



Technical Guidance for Financial Institutions — Assessment of Greenhouse Gases



Creating Markets, Creating Opportunities

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Acknowledgments

This publication is a compilation of publicly available sources concerning the methodologies and tools available to assess, set targets, and disclose GHG emissions, prepared by IFC's Environmental and Social Policy and Risk Department. With thanks to IFC's Climate Business—Financial Institutions Group and IFC's Sustainability and Gender Solutions Departments for their review and guidance.

We would also like to thank Alice Schoonejans, Fiorella Facello, and Rshanikka J. Hayley Fowler for their support in the production of this publication.

Acronyms

CDP	Carbon Disclosure Project
CDSB	Climate Disclosure Standards Board
CO₂	Carbon dioxide
EPFIs	Equator Principles Financial Institutions
ESG	Environment, Social, and Governance
GDP	Gross Domestic Product
GFANZ	Glasgow Financial Alliance for Net Zero
GHGs	Greenhouse gases
IFC	International Finance Corporation
IFRS	International Financial Reporting Standards
MBDs	Multilateral Development Banks
PACTA	Paris Agreement Capital Transition Assessment
PCAF	Partnership for Carbon Accounting Financials
PSs	Performance Standards
SBTi	Science Based Targets Initiative
TCFD	Task Force on Climate-Related Financial Disclosures
UN	United Nations
UNEP FI	United Nations Environment Program Finance Initiative
UNFCCC	United Nations Framework Convention on Climate Change



1. Introduction

In 2022, the Earth’s average surface temperature was one of the warmest on record. According to the US National Aeronautics and Space Administration, 2022 temperatures tied the record from 2015¹—the same year the legally binding treaty on climate change was adopted by 196 Parties at the United Nations (UN) Climate Change Conference (COP21) in Paris, France, in an agreement that later became known as the “Paris Agreement.”²

One of the key aims of the Paris Agreement is to achieve carbon neutrality in the second half of this century and limit global warming. According to the United Nations Framework Convention on Climate Change (UNFCCC), to limit the temperature increase to 1.5°C above pre-industrial levels (or the levels that existed between 1850 and 1900), “greenhouse gas emissions must peak before 2025 at the latest and decline 43% by 2030.”³ The pathways to limit global warming to 1.5°C will require rapid and far-reaching changes in energy, land use, and infrastructure.⁴ The Sustainable Development Goals, which were formulated in 2015 as part of the 2030 Agenda for Sustainable Development,⁵ provide a blueprint for urgent action to combat climate change.

Greenhouse gasses (GHGs) are gaseous constituents of the atmosphere, both natural and anthropogenic,⁶ that generate the greenhouse effect.⁷ GHG intensification (linked, for example, to burning fossil fuels for electricity, heat, and transportation) is largely caused by human activities and results in the warming of the planet. “Climate change refers to any long-term trends or shifts in climate over many decades. These changes may be due to natural variations (such as changes in the Earth’s orbit) or caused by human activities changing the composition of the atmosphere.”⁸

The increase of GHGs is having dramatic environmental, social, and economic and financial impacts, some of which

are already underway.⁹ Environmental risks and impacts of climate change include heatwaves, water shortages, increased droughts, wildfires, biodiversity loss and more. Social risks and impacts of climate change include increased hunger, infectious diseases, poverty, conflict, displacement, impacts on community safety as well as lower workforce availability and unemployment¹⁰ as a result of environmental consequences. Economic and financial impacts due to climate change include higher temperatures and more extreme weather, resulting in economic and financial losses for many businesses, households, and governments. Financial risk related to climate changes is fueled by the uncertainty of the severity and timing of these losses. Climate-related financial risk may threaten the safety and soundness of individual financial institutions and the stability of the overall financial system, including sharp stock market fluctuations and unmanageable inflation or deflation.

Two broad types of measures are undertaken to address climate change: mitigation and adaptation. Mitigation¹¹ can be achieved through reducing the sources of GHGs—thus decreasing the reliance on fossil fuels for electricity, heat, or transport and enhancing the “sinks” that accumulate and store GHGs, such as the oceans, forests, and soil. The goal of mitigation is to avoid significant human interference with the Earth’s climate. As per the UNFCCC, the objective is to achieve “stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.”¹² The UNFCCC also notes that “such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner.”¹³ Examples include climate-smart agriculture, sustainable construction and

¹ <https://www.nasa.gov/press-release/nasa-says-2022-fifth-warmest-year-on-record-warming-trend-continues>

² <https://unfccc.int/process-and-meetings/the-paris-agreement>

³ Ibid.

⁴ <https://www.ipcc.ch/sr15/chapter/spm/>

⁵ <https://sdgs.un.org/2030agenda>

⁶ The primary GHGs are water vapor (H₂O), carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄) and ozone (O₃). Moreover, there are a number of entirely human-made GHGs in the atmosphere such as halocarbons and other chlorine- and bromine-containing substances dealt with under the Montreal Protocol. Beside CO₂, N₂O and CH₄, the Kyoto Protocol deals with the GHGs sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs) and perfluorocarbons. See IPCC Glossary, <https://www.ipcc.ch/sr15/chapter/glossary/>

⁷ See https://archive.ipcc.ch/publications_and_data/ar4/wg1/en/faq-1-3.html for a detailed explanation of the greenhouse effect.

⁸ <https://www.csiro.au/en/research/environmental-impacts/climate-change/climate-change-qa/what>

⁹ <https://www.ipcc.ch/>

¹⁰ World Economic Forum, Global Risk Report, https://www3.weforum.org/docs/WEF_Global_Risk_Report_2020.pdf

¹¹ For more details on climate mitigation see <https://unfccc.int/topics/mitigation/the-big-picture/introduction-to-mitigation#:~:text=Efforts%20to%20reduce%20emissions%20and,measures%20to%20mitigate%20climate%20change.>

¹² UNFCCC, Article 2, accessible at: <https://unfccc.int/resource/ccsites/zimbabwe/conven/text/art02.htm>

¹³ Ibid.

cities, sustainable mobility including hybrid or electric vehicles, energy efficiency, and renewable energy investments.

Adaptation represents the other side of the climate risk equation and involves adjusting the actual or expected future climate. The goal is to reduce the risks from the harmful effects of climate change, such as sea-level rise, more intense extreme weather events, or food insecurity. This may include investing in infrastructure resilient to extreme climate events such as storm defenses, elevation to compensate for projected sea levels.

Climate change risks vary depending on several factors including geography, regulations, economic and financial structure, availability of insurance, banking system structure and maturity of capital markets, and banks may need to adjust their business models to reduce, mitigate, and adapt to climate risks. Transitioning away from carbon-intensive activity and energy towards low-carbon infrastructures requires unprecedented financial flows and has given rise to a new breed of finance: climate finance, which consists of local, national, and transnational financing to support climate change mitigation and adaptation.

Financial institutions encompass a broad range of business operations within the financial services sector including banks, insurance companies, brokerage firms, and investment dealers. The investment decisions they make play a crucial role in achieving the Paris Agreement, and in many ways the stakes have never been higher to invest sustainably—yet quantifying the impacts of investments and presenting the results in a transparent and comparable way is no easy task.

The International Finance Corporation (IFC) works with financial institutions around the world to provide much-needed access to finance for millions of individuals and businesses to bridge development gaps, mobilize private capital, and support local capital markets. Climate is a strategic pillar for the World Bank Group. IFC partners with banks and other financial institutions to fund the urgent need for climate-smart investments. These are necessary to make the global economy more resilient to climatic extremes. By supporting financial institutions in deploying climate finance, IFC helps to reduce GHG emissions while supporting businesses' bottom line.

This guidance provides further background in Section II on global and national frameworks to address the rise in GHG emissions, as well as the industry networks and alliances that address GHG emissions. It also provides a brief overview of the role of Multilateral Development Banks (MDBs) and international financial institutions in harmonizing project-level GHG emissions accounting to assess climate investments.

Section III describes the impact of climate change on Financial Institutions and how they are key players in achieving Paris Agreement objectives. Banks can support the transition to a net-zero economy through their lending and financing decisions and facilitating their clients' transition.

Finally, in Section IV, this guidance provides a compilation of publicly available sources of the methodologies and tools available to assess, set targets, and disclose GHG emissions.



2. Global and National Frameworks to Address Climate Change

Global Efforts

There are several global frameworks in place (see Box 1), many of which build on the 1992 UNFCCC that committed state parties to reduce GHG emissions.¹⁴ For its part, the World Bank in the 2010 World Development Report was unequivocal in underscoring the urgency of addressing climate change: “left unmanaged, climate change will reverse development progress and compromise the well-being of current and future generations.”¹⁵

Box 1: Relevant Global Agreements and Efforts

UNFCCC	https://unfccc.int/
Kyoto Protocol	https://unfccc.int/kyoto_protocol
The Paris Agreement UNFCCC	https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement
UN 2030 Agenda for Sustainable Development	https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf
Glasgow Climate Pact	https://unfccc.int/sites/default/files/resource/cma2021_10_add1_adv.pdf

National and Regional Targets and Regulations

As a result of international and regional agreements, countries have developed national targets and regulations (see Box 2 for examples from Egypt and South Africa) to reduce their GHG emissions and build resilience to adapt to the impacts of rising temperatures, including through Nationally Determined Contributions.¹⁶ As such, more than 200¹⁷ laws and national policies have been developed on climate—on emissions reduction as well as energy efficiency. Some examples include:

- Chile and Colombia have set carbon neutrality targets by 2050

- Kenya developed a National Climate Change Framework
- South Africa passed the 2021 Climate Change Bill
- China adopted its 14th five-year plan to reach carbon neutrality before 2060 in 2021
- Barbados, Costa Rica, Fiji, Gambia, Maldives, Marshall Islands, and Sri Lanka have net zero targets (by 2050) set in policy documents
- Bhutan, Cambodia, and Madagascar have self-declared net zero targets by 2050

Climate regulations regarding disclosures have also gained momentum—in Brazil, instructions on climate reporting were adopted by Brazil’s Central Bank in 2021,¹⁸ and South Africa¹⁹ has had a voluntary code for responsible investing since 2011.

Even though climate change regulations are continuously evolving, a few resources include:

- The Climate Vulnerable Forum’s compendium of the latest laws on climate by 55 member countries across Africa and the Middle East, Asia and the Pacific, Latin America and the Caribbean²⁰
- The African Development Bank, the United Nations Environment Program Finance Initiative (UNEP FI), and the Global Center on Adaptation prepared a baseline study (November 2021) summarizing climate change regulations relevant to the financial sector as well as private sector initiatives in Africa, including country diagnostics for the Democratic Republic of the Congo, Egypt, Ghana, Kenya, Mali, Mauritius, Morocco, Nigeria, Rwanda, South Africa, Tunisia, and Zimbabwe²¹
- The Financial Stability Board’s report on Supervisory and Regulatory Approaches to Climate-related Risks summarizes legislation as of April 2022²²

¹⁴ <https://unfccc.int/resource/docs/convkp/kpeng.pdf>

¹⁵ World Bank, World Development Report 2010: Development and Climate Change, <https://openknowledge.worldbank.org/handle/10986/4387>

¹⁶ For more information see <https://www.un.org/en/climatechange/all-about-ndcs> and <https://unfccc.int/NDCREG>

¹⁷ <https://theicvf.org/wp-content/uploads/2022/06/GLOBE-CVF-Climate-Laws-Report-June-2022.pdf>

¹⁸ https://www.bcb.gov.br/content/about/legislation_norms_docs/BCB_Disclosure-GRSAC-Report.pdf

¹⁹ <https://www.crisa2.co.za>

²⁰ <https://theicvf.org/wp-content/uploads/2022/06/GLOBE-CVF-Climate-Laws-Report-June-2022.pdf>

²¹ https://gca.org/wp-content/uploads/2022/06/climate_risk_regulation_in_africas_financial_sector_and_related_private_sector_initiatives_report.pdf

²² <https://www.fsb.org/wp-content/uploads/P290422.pdf>

Box 2: Examples of Climate Change Laws in Emerging Countries

In July 2021, Egypt's Financial Regulatory Authority introduced two decrees requiring companies listed on the Egyptian Stock Exchange and companies in the nonbanking financial sector to report on climate-related risks and opportunities. In July 2021, the Central Bank of Egypt issued its Guiding Principles on Sustainable Finance for the banking sector. The Financial Regulatory Authority also indicated it may consider developing regulatory requirements for nonbank financial institutions.²³ Egypt passed the Egypt National Climate Change Strategy in 2022, which is meant to be a basic reference for further integration of climate change aspects in general planning for all sectors in the country.²⁴

Section 24 of the Constitution of South Africa states that everyone has a right to an environment that is not harmful to their health and well-being, and that all have the right to have the environment protected for the benefit of present and future generations.²⁵ In South Africa, the 2017 National Pollution Prevention Plans Regulations include requirements for submission, approval, and reporting of pollution prevention plans from a person conducting a production process for set activities that involve emission of GHGs in excess of 0.1 Megatons annually, reported as carbon dioxide equivalents (CO₂-eq). South Africa also enacted a climate change bill in February 2022, dedicated to “enable the development of an effective climate change response and the long-term, just transition to a climate-resilient and lower-carbon economy and society, and to provide for matters connected therewith.”²⁶ The South African Reserve Bank also published a report on a climate change modelling framework for financial stress testing in South Africa in August 2022.²⁷

Industry Initiatives

Net zero Alliance: The UNEP FI is a global partnership established between the UNEP and the financial sector and brings together industry practitioners in three distinct alliances: UN-convened Net-Zero Asset Owner Alliance in partnership with the Principles for Responsible Invest-

ment, created in 2019; as well as the Net-Zero Banking Alliance and the Net-Zero Insurance Alliance, both launched in 2021.

