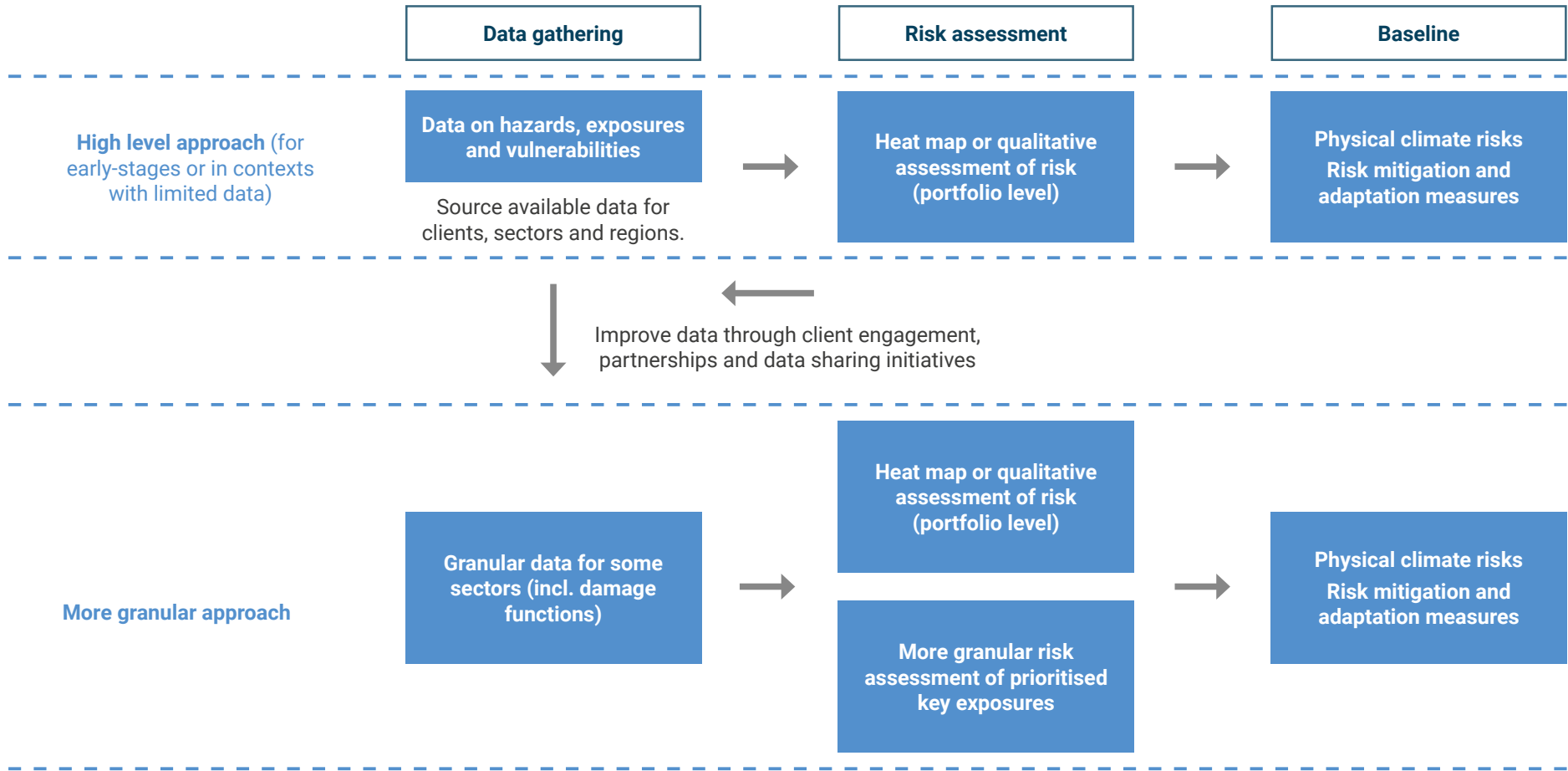


Figure 3: Risk assessment process for setting a baseline for climate adaptation

3.2 Data gathering and use

Data can be a major barrier to high quality physical climate risk assessments and may limit banks' capacities to comprehensively identify their clients' and counterparties' exposure to climate-related hazards. Data needs can be targeted based on an initial mapping of a bank's portfolio. Data required for screening portfolios for climate-related risks could include:

Hazard, or natural catastrophe, data: for climate-related hazards.

Exposure data: to assess exposure of clients, projects, and assets to climate-related hazards. Climate-related hazards can be highly location specific, so the exposure data required will depend on the hazard being assessed and the type of financial risk being addressed. Acute hazards can be especially location-dependant, often because of non-climate factors. For example, flooding, landslides, and soil erosion are highly related to topography and geological conditions; while landslides and soil erosion, as well as fires, are also highly correlated with vegetation cover.

Asset, firm, and sector-level data: to assess vulnerabilities of its clients. This should encompass both:

- Physical data, likely to be specifically asset-level data, e.g., building structure, protection measures and surrounding context. Information on businesses held by banks often only specifies location of headquarters. To assess companywide risks, location information will be required for all key business assets.
- Non-physical data, which could encompass asset-, firm- and sector-level data, e.g., institutional risk management plans; insurance coverage; spread of assets across a firm; national-, regional- or sector-level responses.

Damage functions/financial impact: for more advanced assessments of financial risks. Damage functions tend to be highly sector, asset, and location specific, e.g., damage costs to properties in coastal Florida to extreme storms; or building damage curves for given flood intensities.

In all these cases, it is helpful to consider (in addition to assessing the level of required granularity):

- What **data sources** are available, and what quality, coverage, and resolution these data sources provide, as well as the cost associated with accessing data from platforms or providers,
- What **data proxies or estimates** are available, to address gaps if data is poor or unavailable. In the case of vulnerability data, bulk vulnerability assessments via aggregation techniques may be used as an estimate,
- What **indicators** are being used to define a particular hazard,
- Whether climate or hazard data is **historic or forward-looking**, and
- The **level of expertise** to interpret or integrate into the bank's risk management systems.

If a bank faces constrained resourcing while having to screen multiple sectors in jurisdictions with poor data availability, then it may be restricted to a high-level screening to identify risks and an initial low granularity exposure assessment at the country or

regional scale. Many financial institutions are limited in their capacity to use Geographical Information Systems (GIS), which is almost essential to model physical climate risks at the asset-level. With increasing experience and improvements in and better access to higher quality data and technical expertise, banks may be able to gradually improve the quality and granularity of their physical climate risk assessments and move along the risk assessment process to better assess vulnerability, financial impacts, and adaptive capacity.

Limitations in data availability, data quality, capacity and resources tend to be concentrated in emerging markets and developing countries, where physical risks are often of greater concern than transition risks (FSB, 2022), while the use of third part expert can be costly. While the lack of granular data presents challenges, it should not deter institutions from taking steps on adaptation. Banks can still make informed decisions and take steps to manage climate-related risks and opportunities by utilizing the best available data to prioritise where to focus their adaptation efforts, while engaging in ongoing efforts to improve data quality and availability. Banks can themselves be change agents, working with peers and academic partners to develop new datasets or vulnerability assessments, which if shared or made open source can contribute to greater data availability.

3.3 Identifying risk mitigation and adaptation measures

With an assessment of climate-related physical risks that the bank's portfolio and clients face, the bank can start to identify climate adaptation measures. Going back to the Theory of Change, a bank has four potential channels to explore:

- **Policies and processes:** Awareness and consideration of climate-related impacts, the risks they generate across banking portfolios and risk management strategies both vertically and horizontally across a bank's organisational structure should facilitate the identification and delivery of climate adaptation solutions. Leadership from senior management and integration across teams will help to avoid misalignment on climate objectives, while Board-level oversight supports a strategic focus on high-level targets.
- **Business opportunities and portfolio strategy:** This encompasses two main actions: at the portfolio level to encourage the consideration of climate risks, adaptation action and address potential maladaptation. At the product and transaction level, identifying potential solutions may provide adaptation and resilience-building options to support segments of a bank's portfolio. Adjusting the bank's business strategy to accommodate adaptation-enabling or adapted products could meet existing client needs, attract new clients and create new opportunities for growth.
- **Client engagement:** Client engagement can be the foremost way of underpinning a bank's needs in terms of climate, exposure and vulnerability data as well as understanding the context for a client to manage its climate response. Adaptation plans or climate plans with an adaptation complement can be an effective way for a client to consider how to address climate impacts and may also help the bank to identify what opportunities are available to support its clients. Engaging with clients could also be an opportunity to identify and develop new financial products.

- **Partnerships and advocacy:** Climate-related physical impacts can affect multiple stakeholders across sectors and across regions to varying degrees. It can be very challenging for a single entity to effectively build the climate resilience of a physical asset or of their business operations in isolation. Therefore, working with governments, other financial institutions, businesses and civil society can be an effective way of tackling future climate-related impacts. High-level working groups such as those in the [European Union](#) and [the Netherlands](#) can encourage greater collaboration between institutions catalysing more effective climate resilience solutions at the national and regional level, while smaller-scale collaborations can drive innovation in financial, process-driven and technical adaptation solutions.

Chapter 6 goes into greater detail on these four areas of practice that banks can take to make a positive impact on climate adaptation. Given the complexities of physical climate impacts, a combination of approaches is likely to be necessary to deliver a climate adaptation strategy, while even individual solutions may require multiple approaches. A new financial product for example may require client engagement to identify needs, policy engagement to ensure new products are supported in the market, business development to design and test the product, and internal policies to ensure different banking teams from risk to client engagement work towards the same goal.

3.4 Assessing risk mitigation and adaptation measures

The risk assessment will allow banks to build a picture of the expected impacts for key clients and counterparties, and potentially how these impacts will affect the bank's portfolio under short and longer-term horizons.¹⁵

Once high concentrations of potential climate risks and potential risk-reduction measures have been identified, the next step is to evaluate the effectiveness of those measures, both in terms of climate-related risk and adaptation impact. When evaluating the potential impact of adaptation measures on climate-related risk, banks can use forward-looking risk assessment approaches, either ex-ante quantification depending on the availability of data and granular scenario outputs or qualitative assessment where data and models are less readily available or of lower quality. Adaptation impact can be measured using a variety of impact metrics, which will vary according to sector and hazards type—Chapter 4 provides more information on impact metrics and subsequent piloting of this guidance will provide greater insight. To facilitate the identification of adaptation measures, some organisations and financial institutions have developed taxonomies or catalogues of activities or technologies that are climate adapted or enable climate adaptation, including a comprehensive whitepaper with a framework for developing a resilience taxonomy by the CBI and UNDRR (CBI, 2023).

Banks should also be alert to the potential for tail risks to materialise at a faster pace than expected, including both low probability, high impact risks, or cascading risks. This limitation is inherent in the statistical modelling of hazards and higher degree of

¹⁵ Subject to financial information and damage function availability.

uncertainty for longer loan tenors or scenario analysis horizons. There are always limits to adaptive capacity, particularly in the face of tail risks; some residual risks cannot be managed through adaptation measures and insurance. While divestment remains a viable risk management option, restricting funds to vulnerable groups will further decrease their ability to withstand climate change and exacerbate their vulnerabilities; thus, should be a last resort for responsible banks. Advocacy and engagement with policymakers and market institutions such as supervisors and regulators are crucial where the limits of adaptive capacity may be exceeded at a systemic level. Banks and insurers can engage with re-insurers and the public sector to advocate for the identification and provision of relief measures to mitigate extreme loss and damage. Responses such as pre-arranged finance solutions,¹⁶ were common during the COVID-19 pandemic, where governments set up relief funds and financing schemes with guarantees to support the real economy.

3.5 Other elements of baseline setting

Physical risk assessment, while highly important, is not the only element of a baseline needed for a bank to develop a full picture of their situation in terms of climate adaptation. Banks may also consider the following guiding questions:

- Are clients aware of the risks from the physical impacts of climate change? In other words, are they assessing their risk from physical climate-related impacts and putting in place a risk management strategy?
- Are clients aware of how they can manage and mitigate climate-related risks?
- What are local and national governments doing to address particular climate impacts?
- What technologies or activities are available to clients to reduce their climate-related physical risks?

16 preventionweb.net/news/unveiling-state-pre-arranged-financing-crises

4. Set SMART targets

4.1 Practice targets

Following the context and baseline assessments, the next step is to determine the scope for target setting. Targets may be set at portfolio level or prioritising segments of the portfolio with concentrations of high physical risk impacts. Prioritised segments will be relevant to the bank's business model and portfolio concentrations and can be defined in terms of regions, sectors or client types.

This guidance sets out the objectives of the three key types of practice targets identified in the Theory of Change: internal policies and process including risk assessment and management, client engagement, business opportunities and financial flow and provides examples for each category to be applied at portfolio level. Headline targets should reflect outcome goals on business opportunities and financial flows and/or client engagement, which are the two core actions driving impact for banks, as well as on physical risk assessment and management for banks at the early stage of their adaptation journey.

Table 2: Illustrative examples of practice targets

Practice target	Purpose	Guiding examples
Strategy/ Internal policies and processes— Risk assessment and management	<p>Process for assessment and disclosure of climate impacts and resilience plans.</p> <p>Adaptation strategy/plans included in the banks' climate transition or sustainability policies.</p>	<p>Early stage:</p> <p>Physical risk assessments completed for X% of (the relevant) portfolio.</p> <p>Physical risk assessment integrated in risk management policies and processes.</p> <p>More mature:</p> <p>Proportion of portfolio (%) highly exposed to key indicators of physical risks, by geography/sector.</p> <p>Adaptation/resilience incorporated in climate transition plans or sustainability strategy and approved by Senior Management.</p> <p>Strategy for business opportunities and product development in high-risk sectors and regions.</p>

Client engagement	Gather information on risks and opportunities, and make clients aware of risk mitigation and resilience options.	<p>Early stage: X engagements with clients with highly exposed assets, to incentivise climate resilience measures.</p> <p>More mature: % increase of clients with adaptation and resilience strategies in place.</p>
Business opportunities and financial flows	Shift financial flows towards adaptation aligned activities, by mobilising finance towards climate-resilient development and mitigating high exposures to physical risk.	<p>Early stage: Integration of adaptation in product development processes for high impact regions or sectors.</p> <p>More mature: USD X million/billion adaptation finance mobilised towards adaptation as identified by state-of-the-art taxonomies.</p> <p>Increase in % of property, infrastructure or other alternative asset portfolios with adaptation measures or insurance in areas subject to high physical climate risk.</p>

The examples above are illustrative; banks will individually set appropriate targets to reflect scope, portfolio context and maturity level, for against their business and regional context.

Effective targets have the following properties:

- They are specific, measurable, achievable, relevant, and time-bound (SMART), reflecting short to medium term actions vs. long term strategic objectives.
- Specify the scope of the portfolio they apply to (e.g., sectors, regions and clients).
- Align with National Adaptation Plans or other regional and international frameworks, which must be disclosed.
- Track progress in managing the impacts of climate change vs. the baseline and have measurable KPIs to monitor progress. A broader set of core indicators to support banks in developing KPIs relevant for their contexts can be found in Section 5.2

The target setting process will be consistent with the governance and organisational structures of each bank, but at a minimum it should involve the risk teams (for climate risk assessment and baseline), business teams (for client engagement and product development) and sustainability strategy teams (for developing policies, frameworks, and strategies). The practice targets should be approved by Senior Management in line with banks' governance processes, and where relevant, disclosed as part of the bank's climate strategy.

4.2 Considerations for setting impact targets

Impact targets in the PRB framework reflect how bank actions lead to increase in their positive impacts on climate resilience (positive contribution) and decrease in negative ones (maladaptation and Do No Significant Harm (DNSH)).

Positive contribution

In most adaptation frameworks, positive contribution is the additional resilience benefits to the community, economy, or natural systems, beyond reducing the risks for the activity being financed. This is referred to as “asset-focused” vs. “system-focused” in the Climate Resilience Principles (CBI, 2019), or “adapted” vs. “enabling” in EU Taxonomy (EC,2021).

Quantifying the impact of adaptation activities in these dimensions however is challenging because it is difficult to isolate them from other factors, such as economic development and technological change, or measure their effectiveness ex-ante (UNEP, 2022). Additionally, there is no one-size-fits-all approach or indicators for tracking resilience impacts analogous to reduction in greenhouse gas emissions for mitigation; the focus so far has been on the adaptation finance gap. Portfolio level impacts would still be informed by granular sector and location-based assessment of positive and negative impacts, which could be aggregated.

Despite these challenges, the following approaches used by development financial institutions are a starting point for considering impact measurement:

Asset, client, or sector level	
Reduced climate vulnerability	This can be measured by tracking the number or percentage of people or assets that have lower vulnerability as a result of implementation of measures that enhance adaptive capacity.
Increased climate resilience	This can be measured by tracking the number or percentage of people or assets that can withstand and recover from current and future climate impacts via implementing resilience measures, including inclusive access to insurance.
Improved climate adaptation outcomes	This can be measured by tracking the progress of specific adaptation projects or interventions, such as the number of people protected from flooding or the reduction in crop losses from drought, tons of water saved, or number of clients in key sectors supported in building current and future resilience.

An impact target within the existing PRB context could be a combination of lowering measurable climate-related risks without harming other sustainability objectives combined with a secondary tracking of finance mobilised towards adaptation enabling solutions. Ideally, these would also be conditional on the fact that the area where the asset is located is still insurable.