The UN-convened **Net Zero Asset Owner Alliance** is an initiative acknowledging that asset owners have a unique role in the global economy and financial systems through:

- Investor ambition and target-setting at the portfolio level—reporting of contributions to progress in a sector-specific way
- Impact on the real economy and emissions
- Implementation via a holistic environment, social, and governance (ESG) approach for measuring and managing associated impacts, and
- Joint engagement, and monitoring of engagements, based on the most authoritative, credible, scientific input, to ensure consistency of messaging and necessary ambition

The UN-convened **Net-Zero Banking Alliance** is the banking element of the Glasgow Financial Alliance for Net Zero (GFANZ) and represents about 40 percent of global banking assets. The Net-Zero Banking Alliance commits to align operational and attributable emissions from their portfolios with pathways to net-zero by 2050 or sooner. The UN-convened Alliance developed the Principles for Responsible Banking, including six core principles that align with the Sustainable Development Goals, the Paris Agreement, and relevant national and regional frameworks, as well as impact & target setting.²⁸

The UN-convened **Net-Zero Insurance Alliance**²⁹ is a group of over 29 leading insurers representing more than 14 percent of world's premium volume that committed to transitioning their portfolios to net-zero GHG emissions by 2050. Box 3 summarizes a number of other initiatives to address climate change.

²³ https://gca.org/wp-content/uploads/2022/06/climate_risk_regulation_in_africas_financial_sector_and_related_private_sector_initiatives_report.pdf

²⁴ <https://www.climate-laws.org/geographies/egypt/policies/egypt-national-climate-change-strategy-nccs-2050>

²⁵ <https://www.cambridge.org/core/books/abs/environmental-rights/south-african-constitution-standards-of-environmental-protection/953351417A223E8A4FDB86FCAD537680>

²⁶ South Africa Climate Change Bill, 2022, page 22, https://www.gov.za/sites/default/files/gcis_document/202203/b9-2022.pdf

²⁷ <https://www.resbank.co.za/content/dam/sarb/publications/working-papers/2022/WP%202209.pdf>

²⁸ <https://www.unepfi.org/banking/more-about-the-principles/>

²⁹ <https://www.unepfi.org/net-zero-banking/>

Box 3: Initiatives to Address Climate Change

Climate Action 100+ – The largest investor engagement initiative on climate change, these 700 global investors are responsible for more than \$68 trillion in assets under management across 33 markets.^a

Science-based Targets Initiative – Ambitious corporate climate action - Science Based Targets: Shows organizations how much and how quickly they need to reduce their GHG emissions to prevent the worst effects of climate change.^b

The Investor Energy & Climate Action Toolkit – Investor Energy-Climate Action Toolkit mobilizes voluntary energy efficiency and sustainable energy investment by companies and financial institutions through the development of standardized frameworks, tools, and outreach.^c

The Investor Agenda – The Investor Agenda represents 532 investor signatories representing \$39 trillion in assets, advocating for governments to enact ambitious policies that would leverage the private capital required to address the climate crisis.^d

^a <https://www.climateaction100.org>

^b <https://sciencebasedtargets.org>

^c <https://www.unepfi.org/banking/more-about-the-principles/>

^d <https://theinvestoragenda.org>

Bonds: Industry initiatives include the publication of principles to issue green and sustainable bonds supporting issuers of bonds in allocating funds to finance projects eligible based on environmental criteria. For example, the Green Bond Principles³⁰ developed by the International Capital Market Association promote integrity in the Green Bond market seeking to support issuers in financing environmentally sound and sustainable projects that foster a net-zero emis-

sions economy and protect the environment. The Green Loan Principles,³¹ developed by the Loan Market Association, Asia Pacific Loan Market Association, and Loan Syndications and Trading Association, build on, and refer to the Green Bond Principles but is dedicated to loan products. Sustainability Bonds also include green projects as they are dedicated to using proceeds to finance or re-finance a combination of Green and Social Projects. Green Bonds Principles recommend a use of proceeds process for project evaluation and selection, management of proceeds and reporting.

Disclosure initiatives: Several platforms representing the industry are driving the disclosure of GHG emissions. These include the Science Based Targets Initiative (SBTi), as well as the Task Force on Climate-related Financial Disclosures (TCFD),³² which was created by the Financial Stability Board,³³ a nonprofit organization uniting the finance and banking industry as its members. The Financial Stability Board is discussed more in Section IV, disclosure tools.

The Role of Multilateral Development Banks in the Global Effort to Foster Climate Change Mitigation and Adaptation

MDBs play an important role in guiding clients in their mitigation and adaptation strategies as part of their financing arrangements. In 2018, MDBs³⁴ launched a Paris Alignment Framework that seeks to align MDB activities with the goals of the Paris Agreement. Each MDB has developed their own objectives to align their activities with the Paris Agreement, as described in Figure 1 below.

³⁰ https://www.icmagroup.org/assets/documents/Sustainable-finance/2022-updates/Green-Bond-Principles_June-2022-280622.pdf







³¹ https://www.lma.eu.com/application/files/9115/4452/5458/741_LM_Green_Loan_Principles_Booklet_V8.pdf

³² https://www.spglobal.com/marketintelligence/en/campaigns/i-need-to-align-with-tcfdf?utm_source=bing&utm_medium=cpc&utm_campaign=TCFD_Search_Bing&utm_term=tcfd%20framework&utm_content=&_bt=72293057024668&mselectid=d1f0df077e03144b6251bc22afd44410

³³ <https://www.cdp.net/en/info/about-us>

³⁴ African Development Bank, Asian Development Bank, Asian Infrastructure Investment Bank, European Bank for Reconstruction and Development, European Investment Bank, Inter-American Development Bank Group, Islamic Development Bank, New Development Bank, and World Bank Group.

Figure 1: MDB Paris Alignment Commitments

IFC	EIB	EBRD	ADB	IDB	AFDB
 <ul style="list-style-type: none"> Committed to 85% alignment starting July 1, 2023 100% alignment starting July 1, 2025 Growing its climate-related investments to an annual average of 35 percent of its own-account long-term commitment volume between 2021 and 2025 	 <ul style="list-style-type: none"> All new financing is 100% Paris aligned starting 2021 First MDB to align all new projects and commit to Paris alignment of beneficiaries Increasing green financing to >50% by 2025 EUR 1 trillion toward climate finance 2021-2030 	 <p>European Bank for Reconstruction and Development</p> <ul style="list-style-type: none"> From end-2022, all activities to be Paris aligned Increasing green financing to >50% by 2025 Aims to achieve cumulative net GHG emissions reductions of 25-40 million tons annually 	 <p>ADB ASIAN DEVELOPMENT BANK</p> <ul style="list-style-type: none"> 100% align sovereign operations by July 2023; 85% align non-sovereign operations by July 2023; 100% by July 2025 Targets latest peak portfolio-wide GHG emissions by 2030 \$100 billion climate financing for developing countries 2019-2030 	 <p>IDB Inter-American Development Bank</p> <ul style="list-style-type: none"> 100% of operations to be aligned by 2023 \$24 billion for climate and green finance over the next four years Committed to assessing disaster and climate risk in 100% of its moderate and high-risk operations by 2023 	 <ul style="list-style-type: none"> Committed to Paris alignment Mobilize \$25 billion, or 40% climate finance by 2021, equal proportions for adaptation and mitigation Adaptation financing facility for resilience-building in communities

These commitments have in turn impacted the kind of transactions MDBs support and drives the requirements expected: beyond aligning their own portfolios to the Paris Agreement, MDBs are dedicated to guiding and supporting clients to align with the Agreement as well. For example, IFC is the current secretariat of the Sustainable Finance Banking and Finance Network and provides advisory services to banking associations in support of their sustainable finance initiatives. The Sustainable Finance Banking and Finance Network is a unique peer-learning platform that allows regulators from emerging markets to learn from each other and from developed countries and benchmark the progress of the Sustainable Finance Banking and Finance Network

members in environmental and social risk management, green finance, green bonds, and climate risk policies and incentives. Together with the World Bank, IFC supports learning, knowledge exchange, and policy development by financial sector regulators.

Harmonization of project-level GHG emissions accounting and outcomes. Many international financial institutions—including MDBs referred to in Figure 1—have worked together since 2012 through the Technical Working Group of the International Financial Institutions³⁵ to harmonize project-level GHG emissions accounting to assess climate investments.^{36,37}

³⁵ Close to 25 institutions are currently members of this working group. (https://unfccc.int/sites/default/files/resource/IFIs%20membership%20for%20UNFCCC%20%27white%20pages%27_0.pdf), although the level of engagement varies among the IFIs. The UNFCCC secretariat has been a member of the Technical Working Group of the International Financial Institutions since 2015. The group has also expanded to cover inter-governmental organizations such as the secretariats of the Green Climate Fund, Global Environment Facility.

³⁶ https://unfccc.int/sites/default/files/resource/International%20Financial%20Institution%20Framework%20for%20a%20Harmonised_rev.pdf

³⁷ <https://unfccc.int/climate-action/sectoral-engagement/ifis-harmonization-of-standards-for-ghg-accounting>

IFC Sustainability Policy and Performance Standards

IFC's Sustainability Framework is meant to support climate actions. IFC underlines its commitment to addressing climate change in its Sustainability Policy: "IFC recognizes that climate change is a serious global challenge" and "addressing climate change is therefore a strategic priority for IFC."³⁸ The Policy also encourages the "development of GHG accounting and approaches to climate change risk assessment, to produce instruments and develop practices that allow its clients to consider climate-related risks and opportunities in their investment decisions."³⁹ In addition, IFC "require(s) its clients to include GHG emissions in their regular reporting to IFC in accordance with the Performance Standard (PS) 3 quantification threshold. This will allow IFC to quantify, manage and report on the carbon footprint of its direct investment portfolio in accordance with the emerging state of practice on accounting and reporting."⁴⁰

Climate change is a cross-cutting issue addressed across multiple PSs. As per PS1, "the risks and impacts identification process will consider GHG emissions of GHGs, the relevant

risks associated with a changing climate and the adaptation opportunities, and potential transboundary effects, such as pollution of air, or use or pollution of international waterways."⁴¹ PS3 in particular, addresses pollution risks⁴² in the following objectives:

- "To avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities
- To promote more sustainable use of resources, including energy and water
- To reduce project related GHG emissions"⁴³

PS4 recognizes that communities already subjected to climate change impacts may also experience an acceleration and/or intensification of those impacts due to project activities. As such, PS4 outlines the client's responsibility to avoid or minimize the risks and impacts to community health, safety, and security that may arise from project-related activities, with particular attention to vulnerable groups.⁴⁴ PS4 also provides for managing risks and impacts with regard to ecosystem services.⁴⁵

³⁸ IFC Sustainability Policy, paragraph 10.

³⁹ IFC Sustainability Policy, paragraph 11.

⁴⁰ IFC Sustainability Policy, paragraph 11.

⁴¹ IFC PS 1, paragraph 7.

⁴² As explained in footnote 1 of PS3, the term "pollution" in PS3 is used to refer to both hazardous and nonhazardous chemical pollutants in the solid, liquid, or gaseous phases, and includes other components such as pests, pathogens, thermal discharge to water, GHG emissions, nuisance odors, noise, vibration, radiation, electromagnetic energy, and the creation of potential visual impacts including light.

⁴³ IFC PS 3, Objectives.

⁴⁴ IFC PS 4, paragraph 1.

⁴⁵ IFC PS 4, paragraph 8.



3. Impact of Climate Change on Financial Institutions

Financial institutions are key players in achieving Paris Agreement objectives. Banks can support the transition to a net-zero economy through their lending and financing decisions and facilitating their clients' transition. A 2015 study estimated the total global stock of manageable assets at risk from climate change ranges from \$4.2 trillion to as high as \$43 trillion between now and the end of the century.⁴⁶ However, climate change also represents investment opportunities: the Race to Zero Financing Roadmap, setting out investment roles and opportunities for private and public actors to support the transition towards net zero, also indicated that \$32 trillion is required by 2030.⁴⁷

Financial institutions are particularly exposed to transition and physical risks, through the transactions they support, as described in Figure 2 below.

- Transition risks are related to the financial loss that an institution may incur, directly or indirectly, as a result of the process of moving to a low-carbon economy. These include new disclosure and regulation obligations, increased exposure to litigation, changing consumer behaviors, and the potential increase in the cost of raw materials. Banks will need to disclose detailed information concerning the “green footprint” of their assets. For example, the European Commission proposal to revise the Non-Financial Reporting Directive with the Corporate Sustainability Reporting Directive of April 2021 aims at improving the quality of the climate risk information released by companies and available to the financial industry. Transition risks are also prominent in emerging markets: for example, the Colombian government increased its GHG emission reduction targets from 20 percent to 51 percent by 2030. As analyzed by the World Bank in the context of a climate risks stress test on the banking sector in Colombia, 20 percent of Colombian banks' corporate loans are in sectors that are highly sensitive to transitions, whereas a broader set of sectors and assets is vulnerable through value-chain effects.⁴⁸ Financial institutions will need to learn to identify and manage new types of risks in response to the push

coming from regulators, investors, and civil society for a faster transition to a more sustainable economy.