In-line with PRB guidance on practice target setting, banks setting practice targets for client engagement and mobilising finance need to consider desired outcomes and impact objectives in advance, and how these are reflected in their action plans. Some important considerations for setting impact objectives in this context include:

- Avoiding divestment as a risk management action and supporting resilience measures for the region. For instance, in some small island developing states the adaptation measure includes migration to nearby countries. A bank with affected clients can support them with business planning and financing for relocating their business.
- Financial innovation to mobilise additional capital towards adaptation vs. reclassifying existing initiatives. Participation in public-private partnerships and catalytic capital initiatives to spur private investment into climate resilience.
- The time horizon of the adaptation strategies. Some adaptation measures, such as building seawalls may have fast to realise impacts, while others, such as developing drought-resistant crops or research and development, may take years or even decades to have a significant impact. Similarly, upfront costs may be outweighed by the long-term gains of a more resilient portfolio.
- Prioritising activities that always benefit climate adaptation and do not harm other objectives (“no regret”). Such activities include measures that restore and preserve organic matter in soil for agriculture¹⁷ and biodiversity restoration. Further guidance on measures that can be implemented quickly and unambiguously, and are supported by scientific evidence can speed up investment as it removes the need for significant due diligence and assessment upfront. Such measures need to be limited to sector/region and specific to climate related hazards. Some resilience taxonomies are moving in this direction by implementing a list of eligible investments, which could support banks in this regard (CBI and UNDRR, 2023).
- The system-wide impacts of adaptation measures. Enabling vs. adapted measures will have more widespread and long-lasting impact.
- Transparency and accountability. Progress against targets can be monitored and measured.

Negative impacts: Maladaptation, minimum safeguards and DNSH

When considering impacts, it is important to screen for social and environmental negative impacts from adaptation and the possibility of maladaptation. Adaptation should be implemented having in mind both the concepts of “leaving no one behind” (LNOB) and “do no significant harm” (DNSH). Definitions for these terms are provided in Appendix 1.

Identifying maladaptation involves assessing the effectiveness of adaptation measures ex ante, hence suffers the same impact measurement limitations discussed in the previous section. A need for more robust methodologies is well documented (Schipper, 2022).

17 As an example, Rabobank and ASR developed [an Open Soil Index](#), allowing for visualisation of soil quality. The outcome is used in the sustainability score assessments (see: pubs.acs.org/doi/epdf/10.1021/acs.est.2c04516).

Banks can use scenario analysis considering diverse scenarios systemwide impacts, or maladaptation checklists that provide guidance on elements to avoid.¹⁸

Maladaptation driver	(Potential) Impact
[(Mal)adaptation impacts] Failing to take action to adopt to climate change or taking action to adopt the business’s activities to climate change with adverse impacts on rights-holders and their human rights:	
Building/strengthening infrastructure to protect own assets (increased vulnerability to natural disasters of the surrounding communities)	Lack of clean water and water supply, lack of (agricultural) land, damage to infrastructure and properties injuries and drowning, (gender-based) violence, disruption of education, loss of cultural and spiritual heritage, enforced relocation, migration Biodiversity and natural capital loss
Building new infrastructure (e.g., irrigation, dams) to continue a water-intensive business activities against drought conditions	Lack of water supply, crop loss, enforced relocation, migration
Failing to adequately protect workers working in increasing temperature	Unsafe working conditions, disease, migration
Failing to prevent storages against (permafrost) melting	Lack of clean water and water supply, lack of (agricultural) land, crop loss including future crops and food security, loss of (traditional) food sources and livelihoods, disease, migration Biodiversity and natural capital loss
Failing to reinforce large infrastructure (e.g., tailings dams) against disasters¹⁹	Lack of water supply, lack of (agricultural) land, crop loss, loss of (traditional) food sources and livelihoods, disease, damage to infrastructure and properties, ecosystems, injuries, and drowning, (gender-based) violence, disruption of education, loss of cultural and spiritual heritage, enforced relocation, migration
Insurance solutions and early weather warning systems that are not accessible to some parts of the population	Loss of property and livelihoods, increased loss and damage, loss of life, enforced relocation

Source: Adapted from UNDP²⁰

18 See for example: regilience.eu/self-assessment-tool-for-maladaptation/

19 Inspired by: UNEP. [Too Little, Too Slow—Climate Adaptation Failure Puts World at Risk, December 2022](#)

20 [Human Rights Due Diligence and the Environment: A Guide for Business](#), United Nations Development Programme (UNDP), UN Working Group on Business

Another important consideration for negative impacts is Do No Significant Harm (DNSH), which means that an economic activity does not do significant harm to other environmental aspects, while ensuring minimum social safeguards. When assessing if an adaptation economic activity does no significant harm or is leaving no one behind, banks could consider the following factors:

- the potential impacts of the activity on vulnerable communities and ecosystems,
- the long-term sustainability of the activity,
- the consistency of the activity with overall adaptation goals and policies.

These interactions are complex and context specific. Themes always causing harm (“high regrets”), could be prioritised for screening, such as:

Enhance vulnerabilities or inequalities: Screen against adaptation measures that exclude parts of the population. At portfolio level, divestment from geographies and sectors that are most vulnerable to climate change to mitigate financial risks—in lieu of adapting products and services to these audiences for the purpose of enabling resilience to climate change.

Land and water use: Construction and infrastructure projects for adaptation need to be screened for land and water use, and avoid deforestation, soil degradation and water pollution or water waste in areas of heat stress. For example the construction of dams and sea walls can negatively impact biodiversity and mitigation if built in forest or agricultural land. Or construction of homes near river planes could cause more sensitivity to flood risk.

Building capacity for screening against potential social and environmental negative impacts may include:

- Building awareness on the concepts of maladaptation, LNOB and DNSH.
- Embedding LNBO and DNSH concepts in transaction screening criteria.
- Comprehensive social and environmental due diligence to identify potential maladaptation risks associated with financial investments. This includes evaluating the long-term sustainability of projects, considering indirect impacts, ensuring representation of local communities in design of adaptation measures, avoiding marginalisation of any groups or increasing inequality and ensuring that investments align with adaptation goals.
- Consider trade-offs in terms of their long-term term impacts under different scenarios.

5. Action plans

5.1 Developing action plans

Banks may develop dedicated adaptation plans or incorporate adaptation in their climate transition plans or sustainability strategies where applicable.²¹ Action plans provide a specific roadmap towards achieving adaptation targets, while KPIs enable tracking progress and identifying whether adjustments need to be made. An effective action plan for adaptation could include the following elements (TPT, 2023):

- Reflect the urgency for action by setting targets backed by science, aligned to government priorities and specifying actions to enhance the resilience of the entity's business, clients, stakeholders, and the broader economy.
- Translate strategic ambition into concrete, short-term steps, with planned actions and resourcing plans.
- Accountability through governance and reporting, by defining responsibilities for the delivery and oversight of the plan and aligning culture and incentives to the strategic ambition.
- Measurable KPIs and milestones for assessing progress with the view of performing modification for subsequent implementation periods.

Banks working on adaptation face the challenge of taking strides in a new field, where good practice and guidance are continuously evolving, while operating in an environment of high regulatory and legal scrutiny. These challenges should not deter banks from developing adaptation plans, as long as they build in flexibility, forward looking planning, and robustness to positive and negative scenarios. Sharing and learning from others advances evolution of good practices; banks can share case studies in relevant regional forums.²²

21 United Kingdom TPT recommends that adaptation and resilience strategies are incorporated in the financial sector climate transition plans.

22 In the United Kingdom, the CFRC maintains a database of case studies for climate mitigation, while the Dutch banking association developed training courses for employees in the financial sector.

Many banks working on climate mitigation targets will already be working on a transition plan for those targets. There are some significant differences:

	Mitigation	Adaptation
Focus	Reducing greenhouse gas emissions and limiting global warming.	Managing the risks and impacts of climate change.
Timeline	Typically focused on the long term, with a goal of achieving net zero emissions by 2050.	May have a shorter-term focus, depending on the specific risks and impacts that the organization is facing.
Scope	Typically focuses on the bank's lending to businesses and sectors that are high emitters of greenhouse gases.	May focus on a wider range of businesses and sectors. This is because the impacts of climate change are already being felt around the world, and businesses in all sectors are facing some level of risk. In developing countries, focus on sectors key to the economy, especially under-diversified economies.
Goal	Support clients in the transition and shift its lending to businesses and sectors that are supporting the transition to a low-carbon economy. Could include exclusions of certain activities, or participation in managed phase-out programmes.	Help clients to manage these risks and build resilience. Exclusions are not recommended as they will further increase existing vulnerabilities, at the detriment of developing countries.

The GFANZ (Glasgow Financial Alliance for Net Zero) transition planning guidance (GFANZ, 2022) states that, "at a minimum, mitigation efforts should be reviewed for unintended consequences that impede adaptation efforts". In addition, the report urges banks to consider just transition or the intersection with other climate topics, such as climate-related financial risk, adaptation and resilience in their transition plans.

5.2 Core indicators

A list of indicators was developed by the Working Group to support target setting and monitoring process. First, a comprehensive list of indicators was collated from various sources in collaboration with Oxford University.²³ Then Working Group members scored these indicators according to feasibility and usefulness criteria, shortlisting the subset most relevant for banks. The prioritised indicators were then mapped against the Theory of Change in Chapter 1 to ensure that they address all aspects. Additional indicators were developed to fill any gaps. These core indicators can be used to support banks in setting their own adaptation specific KPIs.

23 [cgfi.ac.uk/adaptation-and-resilience-metrics/](https://www.cgfi.ac.uk/adaptation-and-resilience-metrics/)

Action	Output	Outcomes	Impacts
Internal policies and processes	AR1 Indicator: Climate Resilience Strategy, incl. client engagement guidelines, policy advocacy, target setting, internal incentives etc.		
Internal policies and processes (continued)	<p><i>Description:</i> This indicator assesses whether the bank has a climate resilience strategy in place that includes client engagement guidelines, policy advocacy, target setting, and internal incentives.</p> <p>AR2 Indicator: Target(s) set for A&R (y/n)</p> <p><i>Description:</i> This indicator assesses whether the bank has set targets for its adaptation and resilience (A&R) efforts.</p>		
Business opportunities and financial flows	<p>AR3 Indicator: Proportion and USD amount of portfolio (%) with high physical climate risks by geography/sector</p> <p><i>Description:</i> This indicator measures the percentage of the bank's portfolio that is highly exposed to key indicators of physical risks, such as flooding, drought, and sea level rise.</p>	<p>AR6 Indicator: Proportion and USD amount of assets (%) exposed to physical risk aligned with climate adaptation and resilience objectives</p> <p><i>Description:</i> This indicator measures the percentage of assets exposed to physical risk that are aligned with the bank's climate adaptation and resilience objectives.</p> <p>AR7 Indicator: Investment in climate adaptation (USD)</p> <p><i>Description:</i> This indicator measures the bank's investment in climate adaptation, aligned with its climate adaptation and resilience objectives.</p>	<p>AR9 Indicator: change in proportion of portfolio (%) and USD amount highly exposed to key indicators of physical risks, by geography/sector</p> <p><i>Description:</i> This indicator measures the change in percentage of the bank's portfolio that is highly exposed to key indicators of physical risks, such as flooding, drought, and sea level rise. The indicator should be combined with AR6 and AR7 and focus on reduction via positive adaptation impacts, aligning with a just transition.</p> <p>AR10 Indicator: Quantified resilience outcomes</p> <p><i>Description:</i> This is a placeholder for a range of indicators measuring the quantified impact of the bank's adaptation investments on resilience outcomes,²⁴ such as water savings, \$ resilience benefit, or # people with increased resilience.</p>

24 Indicators for specific sectors will be explored as part of the pilots in 2024.

Action	Output	Outcomes	Impacts
Client engagement	<p>AR4 Indicator: Number of engagements with clients with highly exposed assets that have incentivised climate resilience measures</p> <p><i>Description:</i> This indicator measures the number of engagements that the bank has had with clients with highly exposed assets to incentivize climate resilience measures.</p>	<p>AR8 Indicator: % of clients with adaptation and resilience strategies in place</p> <p><i>Description:</i> This indicator measures the percentage of the bank's clients that have climate adaptation and resilience strategies in place.</p>	
Advocacy	<p>AR5 Indicator: Number of policy advocacy engagements conducted including climate adaptation and resilience as a topic</p> <p><i>Description:</i> This indicator measures the number of policy advocacy engagements that the bank has conducted on climate adaptation and resilience.</p>		

5.3 Harnessing interlinkages

Climate resilient development reduces the vulnerabilities of societies, economies, and ecosystems. As such, it is closely related to i) climate mitigation ii) nature and iii) socio-economic development.

Banks can consider interlinkages (co-benefits and trade-offs) by

- Seeking out adaptation solutions that have co-benefits and commonalities with the objectives of the transition to net-zero economies, the Global Biodiversity Framework (GBF) and the Sustainable Development Goals (SDGs).
- Seeking out climate mitigation, socioeconomic development and nature solutions that enhance climate resilience and avoid maladaptation.

When using the sectoral approach for baseline and target setting for adaptation, it is helpful to consider synergies, trade-offs, and co-benefits with these impact areas and consider long term interactions at system level.

Interlinkages can be considered at two levels:

- At portfolio level, to inform adaptation strategies including understanding vulnerabilities and related national goals.
- At asset level, through do no significant harm and leave no one behind for mitigation, nature and socio-economic development, or cause maladaptation at another part of the system (UNEP FI).²⁵

Understanding and quantifying the impact of interactions, or interlinkages, between various sustainability objectives is the subject of ongoing research and practical guidance or methodologies for assessing interlinkages is limited at present. Amongst the areas assessed the interactions with climate adaptation are mostly positive: acting on adaptation more likely yields synergies and co-benefits vs. trade-offs, although trade-offs must be acknowledged transparently and considered in terms of their long term and systemic impacts (IPCC, 2022a; UNDESA and UNFCCC, 2023). The UNEP FI Interlinkages map provides a high-level overview of the interlinkages between all impact areas and topics.²⁶ This guidance identifies the nexus between impact topics, to illustrate how financing can be deployed in the most effective ways.

Interlinkages considerations are equally important both for banks working on adaptation, as well as banks developing practices in climate mitigation, nature, and socio-economic development. Indeed, if adaptation impacts are not considered into business plans and sustainability strategies, loss and damage costs will by far outweigh the cost of adaptation.

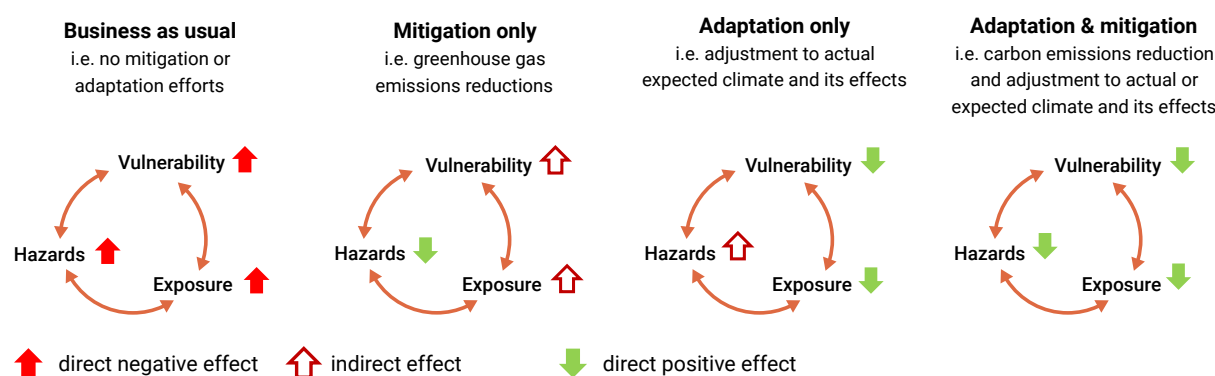
25 unepfi.org/publications/just-transition-finance-pathways-for-banking-and-insurance

26 unepfi.org/impact/impact-radar-mappings/impactmappings/

Interlinkages with climate mitigation

On one hand, climate mitigation measures, such as reducing greenhouse gas emissions, will help to reduce the severity of climate change impacts, which in turn makes adaptation easier and more affordable. On the other hand, adaptation measures, such as building seawalls to protect coastal communities from rising sea levels, can help to reduce the costs of climate change impacts, which can make mitigation more feasible. Climate-resilient development is still very much about fulfilling the same growth objectives in the face of climate change impacts. Vulnerability reduction is instrumental for certain markets, but it does not change their underlying development trajectories and strategies across different contexts, for example low carbon infrastructure development is still important in climate vulnerable markets.

The figure below shows how combining adaptation and mitigation reduces all three components of the risk equation (IPCC, 2023).



Source: Adapting to a New Climate, UNEP FI, 2022

Nexus

Many measures have dual benefits, supporting both emission reduction and climate resilience. These are actions that should be prioritized in making financing decisions from both the risk and impact perspectives. Integrating mitigation and adaptation measures minimizes overall climate risk exposure while simultaneously leading to the best possible outcomes for both²⁷ (UNFCCC, 2022).

- 1. Energy-related sectors:** Energy efficiency and renewable energy also provide economic benefits, improved energy security and reduction in local pollutant emissions with subsequent health benefits.
- 2. Agriculture:** Sustainable agriculture measures including crop diversity and rotation, soil conservation, agroforestry also benefit mitigation by enhancing carbon absorption and storage.
- 3. Urban planning and development:** Permeable surfaces, green spaces and roofs reduce heat stress, and benefit mitigation by lowering energy demand, and increasing CO₂ absorption.