- Physical risks are the climate-related physical impacts a bank may be exposed to through the transactions they support, including extreme weather such as storm surge, the effects on crop yields and on sea-level rise, as well as the chronic impact of higher temperatures on human productivity. The International Monetary Fund shows that emerging markets are particularly vulnerable to climate risks. Studying the 10 largest disasters from 1970–2018, the International Monetary Fund found that emerging market and developing economies incurred damages in the range of 2.9 percent of GDP to 10.1 percent of GDP while advanced economies incurred damages of 1 percent of GDP to 3.2 percent of GDP in advanced economies.⁴⁹ The 2020 World Bank climate risks stress test on the banking sector in Colombia⁵⁰ shows that flooding risks, which are exacerbated by climate change, represent an important credit risk for banks as economic damages after disaster events are only insured marginally and leave a large share of the burden on stakeholders financed by banks, thus leading to loan losses. The report also underlines that sovereign credit rating downgrades occur regularly because of major natural disasters and represent a significant driver of total losses.

Financial institutions will have to take into account the major risks posed by the physical impacts of climate change on their business. For example, climate change is likely to have played a role in the 2015–2017 droughts in Cape Town, South Africa, and the northern hemisphere's extreme summer drought in 2022.⁵¹ Droughts affect the local and national economy. The Cape Town droughts are estimated to have caused pressures on the agricultural economic system, including production losses over several years, and the increase of unemployment.⁵² Climate change is also likely to have played a role in the June–August 2022 flooding in Pakistan, through which 1,500 lives were lost and 33 million people affected; 1.7 million houses and 1,460 health facilities destroyed; and 18,000 square kilometers of cropland ad-

⁴⁶ https://impact.economist.com/perspectives/sites/default/files/The%20cost%20of%20inaction_0.pdf

⁴⁷ <https://www.gfanzero.com/netzerofinancing>

⁴⁸ <https://documents1.worldbank.org/curated/en/957831635911537578/pdf/Not-So-Magical-Realism-A-Climate-Stress-Test-of-the-Colombian-Banking-System.pdf>, page 6.

⁴⁹ <https://www.imf.org/-/media/Files/Publications/GFSR/2020/April/English/text.ashx>, page 90.

⁵⁰ <https://documents1.worldbank.org/curated/en/957831635911537578/pdf/Not-So-Magical-Realism-A-Climate-Stress-Test-of-the-Colombian-Banking-System.pdf>

⁵¹ <https://edition.cnn.com/2022/10/05/world/northern-hemisphere-drought-climate-intl/index.html>

⁵² <https://www.worldweatherattribution.org/the-role-of-climate-change-in-the-2015-2017-drought-in-the-western-cape-of-south-africa/>

versely affected, causing the world’s cotton supply to shrink, given that Pakistan is the fifth largest cotton producer in the world.⁵³ Crop-loss damage was estimated at \$2.3 billion⁵⁴ and estimated overall damage at \$28–32 billion.⁵⁵

IFC’s advisory programs support financial institutions that want to learn more about climate transition and physical risks. The technical guidance from IFC covers:

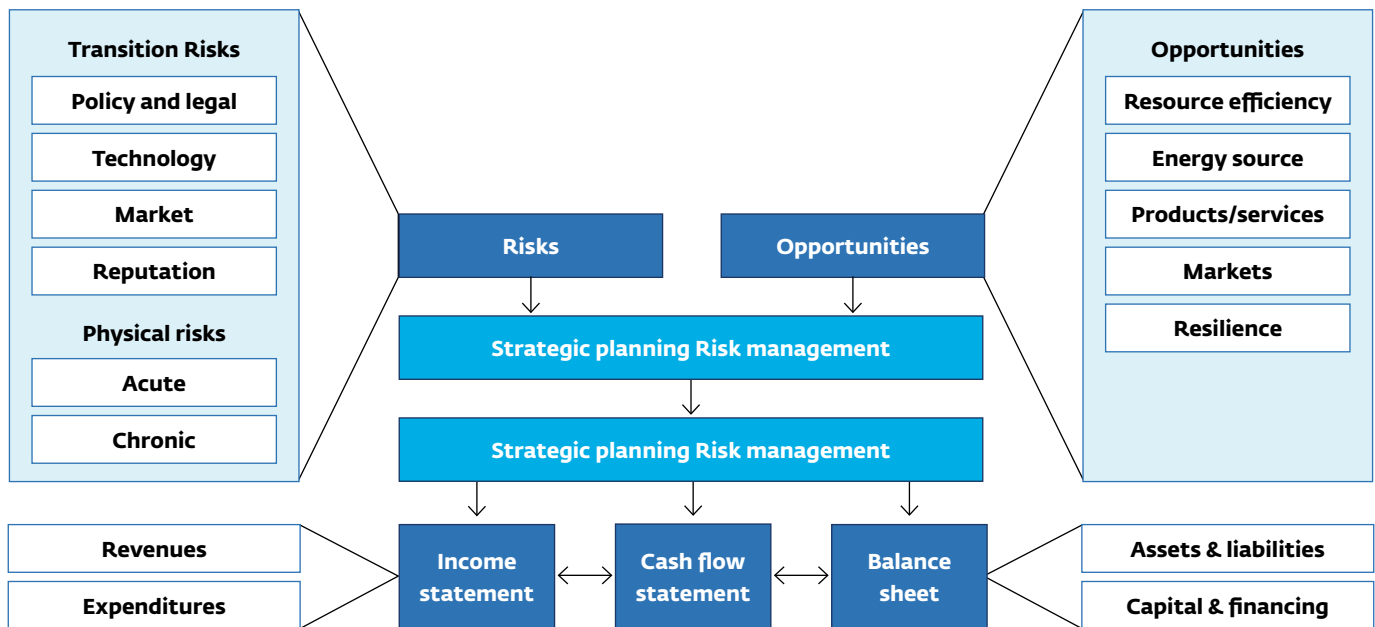
- diagnostics, baseline analytics, and knowledge transfer;
- strategy and system development or fine-tuning;
- portfolio and product screening and designing;
- KPI and impact monitoring;
- staff training, and
- reporting and disclosure.

Source: https://www.ifc.org/wps/wcm/connect/Industry_EXT_Content/IFC_External_Corporate_Site/Financial+Institutions/Priorities/Climate_Finance_SA/

Climate Stress Tests for Banks

Climate stress tests can help banks understand the extent to which their portfolio is exposed to transition and physical risks and how well banks can cope with financial and economic shocks related to climate change. “Climate stress tests look at banks’ resilience to transition risks, due to new policies and technologies, as well as physical risks, due to acute and chronic extreme weather events.”⁵⁶ Stress tests are conducted through the lens of a variety of climate scenarios with different consequences to help banks realize the potential risk in their portfolio with regard to transition and physical risks.

Figure 2: Climate Related Risks, Opportunities and Financial Impact



Source: TCFD, Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures (2017).

⁵³ <https://www.worldweatherattribution.org/climate-change-likely-increased-extreme-monsoon-rainfall-flooding-highly-vulnerable-communities-in-pakistan/>

⁵⁴ <https://www.worldweatherattribution.org/climate-change-likely-increased-extreme-monsoon-rainfall-flooding-highly-vulnerable-communities-in-pakistan/>

⁵⁵ <https://www.bloomberg.com/news/articles/2022-09-06/damage-from-pakistan-floods-is-far-greater-than-10-billion?leadSource=verify%20wall>, <https://www.thenews.com.pk/print/995827-govt-working-to-reconcile-post-disaster-needs-assessment-figures>

⁵⁶ See <https://greencentralbanking.com/2022/03/14/what-are-climate-stress-tests/>

Table 1: Resources: Assessing Physical and Transition Risks⁵⁷

Source	Description and link
World Bank	World Bank Climate and Disaster Risk Screening Tool for Emerging Markets, https://climatescreeningtools.worldbank.org .
OECD	The OECD focuses on three areas to understand climate risks: losses and damages, ocean and coastal risks, and wildfire risks, https://www.oecd.org/climate-change/theme/resilience/ .
UN	The UN Global Assessment Report on Disaster Risk Reduction is published biennially and describes risks and worldwide efforts to reduce disaster risk, https://gar.undrr.org .
Notre-Dame Global Adaptation Initiative	The ND-Gain Country Index summarizes a country's vulnerability to climate change and other global challenges, as well as readiness to improve resilience, https://gain.nd.edu/our-work/country-index/ .
German Watch	The German Watch Global Climate Risk Index analyzes the extent to which countries have been affected by climate change, https://www.germanwatch.org/en/cri .
Centre for research on the Epidemiology of Disasters	EM-DAT – The International Disaster Database supports identification of the most common and significant types of disasters in a given country, as well as economic damage estimates, https://www.emdat.be/about .
Munich RE	Munich Re's NatCatSERVICE is a database on natural disasters since 1980 as well as evaluation of related losses, https://www.munichre.com/en/solutions/for-industry-clients/natcatservice.html . Munich Re's Natural Hazards Edition also offers exposures analysis of individual risk locations and portfolios, https://www.munichre.com/en/solutions/for-industry-clients/location-risk-intelligence/natural-hazards-edition.html .
Climate Information Portal	CLIPC is a climate information portal to identify key risks for different climate change and socio-economic scenarios, http://www.clipc.eu/impact-indicators/use-the-toolkit .
Partnership for Carbon Accounting Financials (PCAF)	PCAF supports the assessment of climate-related risks, aligned with the TCFD. https://carbonaccountingfinancials.com/
Paris Agreement Capital Transition Assessment (PACTA)	The PACTA tool includes a Transition Disruption Metric (TDM), helping investors prepare for potential portfolio disruption stemming from risks associated with a disorderly transition to a low-carbon economy, https://www.transitionmonitor.com .
Acclimatise Group Ltd.	Acclimatise is dedicated to physical risk assessment and related opportunities, http://www.acclimatise.uk.com/
Carbon 4	Carbon 4's 2020 report, https://www.carbone4.com/files/wp-content/uploads/2020/06/ClimINVEST_AssessingPhysicalClimateRisks_Carbone4-2020.pdf , provides guidance on assessing physical risks for financial decision makers.
ETH Zurich	Climada is a probabilistic natural disaster damages model, which factors opportunities related to adaptations measures. https://wcr.ethz.ch/research/climada.html
ClimateWise	Climate Wise supports companies in assessing climate risks and published a 2019 Physical Risk Framework, https://www.tcfhub.org/wp-content/uploads/2019/07/CISL-Climate-Wise-Physical-Risk-Framework-Report.pdf , as well as a 2019 Transition risk framework, https://www.tcfhub.org/wp-content/uploads/2019/07/CISL-Climate-Wise-Transition-Risk-Framework-Report.pdf .
427	427 published a 2017 paper on measuring physical climate risks in equity portfolios, https://esg.moody's.io .
Mercer	In a 2015 report (https://www.mercer.com/content/dam/mercer/attachments/global/investments/mercer-climate-change-report-2015.pdf), Mercer modelled a TRIP (Technology, Resource Availability, Impact, and Policy) to include several factors in climate risk assessment. Mercer published a report, Investing in a time of climate change - The Sequel (https://www.mercer.com/our-thinking/wealth/climate-change-the-sequel.html#contactForm) on the impact of both transition and physical risk assessment on investment returns.

⁵⁷ This table is meant to provide a quick overview of resources available to assess physical and transition risks. More details are provided on when and how to use certain of these resources in Section IV, in order to guide banks on possible steps to develop and implement an approach to assessing and disclosing GHG emissions.

Source	Description and link
Moody's	Moody's conducted research on the impact of climate risks on banks through the analysis of different scenarios, https://www.moody.com/research/Moodys-Climate-risk-is-a-major-threat-to-banks-loan--PBC_1305233 .
Morgan Stanley Capital International	Climate Value-at-Risk is designed to support assessment of climate related risks and opportunities in an investment portfolio, https://www.msci.com/documents/1296102/16985724/MSCI-ClimateVaR-Introduction-Feb2020.pdf .
Ortec Finance	Based on ClimateMAPS scenarios, https://www.ortecfinance.com/en/insights/product/climate-maps , Climate Predicts, https://www.ortecfinance.com/en/insights/product/climate-predict , assesses the impact of extreme weather events on physical assets and economic growth.
Mc Kinsey	Planetview facilitates modeling climate risks for different types of assets, https://planetrics.com/planetview/ .

There are climate risk stress tests at the financial institution level and at the central bank level. As such, banks may also be included in climate stress tests used by central banks to address climate-related risks to the financial system. The European Central Bank⁵⁸ conducted its first climate risk stress test for individual banks in January 2022. Other examples include China (e.g., test on 23 banks by the People's Bank of China⁵⁹), Australia (e.g., Australian Prudential Regulation Authority climate vulnerability assessment program⁶⁰), and Canada (e.g., Bank of Canada pilot project⁶¹). Although there is a broad consensus that climate stress tests are important, others warn predicting the impact of global warming on economic and financial systems is complex and look to central banks to play more of a leading role through preventative action and qualitative risk management methods to support a controlled regime shift towards more sustainable capital allocation. For instance, a preventative approach for central banks could focus on mitigating climate risks by excluding fossil fuels and other damaging environmental activities from their financing as well as their regulatory and monetary policy toolkits.⁶² Several reports and tools have been developed to support banks in assessing physical and transition risks (see Table 1).