In all three sectors trade-offs can be avoided by careful planning on land, water and energy use. The co-benefits and trade-offs vary widely depending on the solution, the local context and the set-up of the project. Hence, detailed knowledge of the sector, the

²⁷ Most NDCs provided by countries integrate climate adaptation in considerations in their strategy and measures.

available solutions, and the context in which the financing is taking place is helpful in identifying suitable measures.

Interlinkages with socio-economic development

The dynamics and interlinkages between mitigation, adaptation and socio-economic changes are well-captured in the IPCC AR6 report. Pursuing climate and development targets concurrently can focus efforts on the most impactful interventions and contribute to closing the finance gap faster. On the other hand, failing to consider synergies between climate and socio-economic objectives could lead to unintended consequences such as exacerbating inequalities and poverty (UNDESA and UNFCCC, 2023). These reports also show that co-benefits from synergies between adaptation and socio-economic development, far outweigh trade-offs.

Climate change impacts are not evenly distributed and the most vulnerable groups are often the least able to adapt. Considering how social factors such as income, race, gender and ethnicity are incorporated in adaptation financing decisions helps ensure that climate adaptation initiatives are equitable and inclusive. Meaningful involvement of Indigenous Peoples, local communities and vulnerable populations in the design of adaptation solutions is an integral part of this process. For instance, in many parts of Africa, women are often the main users and managers of natural resources, making them an instrumental part in the process for designing solutions in community-based adaptation approaches for agriculture. Banks can refer to the UNDP practical guidances (i.e. guidances vs. guidance) on how to mainstream gender or other equality considerations into adaptation process.

Economic resilience to climate change also involves the adaptation of private sector business models to changes in customer demands and shifts in supply-side, which require financing. Banks can support business model changes of large corporates and SMEs through credit, by providing credit for investment in research and development, diversification into new sectors and markets and changes in supply chains. In developing economies bank interventions could be in the form of blended finance structures deploying catalytic capital to diversify economies from core, yet highly vulnerable to climate sectors.

Nexus

The nexus between adaptation and socio-economic development is strong as development reduces vulnerabilities of social systems to all hazards, however targeted adaptation approaches are often still required for some types of climate hazards. Among the most relevant sectors and activities to support, especially in less diversified and less developed economies are agriculture, food production, water management, infrastructure, healthcare and sustainable urban development.

Interlinkages with nature

Adaptation and nature are areas of increasing focus for banks. Protecting and restoring nature contributes to enhancing the resilience of human settlements and ecosystems. Equally, adapting to climate change supports biodiversity, land, forests, and water preservation.

Nexus

Banks can maximise impacts by prioritising business development and financial innovation for projects sitting in the nexus between nature and adaptation.

Nature-based solutions, also referred to as ecosystem-based adaptation, offer a way to address the climate and biodiversity crises in a synergistic and cost-effective manner. They can play a critical role in climate mitigation and adaptation action plans,²⁸ while contributing to portfolio alignment with the Global Biodiversity Framework, by contributing to Targets 2, 7, 8, 11 and 12. For example, forests absorb and store carbon dioxide from the atmosphere, helping to mitigate climate change. They also help to protect against erosion, flooding and other climate change impacts, making them an important adaptation tool.

Nature-based solutions (NBS) relevant to adaptation include sustainable agriculture, urban planning and construction, effective water management and flood defence systems (see also: (IFC, 2023)). Banks with significant exposure to building and infrastructure in urban environments or agriculture in regions vulnerable to climate change risks may incentivise NBS over grey infrastructure for adaptation by setting specific NBS financing targets such as amount of financing or investment to be directed towards NBS projects, or percentage of adaptation and resilience finance to be allocated towards NBS.

Trade-offs need to be considered in terms of their long term impacts. For example sea walls solely based on mangrove forests are found to be less effective than mixed green and grey infrastructure in coastal areas with very high prevalence of storm surges and flood risk, despite the higher upfront financial cost and impact on coastal zone sediment flow and biodiversity.

28 World Bank estimates that NBS can provide 37% of the mitigation needed until 2030 to achieve the targets of Paris Agreement, see: worldbank.org/en/news/feature/2022/05/19/what-you-need-to-know-about-nature-based-solutions-to-climate-change

6. Implementation

The Theory of Change in Chapter 1 introduces four categories of actions with their corresponding outputs, outcomes and resulting impacts. The associated practices supporting banks in managing their adaptation impacts are:

- Integrating climate adaptation considerations in **internal strategy, policies, and processes**, including risk assessment and management
- **Client engagement** to improve assessment of physical risk impacts and identify risks and opportunities, such as new product development
- **Business opportunities and financial flows** to support mobilisation of finance towards climate resilient development
- Through **advocacy**, influence policy makers and regulators efforts to create an enabling environment for financing climate resilient development

This section identifies the key levers banks can use to implement the PRB target-setting framework.

6.1 Strategy/internal policies and processes

Banks setting adaptation targets will develop a climate adaptation strategy or plan, which will incorporate the targets or climate resilience objectives, action plans and KPIs for monitoring progress vs. target delivery (see section 5.i). Banks with portfolios that are particularly vulnerable to physical risks could develop new or amend existing business strategies on (i) how to deal with the risks of the climate vulnerable client base, and as a result and to modify products offered, and (ii) how to identify new clients and products to be developed.

It is recommended that all banks build capacity to assess physical risk impacts in their portfolio and embed physical climate risk into risk management and governance processes, as per TCFD and ISSB standards and supervisory guidance where applicable, as discussed in Chapter 3. Potential conflicts between risk management policies, particularly credit risk, and adaptation objectives need to be addressed. For instance, some jurisdictions require the incorporation of physical climate risk scenario analysis in the assessment of counterparty default risk, and collateral valuations (ECB, 2020), which may lead to rigid credit risk policies dis-incentivising approval of lending in sectors, or clients with urgent adaptation needs. Potential ways of ensuring consistency between the two is providing physical risk and adaptation trainings across Risk, Business, Regulatory and Sustainability functions, clarifying risk appetite with regards to physical climate risks with and without mitigation measures, and accounting for the impact of adaptation measures that clients are taking in forward looking counterparty risk assessments.

Investment in capacity building in terms of data gathering and methodologies for assessing risks and opportunities from climate-related risks in key sectors and putting in place appropriate resources and governance structures are key to adaptation strategies.

6.2 Client engagement

Banks can support their own client and customers to improve their practices on climate adaptation by proactively engaging with them in the following ways:

- **Educate clients about climate change risks and adaptation strategies.** Many clients may not be aware of the specific risks that climate change poses to their properties, businesses or operations and under various forward looking climate scenarios. Banks may educate clients about these risks over the short- and long-term horizons, by providing a transparent representation of risks and benefits of adaptation actions. Providing access to data, assessment tools and training could be a value adding service for clients and distinguish offering vs. competition.
- **Provide financial incentives for climate adaptation.** Banks can offer clients a variety of financial incentives to improve their climate adaptation practices, such as lower interest rates on loans, longer repayment terms, credit facilities for working capital, or access to green finance products such as green bonds or sustainability-linked loans. Such incentive structures should be derived from the adaptation plan where possible, to ensure an approach consistent with targets.
- **Support clients to develop and implement climate adaptation plans.** Banks can work with clients to develop comprehensive climate adaptation plans that identify and address the specific risks that they face. This will include identifying the financing requirements for the short, medium, and long term and structure financing solutions that meet their requirements.
- **Support clients in developing countries and sectors exposed to physical climate risks.** Banks prioritise work with clients active in or based in developing countries and who are in sectors key to those countries' economies.

This may require dedicated training for client facing teams on the principal aspects of climate impacts, why they are of relevance to the bank and how this information can support business development through research on adaptation solutions and products. For engaging clients in developing countries, dedicated training can provide awareness of governance issues that could arise, adjusting approach and solutions to local realities and identifying public-private partnerships and blended finance opportunities aligning with strategic priorities.

Banks may also develop a client strategy engagement plan adjusted for different sectors and client segments, building on successful approaches already developed for climate mitigation (CISL, 2021). Examples of effective engagement for a large and diverse client base include the use of questionnaires on climate risk and resilience strategies for key clients, and engagement with industry associations for understanding sectoral business needs.

6.3 Business opportunities and financial flows—mobilising capital

Adaptation finance landscape

Most of tracked adaptation finance comes from development finance institutions and the public sector (UNEP, 2022). Some forms of adaptation financing, such as large infrastructure projects in emerging economies often are not commercially viable for financial institutions. Yet commercial banks already finance activities and projects contributing to climate adaptation through their green and sustainability frameworks, although they are not formally identified as such; this introduces challenges in tracking.