While several tools can be used to measure physical and transition risks, banks may also develop their own approach. For example, in 2020, De Nederlandsche Bank conducted its first energy-transition risk stress test on its balance sheet based on a methodology developed by De Nederlandsche Bank's Financial Stability division in a 2018 report.⁶³

Climate Mitigation and Adaptation for Financial Institutions

Climate risks also represent an opportunity for financial institutions to expand their portfolio of green businesses or invest in new businesses (see Figure 3 below) according to whether their efforts are focused on mitigating climate change, adapting to climate change, or both.

Most banks focus their interim targets on reducing exposure to coal and other fossil fuels due to relatively easy gains on emissions reductions and heightened reputational risk around coal-related financing. However, some banks have developed specific interim targets aimed at achieving net zero commitments (see Figure 3).

⁵⁸ <https://www.bankingsupervision.europa.eu/press/pr/date/2022/html/ssm.pr220127-bd20df4d3a.en.html>

⁵⁹ <https://www.reuters.com/markets/commodities/china-cbank-warns-default-risks-after-climate-stress-test-2022-02-18/>

⁶⁰ https://www.apra.gov.au/sites/default/files/2021-09/Climate%20Vulnerability%20Assessment_1.pdf

⁶¹ <https://www.bankofcanada.ca/2022/01/assessing-climate-change-risks-to-our-financial-system/>

⁶² Managing nature-related financial risks, UCL Institute for Innovation and Public Purpose (IIPP) Working Paper Series: IIPP WP 2020-09.

⁶³ https://www.dnb.nl/media/pdnpdalc/201810_nr-7-2018-an-energy-transition-risk-stress-test-for-the-financial-system-of-the-netherlands.pdf

Figure 3: Examples of Bank's Interim Net Zero Commitment

J.P. Morgan	Standard Chartered	HSBC
2030 carbon intensity reduction targets: <ul style="list-style-type: none"> • Auto (scopes 1-3): 41% • Electric power (scope 1): 69% • Oil & gas: 35% operational reduction (scope 1-2), 15% end-use reduction (scope 3) 	2030 carbon intensity reduction targets: <ul style="list-style-type: none"> • Power: 63% • Steel and Mining: 33% • Oil & Gas: 30% 2030 absolute financed emissions reduction target: <ul style="list-style-type: none"> • Thermal coal mining: 85% 	2030 targets: <ul style="list-style-type: none"> • Coal: Phase-out all financing in the EU and OECD: globally by 2040 • Oil & Gas: Reduce absolute emissions by 34% • Power & Utilities: Reduce emissions intensity by 75%
Citigroup	Santander	BNP Paribas
2030 targets: <ul style="list-style-type: none"> • Energy: 29% absolute emissions reduction • Power: 63% emissions intensity reduction 	2030 targets: <ul style="list-style-type: none"> • Power: Align portfolio with Paris Agreement • Thermal Coal Mining: Eliminate exposure worldwide 	2025 carbon intensity reduction targets: <ul style="list-style-type: none"> • Power generation: 30% • Upstream Oil & Gas/Refining: 10% • Auto: 25%

Source: IFC ⁴⁶

Key Financial Institution Networks to Coordinate Commitments on GHG Emissions and Climate Change

The following networks are platforms where banks can coordinate on climate change commitments as well as share and test climate change risk management methodologies:

- General inter-sectoral networks include Climate Action 100+⁴⁷ funded by five investor networks and focusing on 167 key companies for the transition, Race to Zero,⁴⁸ Business Ambition for 1.5,⁴⁹ and Mission Possible Partnership.⁵⁰

- General networks for financial institutions include Equator Principles Financial Institutions (EPFIs),⁵¹ UNEP FI,⁵² and Glasgow Financial Alliance for Net-Zero (GFANZ).⁵³
- For investors: Global Investor Coalition on Climate Change,⁵⁴ Principles for Responsible Investment,⁵⁵ Investor Network on Climate Risks,⁵⁶ the Institutional Investors Group on Climate Change,⁵⁷ Net Zero Investment Consultants Initiative (part of GFANZ),⁵⁸ and Asia Investor Group on Climate Change.⁵⁹
- For banking: Principles for Responsible Banking⁶⁰ and Net-Zero Banking Alliance (part of GFANZ).⁶¹

⁴⁶ For J.P. Morgan and HSBC, the baseline is 2019. For Standard Chartered, BNP Paribas and Citigroup, the baseline is 2020.

⁴⁷ <https://www.climateaction100.org>

⁴⁸ <https://www.theclimategroup.org/join-race-to-zero>

⁴⁹ <https://sciencebasedtargets.org/business-ambition-for-1-5c>

⁵⁰ <https://missionpossiblepartnership.org>

⁵¹ <https://equator-principles.com/about-the-equator-principles/>

⁵² <https://www.unepfi.org/about/>

⁵³ <https://www.gfanzero.com/about/>

⁵⁴ [https://climateinitiativesplatform.org/index.php/Global_Investor_Coalition_on_Climate_Change_\(GIC\)#:~:text=Description&text=The%20Global%20Investor%20Coalition%20on,%20and%20AIGCC%20\(Asia\)](https://climateinitiativesplatform.org/index.php/Global_Investor_Coalition_on_Climate_Change_(GIC)#:~:text=Description&text=The%20Global%20Investor%20Coalition%20on,%20and%20AIGCC%20(Asia))

⁵⁵ <https://www.unpri.org>

⁵⁶ [https://climateinitiativesplatform.org/index.php/Investor_Network_on_Climate_Risk_\(INCR\)](https://climateinitiativesplatform.org/index.php/Investor_Network_on_Climate_Risk_(INCR))

⁵⁷ <https://www.iigcc.org>

⁵⁸ <https://www.unpri.org/climate-change/leading-investment-consultants-form-global-initiative-to-push-for-net-zero/8549.article>

⁵⁹ <https://www.aigcc.net>

⁶⁰ <https://www.unepfi.org/banking/bankingprinciples/>

⁶¹ <https://www.unepfi.org/net-zero-banking/>

- For insurance: Principles for Sustainable Insurance Initiative,⁶² Net-Zero Insurance Alliance (part of GFANZ),⁶³ and Sustainable Insurance Forum.⁶⁴
- For asset management: Net-Zero Asset Owners Alliance (part of GFANZ).⁶⁵

Networks have different targets and commitments. Examples of commitments for Net-Zero Banking Alliance, Net Zero Asset Owner Alliance, and Net Zero Asset Managers initiative are detailed in Figure 4 below.

Figure 4: GHG Targets of Major Financial Sector Net Zero Alliances

Alliance	Net Zero Banking Alliance (NZBA)	Net Zero Asset Owner Alliance (NZAO)	Net Zero Asset managers Alliance (NZAM)
Net zero	Transition the operational and attributable GHG emissions from their lending and investment portfolios to align with pathways to net-zero by 2050 or sooner.	Transitioning their investment portfolios to net-zero GHG emissions by 2050 - consistent with a maximum temperature rise of 1.5°C.	Support the goal of net zero greenhouse gas (GHG) emissions by 2050 or sooner, in line with global efforts to limit warming to 1.5°C.
Interim targets	Within 18 months of joining, set 2030 targets (or sooner) and a 2050 target, with intermediary targets to be set every 5 years from 2030 onwards.	Intermediate targets issued every 5 years , include CO ₂ reduction ranges for 2025 (22-32%) and for 2030 (49% - 65%).	Set interim targets for 2030, consistent with a fair share of the 50% global reduction in CO ₂ . Review interim targets at least every 5 years.
Sector targets	Banks' first 2030 targets will focus on priority sectors where the bank can have the most significant impact, i.e., the most GHG-intensive sectors within their portfolios, with further sector targets to be set within 36 months.	Set decarbonization targets for sectors responsible for the greatest greenhouse gas emissions (e.g., Energy, Transport). Scope 3 to be included wherever possible.	Prioritize the achievement of real economy emissions reductions within the sectors and companies in which we invest.
Portfolio targets	N/A	22 to 32% CO₂ reduction by 2025 on equity and debt to listed corporates, infrastructures and with the same reduction or CRREM national pathways for real estate. 49 to 65% reduction by 2030. Covers scope 1, 2 and tracking scope 3.	Set an interim target for the proportion of assets to be managed in line with the attainment of net zero emissions by 2050 or sooner. Take account of portfolio Scope 1 & 2 emissions and, to the extent possible, material portfolio Scope 3 emissions.
Members and total asset	116	72	273 asset managers
AUM or Total Assets	USD 70tn in total assets	USD 10tn in total assets	USD 61.3 trillion in total assets

Source: Net-Zero Asset Managers Initiative,⁶⁶Net Zero Asset Owner Alliance,⁶⁷ Net-Zero Banking Alliance.⁶⁸

⁶² <https://www.unepfi.org/insurance/insurance/>

⁶³ <https://www.unepfi.org/net-zero-insurance/>

⁶⁴ <https://www.sustainableinsuranceforum.org>

⁶⁵ <https://www.unepfi.org/net-zero-alliance/>

⁶⁶ <https://www.netzeroassetmanagers.org/signatories/>

⁶⁷ See <https://www.unepfi.org/net-zero-alliance/resources/target-setting-protocol-second-edition/>

⁶⁸ See <https://www.unepfi.org/net-zero-banking/>

Other initiatives aim at driving policy change and practices to address climate risks. These include:

- the Sustainable Banking and Finance Network⁶⁹ uniting regulators and dedicated to emerging countries, as well as other global initiatives such as the Coalition of Finance Ministers for Climate Actions⁷⁰

- the Sustainable Stock Exchange Initiative,⁷¹ in collaboration with banking associations and other government entities
- the Network for Greening the Financial System⁷² reuniting central banks
- the G20 Sustainable Finance Group⁷³
- the IOSCO Sustainable Finance Network⁷⁴

⁶⁹ <https://www.sbfnetwork.org>

⁷⁰ <https://www.financeministersforclimate.org>

⁷¹ <https://sseinitiative.org>

⁷² <https://www.ngfs.net/en>

⁷³ <https://g20sfwg.org>

⁷⁴ <https://sseinitiative.org/all-news/iosco-creates-sustainable-finance-network-releases-statement-on-esg-disclosure/>



4. Good Practice Guidelines for Financial Institutions in Managing GHGs in their Portfolios

Originally intended for policymakers, the World Bank's 10-step guide (see Box 4) is part of its toolkit to green the financial system providing a framework for banks to assess, manage and disclose GHG emissions on the path to achieving alignment with the Paris Agreement.^{93,94} Depending on the financial institution's needs and circumstances, steps and phases can be customized to design fit-for-purpose approaches.

Each step in the process can be associated with different methodologies, and those methodologies can often be combined to complement each other. As part of this process to assess, manage and disclose GHG emissions, it is key to acknowledge that, as stated in the World Bank's toolkit,⁹⁵ not one methodology is perfect or covers all of the steps in the process. Figure 5 summarizes key methodologies for select steps.

Box 4: Example of a Ten-step Paris Alignment Starting Guide for Financial Institutions

1. Get senior-level commitment within the organization to align lending and/or investment portfolios with Paris goals and/or SDGs
2. Publicly communicate the institution's ambition and target to achieve Paris alignment
3. Join an international/national initiative which has the objective of aligning with Paris goals
4. Set up an internal structure for the delivery of the project and allocate responsibilities to relevant teams
5. Design a strategy/project plan, including clear timelines for delivery of the project, as well as the mapping of interlinkages with other policy and regulations, e.g., schemes for pricing of emissions
6. The Paris alignment process consists of different phases. Based on the strategy, pick a methodology/metric (where relevant):
 - Per sector
 - Per step of the alignment process
 - Per asset class
7. Engage with experts, service providers or other relevant parties to support the analysis
8. Collect the required (e.g., asset/client level) data (public, bilaterally from clients, external data providers)
9. Decide on the relevant reporting or disclosure mechanism (standalone report, as part of Annual Report) and report on the results
10. Get started—even if the approach is not perfect yet

Source: World Bank, Toolkit for Policymakers to Green the Financial System

Steps 1 to 3: Commitment to GHG Emissions Reduction

Good practice is to commit at the senior level (CEO, Board) to align lending with the Paris Agreement goal and/or Sustainable Development Goals (Step 1) and publicly declare commitments to GHG emissions reduction and alignment (Step 2). This may require the financial institution to enhance internal communication to get the buy in across the organization. Joining a climate network (listed above—see pages 17 and 18) is good practice to enable coordination on GHG commitment in the sector (Step 3).