Banks can play a role in accelerating climate resilience financing by:

- Providing incentives and financing solutions for corporate, retail and SME clients to build resilience, thus mitigating climate impacts in their portfolios, communities, and ecosystems.
- Intermediating between public finance, clients and investors to structure and issue adaptation and resilience instruments, participating in the strategic deployment of blended finance.
- Enabling adaptation through advocacy towards key stakeholders such as regulators and policy makers, collaborate in knowledge and data-sharing initiatives, providing technical assistance to clients and supporting innovation.
- Developing or adopting robust and harmonised systems for labelling and tracking adaptation-related investments, which eventually form part of their disclosure activities (i.e. TCFD/ISSB). This helps to create transparency and confidence in adaptation markets.

Overview of adaptation finance landscape for banks

Adaptation and resilience finance is still an emerging field for banks.

There are **very few examples where adaptation and resilience are the primary objectives of the activity being financed** and most of them are not labelled as adaptation or resilience financing. This underscores the embedded interlinkages between climate adaptation actions and other sustainability themes, as well as the lack, at present, of established adaptation taxonomies. Out of these, **the majority are in joint public-private initiatives** with other banks, Development Finance Institutions (DFI), NGOs/grants, and the public sector, primarily on project financing for construction and infrastructure projects. Examples include construction of resilient homes and business parks, reservoirs for water management, flood defense and water treatment infrastructure, and weather monitoring and early warning systems.

The majority of bank client financing comes from products partly contributing to adaptation vs. products designated as adaptation finance. Adaptation is not always explicit in investment criteria defined in green, social or sustainability frameworks as it is still a new field for most banks. Green bonds and sustainability or sustainability-linked loans contributing to adaptation featured heavily in working group members case studies. Examples include sustainable agriculture loans and home improvement loans with some adaptation-specific KPIs. Sectors featured include construction (buildings, infrastructure, utility projects, installation), water supply, real estate, agriculture, forestry and fishing, climate monitoring technologies, and manufacturing.

Financing is primarily directed to their local markets for banks operating in Europe, Australia, New Zealand, MENA (Middle East and North Africa), and Africa. This includes retail, corporate banking and agriculture loans, infrastructure financing for flood defences and water management, and weather monitoring and early warning systems. Case studies on financing activities addressing vulnerabilities in social infrastructure were more common in Africa. Commercial bank financing towards developing economies, where it is needed the most, is at present mostly provided through blended finance vehicles.

Banks partner with insurance companies to provide insurance against climate-related hazards to their clients, an arrangement known as bancassurance.

These examples show the urgency for climate action and commercial impetus for financing climate adaptation. It should be noted however that they should only be viewed as emerging trends and innovations rather than as examples of adaptation aligned finance.

Identifying risk and opportunities

The upfront costs associated with the implementation of adaptation measures often delays action. If, however, the cost of climate impacts is appropriately incorporated in business planning, the cost of not adapting will be much greater due to the expected loss and damage. The PCRAM cashflow methodology for assessing infrastructure investments shows that although cashflow returns on investment initially reduce because of upfront adaptation costs, over the horizon of the investment adaptation solutions increase the return.²⁹

Taking a longer-term view and quantifying the costs of inaction is crucial in focusing innovation and financial mobilisation efforts. For banks with global portfolios, a macro-level analysis of climate impacts and adaptation needs can be carried out for the economies where the bank operates in order to estimate loss and damage costs, as well adaptation needs. For example, Standard Chartered Bank assessed the need for climate adaptation investment in ten markets, including China, India, Bangladesh, and Pakistan, and showed that failure to invest the bare minimum would cause hundreds of billions and lost GDP growth this decade.³⁰

At micro level, the most effective way to identify opportunities is through engaging with clients. Here too the costs of adaptation solutions need to be contrasted with the cost of inaction over the relevant business horizon. Client segments to prioritise for engagement will be the ones in sectors vulnerable to physical climate risk as highlighted in the baseline assessment and NAPs, or large corporate and institutional investors who can drive impact through their investments and supply chains.

Overview of financial products

Financial products could be implemented within green, social and sustainability frameworks. The table below shows a list of products contributing to adaptation that banks are already promoting through their lending practices and some emerging products or products used for other sustainability objectives that could be also applicable to adaptation finance.

29 mottmac.com/download/file?id=42994&isPreview=true

30 sc.com/en/insights/adaptation-economy/

Category of instruments	Financial products already used by banks	Emerging products potentially relevant for adaptation
Debt financing	<ul style="list-style-type: none"> ▪ Bonds: (Green, sustainability, blue, social) ▪ Sustainability and sustainability linked loans ▪ Green loans (Corporate and retail) ▪ Credit lines/facilities ▪ Project finance ▪ Transaction finance ▪ Structured products 	<ul style="list-style-type: none"> ▪ Resilience bonds (e.g., EBRD,³¹ California bond issuance³² programme) ▪ Green securitisations ▪ Debt for nature swaps
Equity financing	<ul style="list-style-type: none"> ▪ Venture capital (e.g., Lightsmith Group adaptation fund³³) 	<ul style="list-style-type: none"> ▪ ETFs and indices aligned with climate resilient development
Risk management	<ul style="list-style-type: none"> ▪ Letters of credit ▪ Credit guarantees ▪ Bridge loans ▪ Insurance (incl. embedded insurance) 	<ul style="list-style-type: none"> ▪ Hedging instruments (e.g., derivatives) ▪ Catastrophe bonds
Wealth management/impact investment		<ul style="list-style-type: none"> ▪ Green or ESG funds

Sources: Working Group and IISD (adapted for commercial banks)

Developing country financing

Many adaptation finance needs in developing economies do not meet risk-reward criteria for banking and investment. Most of the adaptation finance directed to developing countries comes through public sources, multilateral development banks and development finance. Joint public-finance initiatives and platforms are emerging to support innovation and scale up finance where it is needed the most. These can be grouped in four categories:

- Grant fund-supported technical assistance platforms for lending,
- Accelerators and incubators which fund innovations in adaptation,
- Blended finance, which involves concessional finance and/or public sector guarantees to lower interest rates, and
- Risk mitigation solutions including embedded insurance and hedging products.

31 ebrd.com/news/2019/worlds-first-dedicated-climate-resilience-bond-for-us-700m-is-issued-by-ebrd-.html

32 leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=202320240SB867

33 lightsmithgp.com/news-posts/lightsmith-group-closes-inaugural-186-million-growth-equity-climate-fund-the-first-to-focus-on-climate-resilience-and-adaptation/

An overview of the categories and banking sector participation is shown in the table below:

Initiatives to scale up A&R finance	Examples	Risks/barriers	Opportunities
Grant funds technical assistance	Loan, investment grants and technical assistance platforms, partly supported by state, DFI or grants. (e.g., SUNREF facility in Mauritius, ³⁴ Biodiversity Monitor in Netherlands ³⁵)	Requires technical knowledge on a wide range of sectors	Participation through subsidiaries/charitable foundations More technical assistance, investment grant platforms supported by state/NGOs/DFIs
Accelerators and incubators	Climate Finance Lab ³⁶	Commercial bank participation is low. Some banks participate through affiliate foundations	
Blended finance	Large water supply and treatment projects (e.g., reservoir construction, desalination, water management infrastructure), sustainable agriculture, sustainability loans (e.g., clean energy provision to remote communities)	Risk/reward considerations Frameworks and criteria set by DFIs may not align with local regulatory/internal frameworks Challenges in creating financial structures that can be replicated and scale up in developing economies, due to the size of financing needs and bespoke nature of projects	Accelerating DFI investment Banks can offer expertise in structuring financing instruments to meet the needs of large-scale adaptation and resilience projects Collaboration with DFIs and better understanding of requirements for private investment
Risk mitigation, insurance and hedging	Bank collaborations with sister insurance companies to provide complementary products for agriculture or resilient homes and home improvement loans.	Risk appetite constraints on term, credit, and operational risks Uncertainty of continued insurance coverage over longer term horizons Balance between mitigating financial risk, and not excluding vulnerable communities Limited hedging options	Develop risk management products for clients Collaborate with insurers on product development, to address risks from climate hazards

34 businessmauritius.org/wp-content/uploads/2021/09/Brochure-SUNREF-Mauritius.pdf

35 biodiversiteitsmonitor.nl/docs/Biodiversiteitsmonitor_engels.pdf

36 climatefinancelab.org/

Needs in developing economies often involve large infrastructure projects which require large scale funding over medium to long term and could be costly due to term, credit and currency risks. Blended finance remains one of the key instruments of mobilising private sector finance in developing economies. Removing barriers through better communication between development institutions and banks, including an understanding of private sector needs at project design phase is essential to support scaling up investment through more participation from banks and private investment.

Blended finance uses concessional capital or guarantees to enable discounted financing via

- a. Use of public sector or development bank guarantees, grants, and export credit agency support to improve risk-reward ratio for private investment
- b. De-risking structures with private investors protected from first loss
- c. Syndication and risk sharing to scale up financing for large infrastructure projects
- d. Innovative and tailored solutions to meeting the financing needs of the specific climate adaptation initiatives and borrowers.

Banks participate by taking an advisory role, act as an issuer/arranger/book runner originating and distributing the loan and in some occasions provide part of the financing. Examples of blended finance projects contributing to adaptation are the Agri3 fund,³⁷ which supports sustainable agriculture practices, and the GAIA climate fund,³⁸ which dedicates 70% of funds to climate adaptation projects, and a minimum of 25% to the least developed countries and small island developing states.

Adaptation finance in developing countries goes beyond large infrastructure projects and disaster risk reduction as commonly perceived; it is also about supporting their economies in being able to withstand climate-related shocks to one or more sectors. Sectors more exposed to climate risk in developing economies are agriculture, food, and tourism. Commercial banks (local or international) can support adaptation by supporting the diversification of the economy; either by supporting business model development through financing key clients in key sectors, or by supporting companies, including SMEs seeking to grow in new/additional sectors.

Product design

Common **design features** in these products incentivise adaptation action plans for retail and corporate clients and accelerate resilience planning:

- a. Temporarily **reducing interest rates** on loans to incentivise activities that enhance resilience to climate hazards (e.g., green mortgages and home improvement loans with eligibility criteria including green roofs and insulation, for enhancing resilience to heat stress and sustainable agriculture loans for building resilience to drought).

37 [Agri3 Fund—AGRI3 Fund aims to mobilise additional public and private capital at scale, to contribute to sustainable agricultural value chains and avert deforestation](#)

38 [MUFG, partners launch USD 1.5 billion climate finance platform | Reuters](#)

- b. Allowing for **expansion of credit** to invest in measures increasing resilience through:
 - grace periods, bridge loans, or working capital liquidity and credit facilities to allow for the transition period to a more resilient infrastructure (e.g., to regenerative agriculture)
 - letters of credit to support clients to fund resilience projects and activities and manage potential short-term profitability or business model impacts
- c. Linking interest rates to the performance of a **sustainability-linked loan** vs. KPIs
 - these may include environmental, social and impact KPIs (e.g., water leakage in a new dam construction, number of people benefiting from access to clean energy)
- d. Pooling multiple small clients or companies together to scale up and structure for private sector investment
 - funds investing in companies developing technologies for climate resilient development or climate monitoring and early warning systems
 - structuring of pooled adaptation loans into securitisations for effective risk management

6.4 Policy advocacy

Effective policy and regulatory frameworks on climate adaptation can help guide banks to make the necessary investments early on and to update their existing business lines to adapt to climate change impacts and impending regulatory changes, including updates to commercial and residential property insurance and shifts in fiscal policy and macroprudential regulation in response to climate change concerns. Forward-looking banks strive to advocate for adaptation-positive policies, rather than having to respond to structural shifts in government policy and economics related to extreme climate impacts.

Examples of policy and regulatory incentives to increase finance flows to climate adaptation include:

- Reducing the costs of adaptation via tax incentives, reduced capital requirements for lending to climate adaptation projects, grants, guarantees, low-interest loans, or subsidies for projects that enhance climate resilience.
- Increasing availability of adaptation-related projects and financial products: prioritize investments in green infrastructure, favourable treatment of green bonds, and promote ecosystem-based adaptation strategies.
- Establishing public-private partnerships, engagement of private sector in adaptation planning.
- Policies to improve access to data, supporting knowledge building and sharing, and industry collaboration, including encouraging physical risk disclosures for business and supply chains, harmonised indicators, and resilience taxonomies.

Support for climate adaptation updates to legislation or regulation can be communicated via several channels. These include well-established advocacy efforts, such as influencing, participation in regulatory review hearings, responding to policy consultations, submitting position papers, and engaging with policymakers directly or via existing industry and trade association memberships. The impact of regulatory affairs advocacy can be assessed with reference to the final form of a targeted piece of legislation or regulation. Banks can bring adaptation into this advocacy process in the following ways:

- Commission or conduct studies to assess the potential impact of specific policies on the banking sector, certain sectors or industries, or selected customer segments in their wholesale banking or corporate lending business.
- Partner with industry associations, or interest groups to strengthen positive advocacy efforts and amplify their voices.
- Conduct public relations and media campaigns to raise awareness about specific policy issues and advocate for preferred solutions.
- Publish policy briefs and whitepapers detailing capital provider perspectives and recommendations on specific adaptation-related policy matters.
- Schedule direct meetings with government officials, lawmakers and regulators to present views and concerns regarding proposed policies.
- Active participation in public initiatives for bringing the private sector into policy development on adaptation, including participating in surveys, workshops and public consultations on policies and contribute ideas and recommendations.

By taking the steps outlined above, among other actions, banks develop an adaptation advocacy plan that supports their business goals and client responses and resilience to climate impacts.

Examples of participation in policy development

The **Working Group on Climate Adaptation**³⁹ was launched by the central bank of the Netherlands to bring the finance sector into dialogue with financial regulators, the business community, government, and civil society around climate adaptation. The forum aims to explore the development of scenarios, methodologies and data availability and finance and insurance solutions. The Working Group is also partnering with academic institutions to build on existing studies assessing the feasibility of adaptation strategies (e.g., to sea level rise), nature-based solutions and building on the government's existing toolbox for financing adaptation. A report with recommendations how to foster and facilitate climate adaptation finance will be published by the end of this year.

The **Climate Financial Risk Forum** in the United Kingdom was launched by the Bank of England and the Financial Conduct Authority to share best practice across financial regulators and industry, and to advance the sector's responses to the financial risks from climate change. The forum has financial sector and industry participation, including trade associations. It is structured in technical working groups, each chaired by a CFRF member, which develop technical guidance on climate-related topics. CFRF has two working groups on Adaptation, and Climate Financial Resilience.

39 DNB, 2022 dnb.nl/en/green-economy/sustainable-finance-platform/working-group-on-climate-adaptation/dnb.nl/en/green-economy/sustainable-finance-platform/

Appendices

Appendix 1: Definitions

Actions: Four categories of actions are identified in the PRB Impact Protocol: the steering of the bank's business opportunities and financial flows; the engagement of its clients; the development and tailoring of the bank's internal policies and processes; advocacy and the establishment of partnerships.

Adaptation: in human systems, the process of adjustment to actual or expected climate and its effects, to moderate harm or exploit beneficial opportunities. In natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate and its effects (IPCC, 2014).

Adaptive capacity: The ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences (IPCC, 2014).

Adapted investments: Implement measures reducing physical climate risks to the asset, or activity (e.g. using heat resistant materials in construction in regions with heat stress).

Advocacy: The bank's individual public statements and commitments, as well as the positions it adopts and defends collectively, for example as part of an industry association or an initiative.

Alignment: Consistency between global policy goals and objectives, as enshrined by frameworks such as the Sustainable Development Goals, and the bank's business, as a result of its actions (see above). It is important to note that alignment of a bank's business opportunities and financial flows may not amount to the reduction of negative impacts and/or increase of positive impacts pursued by the above-mentioned policy frameworks, if the activities and clients with the negative impacts find themselves merely transferred to the portfolio of another bank. Client engagement, the adjustment of internal processes and policies, advocacy and partnerships (the three other actions) are key to preventing this situation.

Client engagement: The practice of interacting with clients in relation to sustainability impacts as part of the bank's impact management strategy and process. It is one of the four categories of action that banks can take to manage their (positive and negative) impact. Client engagement can take various forms, such as awareness-raising, advisory services, or even the development of tailored products and financing solutions.

Do No Significant Harm (DNSH): The activity does not significantly harm any of the environmental objectives.

Exposure: The presence of people; livelihoods; species or ecosystems; environmental functions, services, and resources; infrastructure; or economic, social, or cultural assets in places and settings that could be adversely affected (IPCC, 2014).

Enabling investments: Enabling climate resilience in other parts of the system, beyond the activity or project being financed (e.g. investment in technology companies for developing resilient crops).

Hazard: The potential occurrence of a natural or human-induced physical event or trend that may cause loss of life, injury, or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, ecosystems and environmental resources (IPCC, 2014).

Impact: The effects of the bank's business activities on the environment, people, and economies.

Leave Nobody Behind (LNOB): represents the unequivocal commitment of all UN Member States to eradicate poverty in all its forms, end discrimination and exclusion, and reduce the inequalities and vulnerabilities that leave people behind and undermine the potential of individuals and of humanity as a whole.

Maladaptation: actions that may lead to increased risk of adverse climate-related outcomes, increased vulnerability to climate change, or diminished welfare, now or in the future" (IPCC, 2014). It refers to actions, policies, or practices that are intended to address the impacts of climate change but ultimately result in negative or unintended consequences, often exacerbating the problems they were meant to solve. Maladaptation can occur when well-intentioned efforts lack a thorough understanding of the complex interactions between environmental, social, and economic systems. adaptation within the context of a just transition involves ensuring that these communities have the resources, infrastructure, and support needed to adapt to changing climate conditions. This might include investments in resilient infrastructure, access to healthcare and social services, and community engagement in decision-making processes.