Steps 4 and 5: Governance and Internal Capacity Building

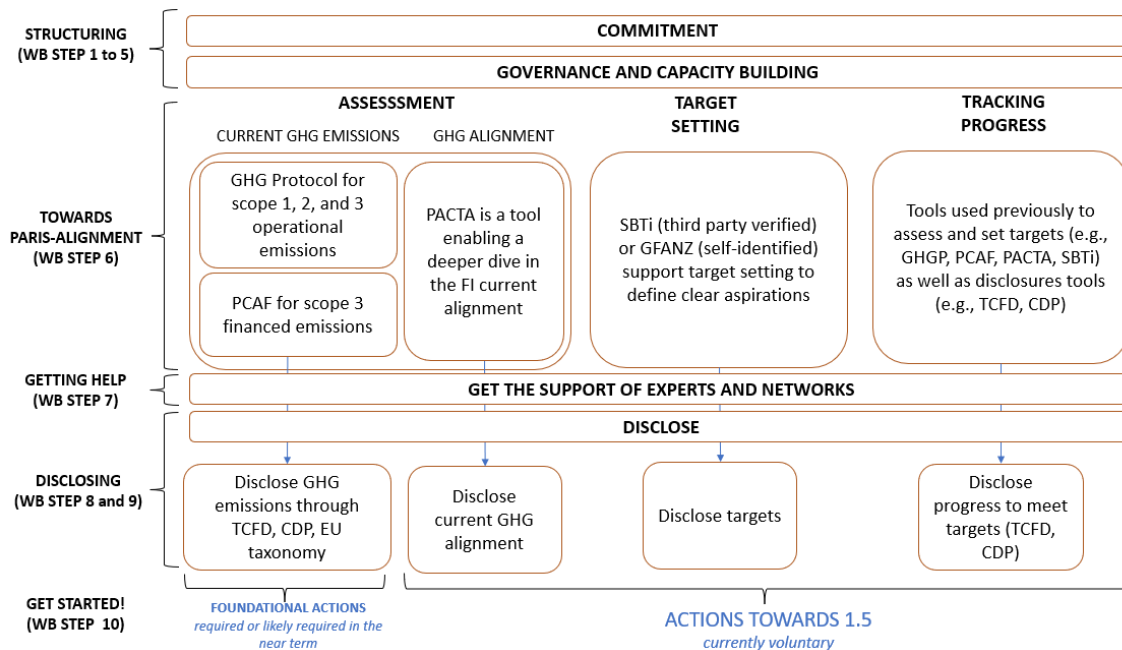
Setting up a governance structure enables action and the implementation of GHG commitments. As such, as explained in the 2021 World Bank Toolkit for Policymakers to Green the Financial System, financial institutions may set up an internal structure to deliver the project and allocate responsibilities to relevant teams (Step 4). This will require a clear plan, with time-bound and budgeted actions (Step 5).

⁹³ Toolkit for Policymakers to green the financial system, page 46.

⁹⁴ While there are several frameworks to help organizations achieve alignment with the Paris Agreement, common steps typically include commitment, measuring, target setting, steering, tracking progress, and reporting.

⁹⁵ Toolkit for Policymakers to green the financial system, page 44.

Figure 5: Summary of Main Possible Steps for a Financial Institution's Approach to GHG Emissions and Climate Risks



Source: IFC

Step 6: Assessing Alignment, Calculating, and Tracking GHG Emissions

The financial services sector is heterogeneous, with financial institutions providing a diverse set of services through investors and insurers. Because financial institutions can hold different asset classes in their portfolios, there is no one-size-fits-all approach or methodology for measuring portfolio impact. Metrics may vary based on the business and portfolio affected (for example, whether risks concern corporate, retail, insurance, or asset management). While the measurement of GHG emissions and alignment can be technically challenging—especially in low capacity and low data contexts—several tools are available to guide financial institutions towards Paris alignment. Moreover, when faced with divergent data sources, unclear definitions and evolving guidance, different methodologies and experts can support the exercise and allow financial institutions to take action.

The Paris alignment process consists of phases: 6a foundational GHG emissions data collection related to its activities, 6b assessing Paris alignment, 6c target setting, and 6d steering and tracking progress.

6a. Foundational steps: Collecting GHG Emissions Data Related to the Financial Institutions' Activities

The GHG Protocol⁹⁶ is the global reference standard for measuring GHG emissions, and ISO 14064-1:2018 on Greenhouse gases⁹⁷ establishes minimum standards for compliance with the good practices defined by the Protocol. The GHG Protocol proposes two types of measures: carbon footprint of a targeted product, or carbon footprint of the organization. In the case of financial institutions, the carbon footprint is mainly related to the GHG emissions of the underlying assets they finance. The GHG Protocol also establishes three emission levels to define and report on sources of emission:

⁹⁶ <https://ghgprotocol.org>

⁹⁷ <https://www.iso.org/standard/66453.html>

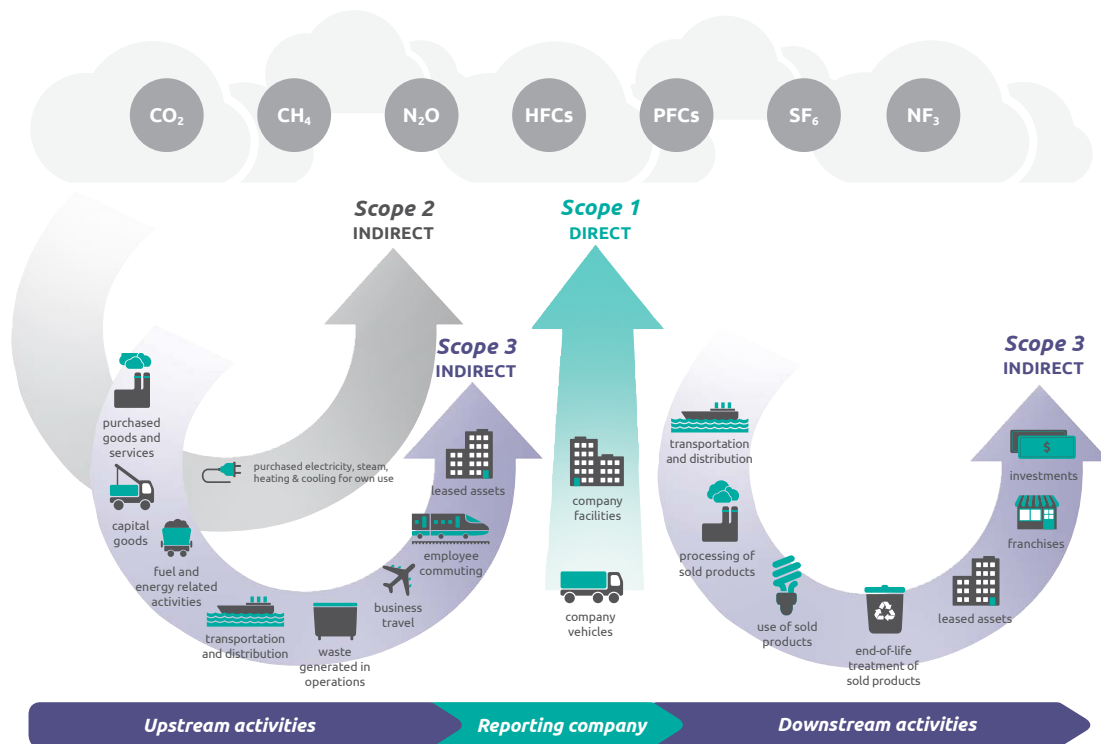
SCOPE 1	SCOPE 2	SCOPE 3
GHGs released directly from a business: e.g., fuels, company vehicles, air conditioning	Indirect GHGs released from the energy purchased by an organization: e.g., purchase of electricity	Indirect GHG emissions, accounting for upstream and downstream emissions of a product or service, and emissions across a business's supply chain.

Beyond engagements with individual financial institutions, IFC designs sector-level work including outreach and training for members of banking associations and/or central bank staff on good practice in sustainable finance strategy formulation, including developing green taxonomies, assessing, and managing climate risk, and carbon accounting of Scope 1, 2, and 3.

Figure 6 below illustrates the scope categories according to the GHG Protocol Value chain.⁹⁸ Although financial institutions have Scope 1 and 2 emissions, for purposes of Paris Agreement alignment, it is scope 3 emissions that are most relevant to portfolio reporting for banks. Scope 3 emissions are all indirect emissions from sources that are not

owned and not directly controlled by the reporting company, often referred to as the company's value chain. Although an optional reporting category for the GHG Protocol, various stakeholders (e.g., governments, customers, and investors) require this information.

Figure 6: Scope Categories According to GHG Protocol Corporate Value Chain (GHG Protocol, 2011)



Source: Greenhouse gas protocol: <https://ghgprotocol.org>

⁹⁸ https://ghgprotocol.org/sites/default/files/standards/Corporate-Value-Chain-Accounting-Reporting-Standard_041613_2.pdf

Scope 3 for financial institutions includes financed emissions (e.g., emissions from the loan portfolio). Calculating Scope 3 financed emissions for financial institutions is difficult in part due to the reliance on their clients' (i.e., borrowing companies) data and calculations. Several tools are available to support banks in this undertaking.

The Partnership for Carbon Accounting Financials (PCAF) is a global partnership of financial institutions, working towards a harmonized approach to calculate GHG emissions, aligned with the GHG Protocol. PCAF builds on the GHG Protocol and incorporates Scope 3-financed emissions (e.g., emissions from the loan portfolio and insurance activities).⁹⁹ The methodology covers asset classes including listed equity and corporate bonds, business loans and unlisted equity, project finance, mortgages, commercial real estate, and motor vehicle loans. Despite the challenges, data can be recalculated at key junctures of the process such as when new or different data is accessible or after a major shift in activities. PCAF-produced guidance for financial institutions, <https://carbonaccountingfinancials.com/files/downloads/PCAF-Global-GHG-Standard.pdf>, measures the projected carbon footprint focused on calculating emissions. Most financial institutions use the PCAF method, including pension funds, banks, asset managers, and insurers. Around 68 percent of the institutions that already report on CO₂e impact do so based on the PCAF method.¹⁰⁰ PCAF has 79 participating institutions with a total of more than \$13.8 trillion in assets.¹⁰¹ Examples include: Barclays, BBVA, UBS, BNP Paribas, Citi, Standard Chartered, and ABN AMRO.¹⁰²

Given challenges with data availability, PCAF accounts for different types of GHG emissions (see Table 2 below). The score ranges from 1 (outstanding, verified data) to 5 (lowest data quality). In 2020–2021, as reported by Bain and

Company, based on data disclosed by five major banks in the Power and Energy industry, average score ranges between 3 and 4.3, with 5 being the poorest quality score.¹⁰³

To support calculation of current GHG emissions, banks can also use data sources for actual company emissions and units (see Table 3). This may include: The Carbon Disclosure Project (CDP); Bloomberg's Cross-asset ESG & Climate Indices; Standard and Poor's Global Paris-aligned and Climate Transition Index Series; Institutional Shareholder Services ESG providing data and actionable intelligence on climate change risk and its impact on investments; Sustainalytics, which includes both risk and impact data to support institutional investors; and Morgan Stanley Capital International ESG indexes. Similarly, there may be sector-specific labels like Energy star, which provides information on the energy consumption of products and devices. Physical activity emissions factors are available from the Intergovernmental Panel on Climate Change, which produces methodology reports that provide guidelines for the preparation of GHG inventories as well as PCAF. Economic activity emissions factors are available at EXIOBASE—a global, detailed Multi-Regional Environmentally Extended Supply-Use Table and Input-Output Table; Global Trade Analysis Project, an international research collaboration providing statistics and models on quantitative economic analysis of trade and development and global environmental issues; PCAF; and the World Input-Output Database, which hosts international databases, accounting frameworks and models related to climate change and economics. In particular, the World Input-Output Database covers how increases in production-induced growth in the use of nonrenewable resources such as fossil fuels generate higher levels of waste and emissions of environmental pollutants.

⁹⁹ See SBTi module 4: https://www.youtube.com/watch?v=Y_bS2aFDgVw and for more details, see PCAF technical guidance, page 22: <https://carbonaccountingfinancials.com/files/consultation-2022/202205-public-consultation-real-estate.pdf>

¹⁰⁰ See KPMG study, page 9: https://apg.nl/media/sg1eywym/en_current-carbon-impact-measurement-methods-in-the-dutch-financial-sector.pdf

¹⁰¹ See KPMG study, page 13: https://apg.nl/media/sg1eywym/en_current-carbon-impact-measurement-methods-in-the-dutch-financial-sector.pdf

¹⁰² For more details on participants: <https://carbonaccountingfinancials.com/financial-institutions-taking-action#overview-of-financial-institutions>

¹⁰³ <https://www.bain.com/insights/banks-great-carbon-challenge/>

Table 2: General Description of the Data Quality Score Table for Listed Equity and Corporate Bonds

(score 1 = highest data quality, score 5 = lowest data quality)

Data Quality	Options to estimate the financed emissions	When to use each option	
Score 1	Option 1: Reported emissions	1a	Outstanding amount in the company and EVIC are known. Verified emissions of the company are available.
Score 2		1b	Outstanding amount in the company and EVIC are known. Unverified emissions calculated by the company are available.
Score 3	Option 2: Physical activity-based emissions	2a	Outstanding amount in the company and EVIC are known. Reported company emissions are not known. Emissions are calculated using primary physical activity data of the company's energy consumption and emission factors specific to that primary data. Relevant process emissions are added.
Score 4		2b	Outstanding amount in the company and EVIC are known. Reported company emissions are not known. Emissions are calculated using primary physical activity data of the company's production and emission factors specific to that primary data.
Score 5		3a	Outstanding amount in the company, EVIC, and the company's revenue are known. Emission factors for the sector per unit of revenue are known (e.g., tCO ₂ e per euro of revenue earned in a sector).
		3b	Outstanding amount in the company is known. Emission factors for the sector per unit of asset (e.g., tCO ₂ e per euro of asset in a sector) are known.
		3c	Outstanding amount in the company is known. Emission factors for the sector per unit of revenue (e.g., tCO ₂ e per euro of revenue earned in a sector) and asset turnover ratios for the sector are known.