Mitigation: a human intervention to reduce emissions or enhance the sinks of greenhouse gases.

Pathway to impact: The sequence of actions, outputs, and outcomes that will enable the bank to manage its (positive and negative) impacts so as to address its drivers for impact management.

Practice: The collection of actions (see above) undertaken by the bank to manage its (positive and negative) impacts.

Resilience: the capacity of social, economic, and environmental systems to cope with a hazardous event or trend or disturbance, responding or re-organising in ways that maintain their essential function, identity and structure while also maintaining the capacity for adaptation, learning and transformation (IPCC, 2014).

Risk: The potential for adverse consequences for human or ecological systems, recognising the diversity of values and objectives associated with such systems. In the context of climate change, risks can arise from potential impacts of climate change as well as human responses to climate change. Relevant adverse consequences include those on lives, livelihoods, health and wellbeing, economic, social and cultural assets and investments, infrastructure, services (including ecosystem services), ecosystems and species (IPCC, 2020).

Theory of Change: The sequence of actions, outputs, and outcomes that the bank expects will enable it to manage its (positive and negative) impacts so as to address its drivers for impact management.

Vulnerability: The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt (IPCC, 2014).

Appendix 2: Case studies—adaptation financing by banks

This Appendix showcases examples of bank-driven financing initiatives and products, making substantial contribution towards climate adaptation, to inspire further innovation in the banking sector. The case studies represent a diverse set of examples from regions and sectors as provided by the PRB Adaptation Working Group members, and they are not an exhaustive overview of banking sector products. These examples of financing are not aligned to any regional adaptation taxonomies, many of which are under development. In most cases, may have co-benefits with climate mitigation, nature and socio-economic development objectives.

Water supply and management

Case study: Financing the construction of seawater desalination facilities via green bonds in Egypt

The **Commercial International Bank (CIB)** issued the first corporate green bond in Egypt in 2021, which funded a variety of projects, including a seawater desalination plant that provides clean, high quality drinkable water to surrounding communities in the Red Sea, Egypt. The desalination plant produces 7.3 million m³ of desalinated water per year, noting the bank's green bond framework includes volumes of water managed and reused.

The bank includes volumes of water treated, and wastewater reused or avoided in its green bond framework KPIs.

Source: cibeg.com/-/media/project/downloads/about-cib/cib-corporate-responsibility-formerly-community/cib-impact-green-bond-v8-1-002.pdf

Case study: Financing the construction of a reservoir with water-related performance KPIs in the United Kingdom

ING acted as sole sustainability advisor and hedge provider in a financing package to build the United Kingdom's first new reservoir in a generation, ensuring water resilience in the region for the next 80 years. The borrower is one of the six water-only companies in England and Wales, providing clean drinking water to about 750,000 people. ING also provided part of financing. KPIs covered environmental and social factors such as water leakage, supply interruptions, carbon reduction, biodiversity and affordability.

Source: [Climate adaptation | ING](#)

Construction (incl. real estate)

Case study: Combining a sea barrier with residential function in the Netherlands

Rabobank's Bouwfonds subsidiary, BPD, is developing a new dike for flood prevention as part of the National Programme "Room for the River". The dike is 2km long and 130m wide, allowing housing (600 homes) and green areas with natural spaces. The project was done in close collaboration with the municipality of Kampen, market parties and housing corporations. 'Climate dike/sea barrier' in Reeve near Kampen. The sea barrier also offers space for 600 homes.

Source: [Reevedelta—Kampen | BPD.nl](#)

Case study: Green bonds for sustainable student accommodation in Kenya

Standard Bank Group, via Stanbic Bank Kenya Limited and SBG Securities Limited, acted as lead arranger and placing agent on a green bond for Acorn, a developer, operator and asset manager of rental housing in Sub-Saharan Africa. This debut green bond in Kenya has been certified as green by the Climate Bonds Standard as it meets international green building standards, which are designed to achieve savings on energy usage and water consumption through the building materials used. Funds will be used to construct six purpose-built student accommodation properties in Nairobi with a capacity of over 5,000 beds to address the shortage of student accommodation in a sustainable manner.

Source: [Protecting the North | Suncorp Group](#)

Case study: Building climate resilient business parks in the Netherlands

Rabobank, has set up a national programme on making business parks more sustainable. Within this programme, they create alliances between municipalities, business associations and other important stakeholders regarding business parks, stakeholders that are intrinsically motivated to tackle sustainability. The sustainability agenda for business parks rests on three pillars, namely energy transition, circularity and climate adaptation. In the context of climate adaptation, a programme is being put together according to the wishes of the participants, to implement measures that combat the effects of climate change. Subsidies are available for this and provided by various provinces and municipalities. Projects range from greening a business park in municipalities to a commercial investment in green roofs, water-permeable parking spaces and water collection systems for companies.

Source: [Commercial real estate—Rabobank](#) (tbc)

Agriculture, forestry and fishing

Case study: Supporting international startups advance regenerative food and agritech solutions for the African markets

Mauritius Commercial Bank (MCB) is a lead investor in the Katapult Mauritius Accelerator, a fund focusing on regenerative food and agritech solutions for Africa, using Mauritius as a nexus for innovation and transformation. Katapult Mauritius Accelerator allocate capital to selected start-ups and support businesses scale fast by providing technical assistance and mentorship.

Source: [Mauritius agritech accelerator | Katapult](#)

Case study: Agribusiness loans with combined mitigation and adaptation investment criteria in New Zealand

Bank of New Zealand (BNZ) offers green business loans for the agriculture sector which fund specific sustainability projects such as wetland restoration. The bank offers combined lending criteria for mitigation and adaptation. The lending criteria focus on Sustainable use and protection of water (quantity and quality), and protection of a healthy ecosystem (including regeneration of natural habitats, planting native forests).

Source: [Green Business Loans - BNZ](#)

Case study: Green loans with environmental criteria for small and medium enterprises in agriculture and aquaculture in Ecuador

Banco de Machala S.A. supports small and medium enterprises in coastal regions by providing finance for their climate mitigation and adaptation needs. Eligibility criteria include the level of environmental risks, as well as compliance with environmental regulations such as the Rainforest Alliance Certificate. The loans come under the National Finance Corporation MIRYPES—CFN partial guarantee programme.

Source: [Fondo Nacional de Garantías \(FNG\) | Banco de Machala \(bancomachala.com\)](#)

Case study: Smart agriculture financing in Egypt

Banque Misr partnered with NGO Misr el Khier to fund a smart agriculture project using greenhouses and drip irrigation aiming at creating employment opportunity for youth, while addressing climate change impacts on poor communities in rural areas. Farmers in these areas do not own land, which is typically used as collateral to fund high-risk agri-business. The project gives farmers access to land rental and financing for their working capital. Adaptation benefits involved water conservation of 20–50%, increased resilience of 125 smallholder farmers and new job creation, and enhanced crop quality and resilience.

Source: unepfi.org/wordpress/wp-content/uploads/2022/12/Scaling-private-sector-climate-finance-in-the-MENA-region.pdf (p.17)

Energy

Case study: Financing affordable, green electricity for remote communities in Kenya via syndicated sustainability-linked loans

Standard Bank acted as sustainability coordinator and **Stanbic Bank Kenya, Citibank, CDC Group** and **Norfund** jointly arranged and funded a local currency sustainability-linked Borrowing-Base Facility for Greenlight Planet Kenya (now known as Sun King) and one of Africa's leading companies in off-grid solar home solutions, improving the lives of low-income communities in Kenya. Through affordable "pay-as-you-go" digital financing options, Greenlight Planet facilitates hundreds of thousands of off-grid families and businesses to make the switch from kerosene to clean and safe rooftop solar. The transaction is one of the first syndicated sustainability-linked deals of its kind in Kenya, and among the first in the East-African region. This transaction aligns Greenlight Planet Kenya's funding with its environmental and social impact goals linked to financial inclusion, clean energy and gender equality.

Source: [CIB_Greenlight-Planet_Case-Study.pdf \(standardbank.com\)](#)

Climate change adaptation financing frameworks

Case study: Incorporating Climate Change Adaptation in green and sustainability product frameworks

Standard Chartered Bank (SCB) has specified eligibility criteria for financing climate change adaptation transactions in its green and sustainability product framework, including criteria and exclusions for both adapted (asset-focused) and enabling (systems-focused) resilient activities. Enabling adaptation criteria cover infrastructure for water stress from floods or storms, resilient buildings, resilient grids, biodiversity and nature restoration and health monitoring systems. Given potential impacts of infrastructure projects on the environment, the framework requires that the development of adaptation infrastructure is supported by vulnerability assessment and adaptation plans (aligning to the Equator Principles CCRA). SCB's work on adaptation finance will develop further with the launch of a standalone Guide for Adaptation and Resilience Finance in conjunction with KPMG and others at COP28.

Source: [av.sc.com/corp-en/others/green-sustainable-product-framework.pdf](#)

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