Source: PCAF, The Global GHG accounting and reporting standard for the Financial Industry, <https://carbonaccountingfinancials.com/files/downloads/PCAF-Global-GHG-Standard.pdf>, page 54.

Table 3: Data Sources for Company Emissions

Source	Links
CDP	https://www.cdp.net/en/investor/data-and-tools
Bloomberg ESG & Climate Indices	https://www.bloomberg.com/professional/product/indices/bloomberg-esg-and-climate-indices/
Standard and Poor's Global Paris-aligned and Climate Transition Index Series	https://www.spglobal.com/spdji/en/landing/investment-themes/climate-change
Institutional Shareholder Services ESG	https://www.issgovernance.com/esg/ratings/
Sustainalytics	https://www.sustainalytics.com/esg-ratings
Morgan Stanley Capital International ESG indexes	https://www.msci.com/our-solutions/esg-investing/esg-ratings
Energy Star	https://www.energystar.gov
Intergovernmental Panel on Climate Change	https://www.ipcc.ch
PCAF	https://carbonaccountingfinancials.com
EXIOBASE	https://www.exiobase.eu
Global Trade Analysis Project	https://www.gtap.agecon.purdue.edu
World Input-Output Database	https://www.rug.nl/ggdc/valuechain/wiod

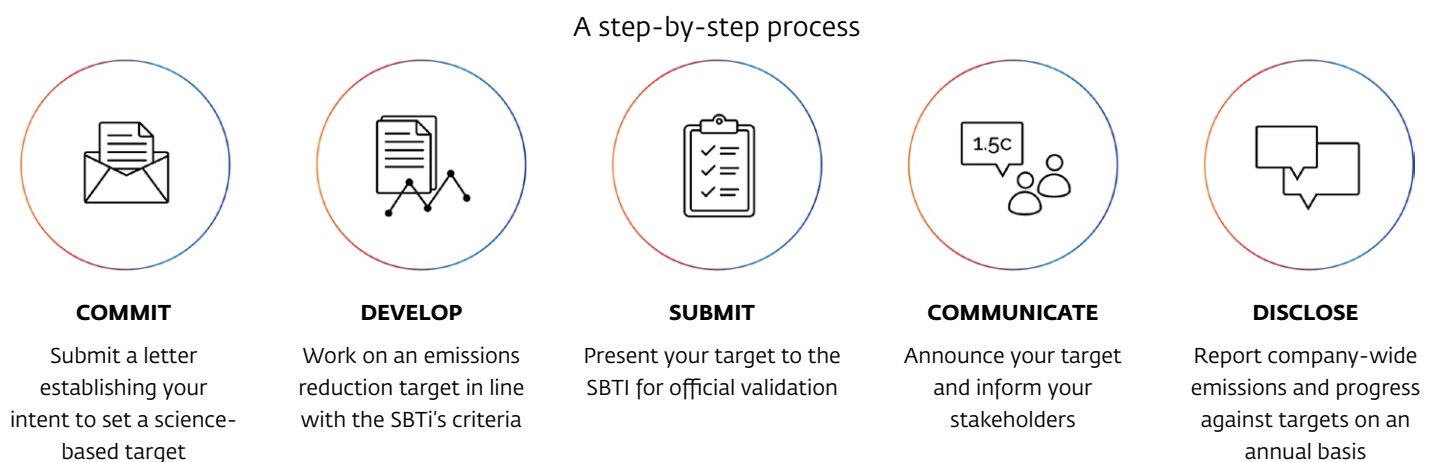
The first time a bank attempts to measure its financed emissions, the data quality score might not be at the desired level. However, the effort will guide the bank on where to focus their attention by understanding which part of the portfolio and which clients drive the banks' financed emissions. If the bank plans to reduce its carbon intensity (e.g., carbon emission per monetary value of its loan book), there is a need to review growth projection going forward and related sector and client strategies. This paves the way for portfolio transition. The bank can also redesign its client database and know-your-customer systems to improve the data quality score over time.

6b. Assessing Alignment

Paris Agreement Capital Transition Assessment (PACTA)¹⁰⁴ can be used in assessing the bank's alignment with future

scenarios for GHG emissions. PACTA is a free, open-source tool and measures financial portfolio alignment with climate scenarios consistent with the Paris Agreement using a sector-based approach. It measures carbon footprint based on asset-level data as a starting point for target setting, but generally is more focused on assessing alignment. It can be used to complement PCAF and for steering purposes. PACTA has developed guidance and models for banks.¹⁰⁵ This approach is preferred by several banks,¹⁰⁶ including 17 participating international banks with more than €15 trillion in assets.¹⁰⁷ Examples include: AXA, Barclays, BBVA, UBS, BNP Paribas, ING, Société Générale, Standard Chartered, and ABN AMRO. SBTi¹⁰⁸ also measures alignments but is dedicated to target setting (see below). However, SBTi is involved across the spectrum in the steps that follow and as described below in Figure 7.

Figure 7: SBTi Step-by-Step Process to Set Science-based Targets



Source: SBTi, <https://sciencebasedtargets.org/step-by-step-process>

To assess Paris alignment, several organizations developed future scenarios. Examples include the one earth reference model,¹⁰⁹ or sector-based models such as the World Energy Model¹¹⁰ developed by the International Energy Agency that provides medium- to long-term energy projections. These models offer large-scale simulations dedicated to mapping scenarios based on scientific evidence, demonstrating plau-

sible paths to concurrently achieve alignment and guiding actions towards Paris-aligned scenarios. The one earth reference model (see Figure 8) is a general model, while the World Energy Model (see Figure 9) focuses on energy. For a summary of sources related to alignment, please refer to Table 4.

¹⁰⁴ <https://www.transitionmonitor.com/>

¹⁰⁵ <https://www.transitionmonitor.com/pacta-for-banks-2020/>

¹⁰⁶ Katowice Banks find the PACTA and Poseidon Principles approaches more suitable for steering portfolios because they are more closely connected to a client's strategy and operations. See https://group.bnpparibas/uploads/file/credit_portfolio_alignment_vf.pdf, page 10.

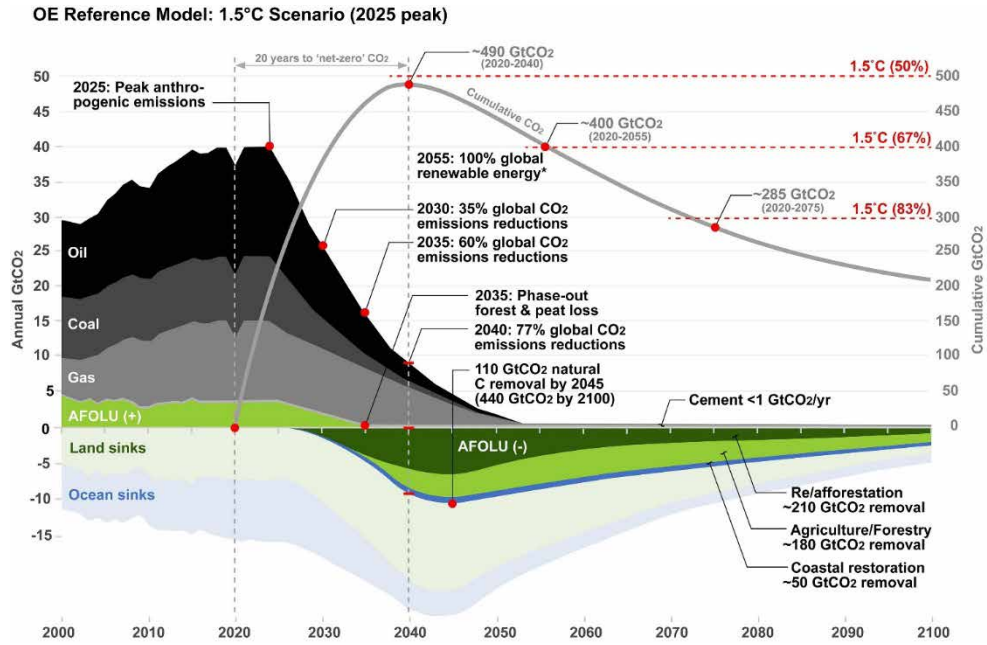
¹⁰⁷ See KPMG study, page 15, https://apg.nl/media/sg1eywym/en_current-carbon-impact-measurement-methods-in-the-dutch-financial-sector.pdf

¹⁰⁸ <https://sciencebasedtargets.org/step-by-step-process>

¹⁰⁹ [https://www.oneearth.org/below-1-5-c-a-breakthrough-roadmap-to-solve-the-climate-crisis/#:~:text=The%20One%20Earth%20Reference%20Model,2045%20\(above%202020%20levels\).](https://www.oneearth.org/below-1-5-c-a-breakthrough-roadmap-to-solve-the-climate-crisis/#:~:text=The%20One%20Earth%20Reference%20Model,2045%20(above%202020%20levels).)

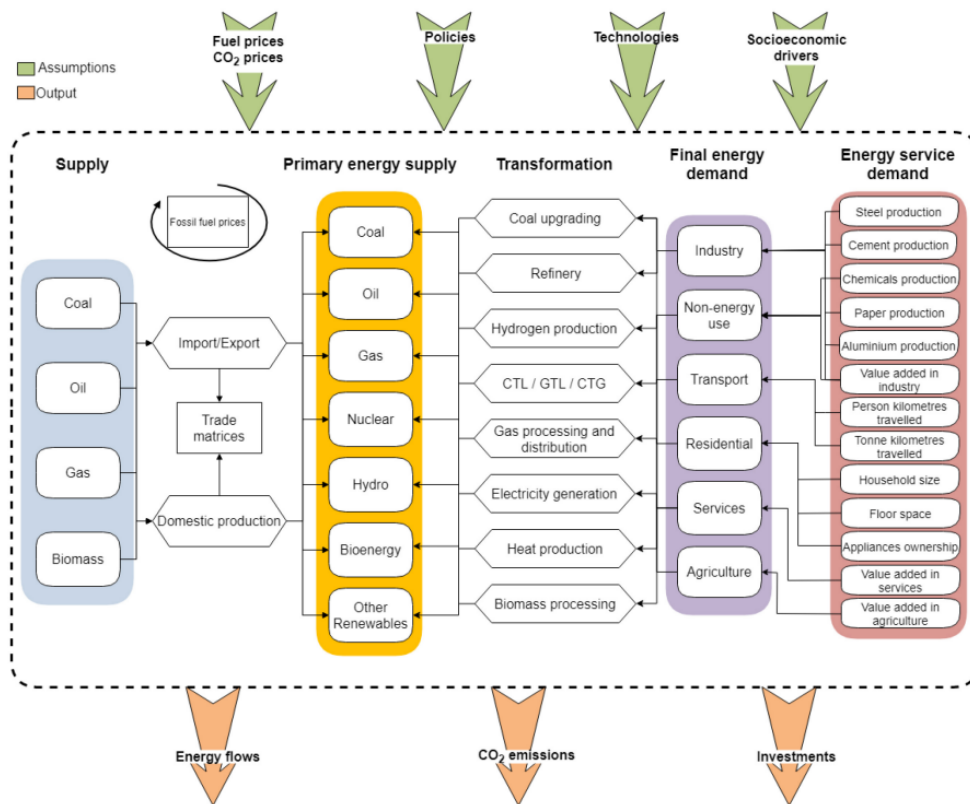
¹¹⁰ <https://www.iea.org/reports/world-energy-model/about-the-world-energy-model>

Figure 8: OE Reference Model Updated in 2022: 1.5°C Scenario (2025 Peak)¹¹¹



Source: <https://www.oneearth.org>

Figure 9: World Energy Model Overview, 2021¹¹²



Note: CTL = coal-to-liquids, GTL = gas-to-liquids, CTG = coal-to-liquids.

Source: International Energy Agency

¹¹¹ <https://www.oneearth.org/below-1-5-c-a-breakthrough-roadmap-to-solve-the-climate-crisis/>

¹¹² https://iea.blob.core.windows.net/assets/932ea201-0972-4231-8d81-356300e9fc43/WEM_Documentation_WEO2021.pdf

Table 4: Alignment Sources

Source	Description and link
PACTA	https://2degrees-investing.org/resource/pacta/
One Earth	https://earthfoundation.us/one-earth/
IEA	www.iea.org
SBTi	https://sciencebasedtargets.org/sectors/financial-institutions

6c. Target Setting and Validation for GHG Emissions

Once the financial institution has made first steps to assess GHG emissions and its climate risk exposure by working through climate scenarios, the next step is to set targets, which will guide the financial institution's transition. Targets typically look ahead to the next 5 to 15 years and should align with the well below 2°C pathway at a minimum in line with the Paris Agreement. Setting targets across the bank's portfolio may be challenging. It is recommended therefore that financial institutions follow a gradual and risk-based approach. One approach is to prioritize targets for the most carbon intensive segments/clients and expand target setting each year to include other sectors/clients until the entire portfolio is covered.

For financial institutions, according to SBTi, targets can be set at the parent company level or legally owned subsidiary level (when fully owned), although it is therefore recommended that financial institutions submit targets only at the parent or group level.¹¹³

Once the financial institution is comfortable with their targets and approach, it is good practice to declare targets publicly to enhance the credibility of the target setting process. This can have the follow-on effect of mobilizing other stakeholders and generating a momentum on disclosing on targets to address GHG emissions and climate risk. Public disclosure is not without risk, and it is recommended that financial institutions looking to achieve this step do so after their targets have been validated by a third party.

One key organization that supports target-setting is SBTi,¹¹⁴ which uses a sectoral decarbonization approach, portraying target setting in terms of a temperature score, where 1.5°C would be on track and anything above 2°C would not. SBTi is grounded in the GHG Protocol and PCAF accounting methodologies. This can be beneficial to financial institutions given that, according to SBTi, the largest errors in submissions from banks tend to be the incorrect application of GHG Protocol and PCAF. It is important for financial institutions to get the support they need when using these methodologies—see step 6a. SBTi published guidance¹¹⁵ to support financial institutions in target setting.¹¹⁶ As of September 2020, 989 companies and 58 financial institutions have joined SBTi, of which 467 companies have had their targets officially approved¹¹⁷ (see examples in Box 5).

Box 5: Target Setting Examples

Examples of targets set by financial institutions and approved by SBTi

JB Financial Group, leading retail finance and asset manager in South Korea, has a portfolio target covering 19 percent of its total investment and lending activities as of 2020. It commits to reduce GHG emissions from its electricity generation project finance portfolio 76 percent per kWh by 2030 from a 2020 base year. It commits to align its scope 1+2 portfolio temperature score by loan value within its SME and other long-term corporate loan portfolio from 3.17°C in 2020 to 2.58°C by 2026.¹¹⁸

E.Sun FHC, leading commercial bank in Taiwan, has a portfolio target that covers 11 percent of its total investment and lending activities by monetary value as of 2019. It commits that 33 percent of the corporate loan portfolio (long-term debt) by loan value within the fossil fuel, electronic equipment, iron and steel, pulp and paper, and cement sectors will have set science-based targets by 2026. For equity and bonds, it commits that 34 percent of its listed equity and bonds portfolio by total assets will set SBTi-validated targets by 2026.¹¹⁹

SBTi is currently the only tool that allows for third-party approved targets, as SBTi ensures that the target is aligned with the chosen SBT method and the SBTi manual recommendations.¹²⁰ This third-party validation enhances the credibility and legitimacy of target setting. In October 2021, SBTi validated the first financial institution science-

¹¹³ <https://sciencebasedtargets.org/resources/files/Financial-Sector-Science-Based-Targets-Guidance.pdf>, page 27

¹¹⁴ <https://sciencebasedtargets.org>

¹¹⁵ <https://sciencebasedtargets.org/resources/files/Financial-Sector-Science-Based-Targets-Guidance.pdf>

¹¹⁶ <https://sciencebasedtargets.org/resources/files/SBTi-Finance-Net-Zero-Foundations-paper.pdf>

¹¹⁷ <https://sciencebasedtargets.org/resources/files/Financial-Sector-Science-Based-Targets-Guidance.pdf>

¹¹⁸ See https://sciencebasedtargets.org/resources/files/Target-language-and-summary_JB-Financial-Group.docx.pdf

¹¹⁹ See https://sciencebasedtargets.org/resources/files/Target-language-and-summary_E.SUN.docx.pdf

¹²⁰ Science-Based Target Setting Manual, April 2020, page 32.

based targets: French bank La Banque Postale;¹²¹ South Korean KB Financial Group,¹²² a South Korean bank; and Swedish private equity firm EQT¹²³ have new science-based targets for adjusting their investment and lending portfolios in line with stabilizing climate change at well below 2°C this century.

Financial institutions can opt to self-identify targets by using key financial institution networks such as GFANZ.

While GFANZ is specific to financial institutions, SBTi also launched a financial institution-specific initiative and guidance in 2018.¹²⁴ SBTi and GFANZ published papers on target setting for net zero emissions¹²⁵ to guide financial institutions through setting boundaries for the targets (corporate or subsidiary level targets), defining the approach (e.g., absolute reduction target or intensity method aimed at reduction per unit of emission), and determining which asset classes to include. SBTi identifies different asset classes such as commercial loans, consumer loans, project finance, bonds, equity and advisory services and determines the number of targets and distinguishes between near- and long-term horizons. See Table 5 below for more information.

Table 5: Target Setting and Validation

Source	Links
GFANZ	https://www.gfanzero.com/
SBTi	https://sciencebasedtargets.org/sectors/financial-institutions
PCAF	https://carbonaccountingfinancials.com/

6d. Steering and Tracking Progress

Once targets are set, financial institutions need to implement plans to meet targets and track progress. This can be supported by tools that were used to set the target or assess alignment. A financial institution may need to define strategies for its business and climate initiatives, determine

integrated investing and lending policies as well as define key roles, responsibilities, and incentives to deliver progress.

To meet targets, financial institutions may use greening strategies, with increased investment in greener assets and decarbonization of traditional assets. This may involve reallocating assets within sectors to more efficient companies, moving to lower carbon intensity sectors, excluding certain companies or projects involved in fossil fuels and financing renewables, green infrastructure, and carbon removal initiatives.

Financial institutions can avoid significant divestitures from high-emitting companies, as explained by SBTi¹²⁶ through actively engaging with clients to transform and reduce their emissions, developing processes and mechanisms to engage and escalate decarbonization efforts and increasing relevant emissions data quality. This may include communicating targets, linking targets to financial products, and expanding offerings to clients (e.g., advisory services, climate mitigation financial products, pricing, etc.), partnering on certain specific projects to work directly with clients or establishing internal processes and plans with escalation steps prior to divesting if targets are not met. As such individual financial institution portfolios may shift gradually alongside their clients' activities.

Models used to assess GHG emissions like GHG Protocol and PCAF—those that assess alignment, for example, with PACTA—and target-setting models such as SBTi can also be used to track progress.

Step 7: Get Help

The process to assess, set targets, and disclose GHG emissions can be a challenging one. As such, financial institutions should consider getting help and building relationships with trusted partners. Beyond general and financial institution-dedicated networks on climate actions, many stakeholders can be involved in the process to support financial institutions' trajectory towards reducing GHG emissions and reaching Paris aligned targets.

¹²¹ <https://www.lapostegroupe.com/en/news/la-banque-postale-is-stepping-up-its-decarbonisation-strategy>

¹²² https://sciencebasedtargets.org/resources/files/Target-language-and-summary_KBF.docx-1.pdf

¹²³ https://sciencebasedtargets.org/resources/files/Target-language-and-summary_EQT.docx-1.pdf

¹²⁴ For more information, see <https://sciencebasedtargets.org/sectors/financial-institutions>

¹²⁵ See SBTi (April 2022): <https://sciencebasedtargets.org/resources/files/SBTi-Finance-Net-Zero-Foundations-paper.pdf> and GFANZ (June 2022, draft in consultation): https://assets.bbhub.io/company/sites/63/2022/06/GFANZ_Recommendations-and-Guidance-on-Net-zero-Transition-Plans-for-the-Financial-Sector_June2022.pdf

¹²⁶ <https://www.youtube.com/watch?v=IrcuUzwB8&list=PLFnXNznu-sA5k7kAQnTuvWtXkpOvuUU-C&index=1>

Steps 8 and 9: Reporting and Disclosure on GHG Emissions and Carbon Intensity (Recurring)

Financial institution's disclosure practices related to GHG reduction and adaptation emission targets are also evolving, and reporting requirements vary across different models. National regulatory frameworks on disclosure also differ but are increasingly requiring more and more information from financial institutions. Some national initiatives restrict reporting requirements to certain thresholds. For example, the Greenhouse Gas Reporting Program launched by the US Environmental Protection Agency requires annual reporting from facilities if GHG emissions from covered sources exceed 25,000 metric tons CO₂e per year; if supply of certain products would result in over 25,000 metric tons CO₂e of GHG emissions if those products were released, combusted, or oxidized; and if the facility receives 25,000 metric tons or more of CO₂ for underground injection.¹²⁷

Disclosure Tools

While there are several tools available (see Table 6), the primary tools used for reporting are the TCFD¹²⁸ and the CDP.¹²⁹

- TCFD was formed by the Financial Stability Board, an international body that seeks to strengthen and protect global financial markets from systemic risks such as climate change. The TCFD recommendations provide guidance to all market participants on the disclosure of information on the financial implications of climate-related risks and opportunities so that they can be integrated into business and investment decisions. As such TCFD allows for emissions and governance reporting using a standardized framework. IFC was the first MDB to disclose under the TCFD Guidelines, thus building capacity and knowledge on such exercises. Although 300 banks are TCFD signatories, less than 50 are from emerging countries and include FACT 2006 Ltd (DRC), KASIKORNBANK PCL (Thailand), MONETA Money Bank (Czech Republic), Regional SAB de CV (Mexico), and Santander Chile (Chile).

- CDP is a not-for-profit charity that supports the global disclosure system for investors, companies, cities, states, and regions to manage their environmental impacts. CDP enables benchmarking with common reporting and ratings in the industry. CDP's disclosure system is aligned with TCFD recommendations, but it is not required by TCFD. CDP states that “A diverse group of 332 financial institutions—representing \$109 trillion of assets—disclosed through CDP's inaugural climate change questionnaire for the financial services sector in 2020.”¹³⁰
- The International Sustainability Standards Board is a private-sector body that develops and approves International Financial Reporting Standards (IFRS) and Sustainability Disclosure Standards. The International Sustainability Standards Board was established at COP26 to develop a comprehensive global baseline of sustainability disclosures for capital markets. It launched a consultation on its first two proposed standards on 31 March 2022, related to general sustainability disclosure requirements, and another that focuses on climate-related disclosure requirements. It is anticipated that these proposals will form a comprehensive global baseline of sustainability disclosures designed to meet the information needs of investors in assessing enterprise value.¹³¹ This has led to the Climate Disclosure Standards Board (CDSB) being consolidated into the IFRS Foundation.
- The CDSB was founded at the World Economic Forum annual meeting in 2007. CDSB is a consortium of global business and environmental organizations, including CDP, CERES, The Climate Group, The Climate Registry, The International Emissions Trading Association, World Council for Business and Sustainable Development, World Economic Forum and World Resources Institute. CDSB produces a climate change reporting framework (CDSB Framework) including environmental information related to climate change. The CDSB Framework formed a foundation for the TCFD recommendations and sets out an approach for reporting environmental and social information in mainstream reports, such as annual reports, 10-K filings, or integrated reports. CDSB's Framework¹³² for reporting

¹²⁷ <https://www.epa.gov/ghgreporting>

¹²⁸ https://www.spglobal.com/marketintelligence/en/campaigns/i-need-to-align-with-rcfd?utm_source=bing&utm_medium=cpc&utm_campaign=TCFD_Search_Bing&utm_term=tcfd%20framework&utm_content=&_bt=72293057024668&mclid=d1f0df077e03144b6251bc22afd44410

¹²⁹ <https://www.cdp.net/en/info/about-us>

¹³⁰ <https://www.cdp.net/en/research/global-reports/financial-services-disclosure-report-2020>

¹³¹ <https://www.ifrs.org/projects/work-plan/climate-related-disclosures/>

¹³² <https://www.cdsb.net/what-we-do/reporting-frameworks/environmental-information-natural-capital>

environmental and social information and technical guidance on climate,¹³³ water,¹³⁴ and biodiversity¹³⁵ disclosures, as well as wider resources, will remain relevant and applicable for companies until such time as the International Sustainability Standards Board, a standards body of the IFRS, publishes its corresponding IFRS Sustainability Disclosure Standards on such topics.

- The Global Reporting Initiative is a rules-based global reference standard in the area of ESG disclosure. IFRS and Global Reporting Initiative announced a Memorandum of Understanding on 24 March 2022, to further structure collaboration.
- The EU Taxonomy Regulation sets mandatory requirements on disclosure, with the aim of providing transparency on environmental performance. Companies covered are EU-domiciled companies with more than 500 employees active in economic sectors covered by the EU Taxonomy Climate Delegated Act. In April 2022, the European Commission adopted technical standards to be used by financial market participants when disclosing sustainability-related information under the Sustainable Finance Disclosures Regulation. In January 2023, the Non-Financial Reporting Directive was replaced by the Corporate Sustainability Reporting Directive,¹³⁶ which aims to improve the quality of the climate risk information released by companies and available to the financial industry.
- Other networks like IFC’s Climate Assessment for Financial Institutions can support financial institution disclosures. IFC clients and partnering financial institutions—specifically those that have received climate-finance investment and/or advisory services—can access IFC’s Climate Assessment for Financial Institutions¹³⁷. There are currently 144 registered financial institutions using the platform.

Disclosure Requirements

Each of the above steps (commitment, governance, assessing and tracking GHG emissions and Paris alignment, getting help through partnerships with key stakeholders) can be

Table 6: Relevant Resources for Disclosures

Source	Links
CDP	https://www.cdp.net/en/investor/data-and-tools
TCFD	Task Force on Climate-Related Financial Disclosures TCFD) (fsb-tcfd.org)
International Sustainability Standards Board	https://www.ifrs.org/projects/work-plan/climate-related-disclosures/
SBTi	https://sciencebasedtargets.org/sectors/financial-institutions
EPFI	https://equator-principles.com/members-reporting/epfi-reporting-database/
UN Sustainable Development Goals Global Compact	https://unglobalcompact.org/sdgs/sdg-toolbox
CDSB	https://www.cdsb.net
Global Reporting Initiative	https://www.globalreporting.org/about-gri/
IFC Climate Assessment for Financial Institutions	https://www.ifc.org/wps/wcm/connect/Industry_EXT_Content/IFC_External_Corporate_Site/Financial+Institutions/Priorities/
Comparisons between disclosures tools	https://www.ifrs.org/content/dam/ifrs/project/climate-related-disclosures/comparison-draft-ifrs-s2-climate-related-disclosures-with-the-tcfd-recommendations.pdf https://www.ifrs.org/content/dam/ifrs/project/climate-related-disclosures/supporting-materials/issb-webinar-presentation-april-2022.pdf

the object of specific disclosure requirements. Disclosure requirements vary according to models and methodologies as described below:

- TCFD’s guidance combines different areas of disclosures: governance, strategy, risk management, metrics, and targets (see Figure 10 below).

¹³³ <https://www.cdsb.net/climateguidance>

¹³⁴ <https://www.cdsb.net/what-we-do/nature-related-financial-disclosures/water-related-disclosures>

¹³⁵ <https://www.cdsb.net/what-we-do/nature-related-financial-disclosures/biodiversity-related-disclosures>

¹³⁶ https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en

¹³⁷ https://www.ifc.org/wps/wcm/connect/Industry_EXT_Content/IFC_External_Corporate_Site/Financial+Institutions/Priorities/Climate_Finance_SA/CAFI_SA/#:~:text=CAFI%2C%20a%20digital%2C%20web-based%20platform%2C%20helps%20banks%20and,project%20meets%20internationally%20agreed-upon%20criteria%20for%20climate%20finance

Figure 10: TCFD Recommended Disclosures

Governance	Strategy	Risk Management	Metrics and Targets
Disclose the organization's governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	Disclose how the organization identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
Recommended Disclosures	Recommended Disclosures	Recommended Disclosures	Recommended Disclosures
a) Describe the board's oversight of climate-related risks and opportunities.	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	a) Describe the organization's processes for identifying and assessing climate-related risks.	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.
b) Describe management's role in assessing and managing climate-related risks and opportunities.	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	b) Describe the organization's processes for managing climate-related risks.	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

Source: TCFD, Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures (2017).

In some countries, TCFD is required for certain companies. For example, as per the United Kingdom's regulation, large companies, and limited liability partnerships are required to disclose compliance with the Taskforce on Climate-related Financial Disclosures (TCFD)-aligned recommendations on a 'comply or explain' basis in their annual report.¹³⁸

- The International Capital Market Association also groups different areas of recommended disclosures through the 2020 Climate Finance Handbook:¹³⁹ strategy and governance, business model environmental materiality, science-based targets and pathways, and implementation (see Table 8 below).

- SBTi requests information such as general information, GHG inventory, target information, portfolio target boundary, optional Scope 3 targets, supporting documentation as well as contractual and billing information.¹⁴⁰ Depending on the approach used, disclosures may also vary. For example, if the financial institution used sectoral decarbonization approach, portfolio coverage approach or temperature rating approach to calculate Scope 3 financed emissions, they may be required to disclose different types of information (see Figure 11 below).

¹³⁸ Under the new UK regulation introduced in the Companies (Strategic Report) (Climate-related Financial Disclosure) Regulations 20221 and the Limited Liability Partnerships (Climate-related Financial Disclosure) Regulations 20222.

¹³⁹ <https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Climate-Transition-Finance-Handbook-December-2020-091220.pdf>

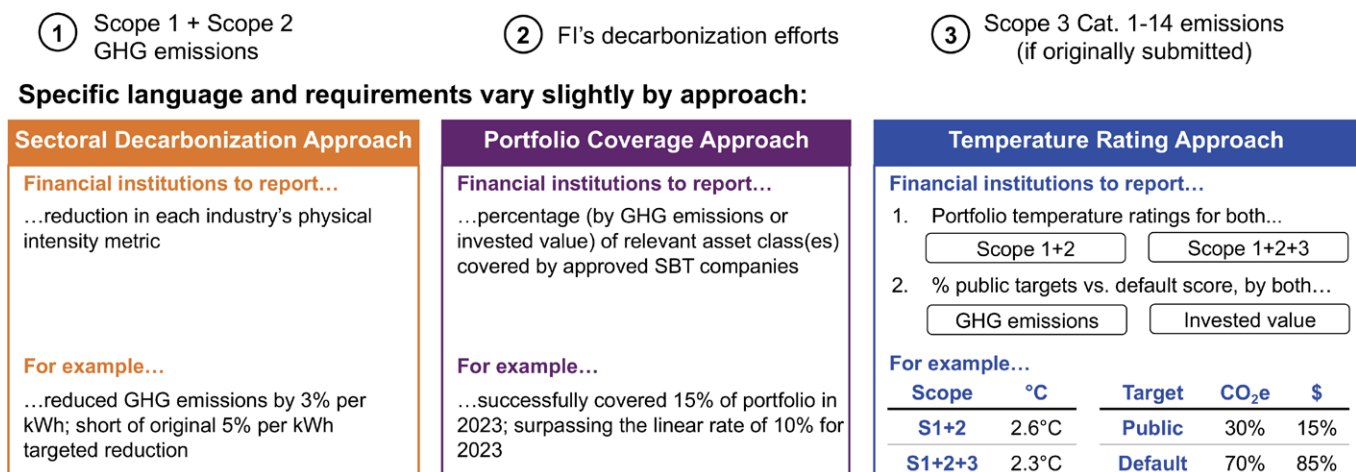
¹⁴⁰ See SBTi module 7, <https://www.youtube.com/watch?v=YJc0eVH9fTc&list=PLFnXNznu-sA5k7kAQnTuvWtXkpOvuUU-C&index=8>

Table 7: The International Capital Market Association Recommended Disclosures

Strategy and governance	Business model environmental materiality	Science-based targets and pathways	Implementation
<p>Suggested information and indicators:</p> <ul style="list-style-type: none"> • A long-term target to align with the goals of the Paris Agreement (e.g., the objective of limiting global warming ideally to 1.5°C and, at the very least, to well below 2°C); • Relevant interim targets on the trajectory towards the long-term goal; • Disclosure on the issuer’s levers towards decarbonization, and strategic planning towards a long-term target to align with the goals of the Paris Agreement; • Clear oversight and governance of transition strategy; and, • Evidence of a broader sustainability strategy to mitigate relevant environmental and social externalities and contribute to the UN Sustainable Development Goals. 	<p>Suggested information and indicators:</p> <ul style="list-style-type: none"> • Existing market guidance regarding consideration of materiality may be applied in making such disclosures, for example the relevant guidance provided by accounting standards bodies; and externally provided comfort around materiality considerations may not be appropriate in all cases; however, the accounting profession may provide guidance as required. 	<p>Suggested information and indicators:</p> <ul style="list-style-type: none"> • Short, medium, and long-term GHG reduction targets aligned with Paris Agreement; • Baseline; • Scenario utilized, and methodology applied (e.g., ACT, SBTi, etc.); • GHG objectives covering all scopes (Scope 1, 2 and 3); and, • Targets formulated both in intensity and absolute terms. 	<p>Suggested information and indicators:</p> <ul style="list-style-type: none"> • Disclosure on the percentage of assets/revenues/ expenditures/divestments; and • Capex roll-out plans consistent with the overall strategy and climate science.

Source: International Capital Market Association, Climate Transition Finance Handbook, 2020

Figure 11: SBTi Requirements Based on Methodologies to Calculate GHG Emissions



Source: SBTi course on validating, disclosing, and recalculating¹⁴¹

¹⁴¹ See <https://www.youtube.com/watch?v=YJc0eVH9fTc&list=PLFnXNznu-sA5k7kAQnTuvWtXkpOvuUU-C&index=8>

Companies may also have specific requirements depending on national laws. For example, under the Corporate Sustainability Reporting Directive that entered into force in January 2023, a broader range of entities will be required to make disclosures on their EU Taxonomy alignment. The new regulation also includes a mandatory audit and assurance regime to ensure the reliability of data. The Corporate Sustainability Reporting Directive also includes reporting requirements for non-European companies that generate an annual net turnover of €150 million in the EU and that have at least one subsidiary or branch in the EU.

Disclosure means. In addition to disclosing through specific tools and websites (e.g., SBTi or CDP), financial institutions

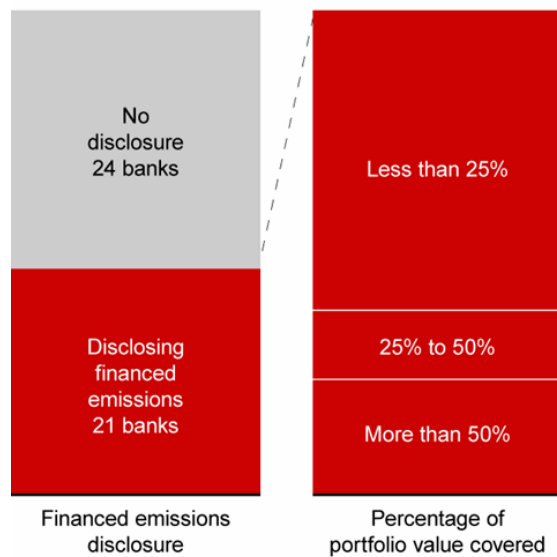
can also disclose relevant information in their annual report, sustainability report or website.

Current Practice on Disclosure

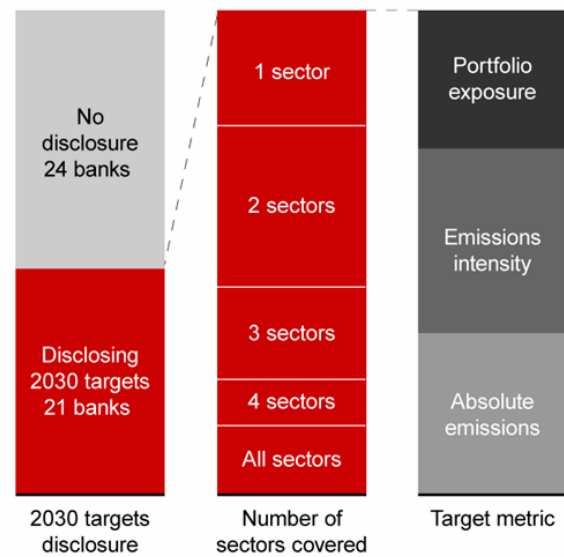
Bain & Company analyzed the top 15 banks by assets in three regions—Europe, Asia-Pacific and North America. Almost half of the 45 banks have disclosed their current financed emissions, although some banks disclose less than 25 percent of their portfolio. The analysis also shows banks focus on carbon-intensive sectors such as coal, oil and gas, and electric power (see Figure 12 below).

Figure 12: Analysis of 45 Top Banks' Disclosures in Europe, Asia-Pacific and North America

Current disclosure of 45 large banks



2030 interim targets of 45 large banks



Sources: PCAF; PACTA; S&P Global Market Intelligence; banks' annual reports; Bain analysis

Although TCFD results show that there is still room to strengthen climate reporting, the TCFD annual report also demonstrates momentum on climate disclosures, as it reports of a steady increase of TCFD supporters and increasing

climate risk reporting.¹⁴² While it is important to start with the available data, banks can also work in the long term to improve data accuracy and availability.

¹⁴² See for example TCFD report, Banking Review Result, page 85, https://assets.bbhub.io/company/sites/60/2022/03/GPP_TCFD_Status_Report_2021_Book_v17.pdf

Climate-related Physical Risk Disclosures

Additionally, five financial institutions committed, at the UN Secretary General's Climate Action Summit in September 2019, to issue climate-related physical risk disclosures by the end of 2021. They form the core group on climate adaptation at UNEP FI: European Bank of Reconstruction and Development, Standard Chartered Bank, Rabobank, Rockefeller Capital Management, and YES Bank.

Five more UNEP FI members joined prior to the Climate Adaptation Summit 2021 and committed to release climate-related physical risk disclosures by January 2023: ABN AMRO, AXA XL, Danske Bank, ING, and LINK Real Estate Investment Trust.¹⁴³

Step 10: Get Started

While building financial institution's trajectory for reduced GHG emissions and Paris-aligned targets may be challenging, financial institutions have several tools at their disposal to start the process, foster engagement and build momentum. Financial institutions can be supported by the recently developed methodologies and guidance specific for financial institutions, as well as by experts on climate risks. Therefore, the most important step is to begin the process with the support of networks, peers, and experts.

¹⁴³ <https://www.unepfi.org/climate-change/adaptation/physical-risk-statement/>



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March 2023