WORLD RESOURCES INSTITUTE

# TOWARD PARIS ALIGNMENT

*How the Multilateral Development Banks Can Better Support the Paris Agreement*

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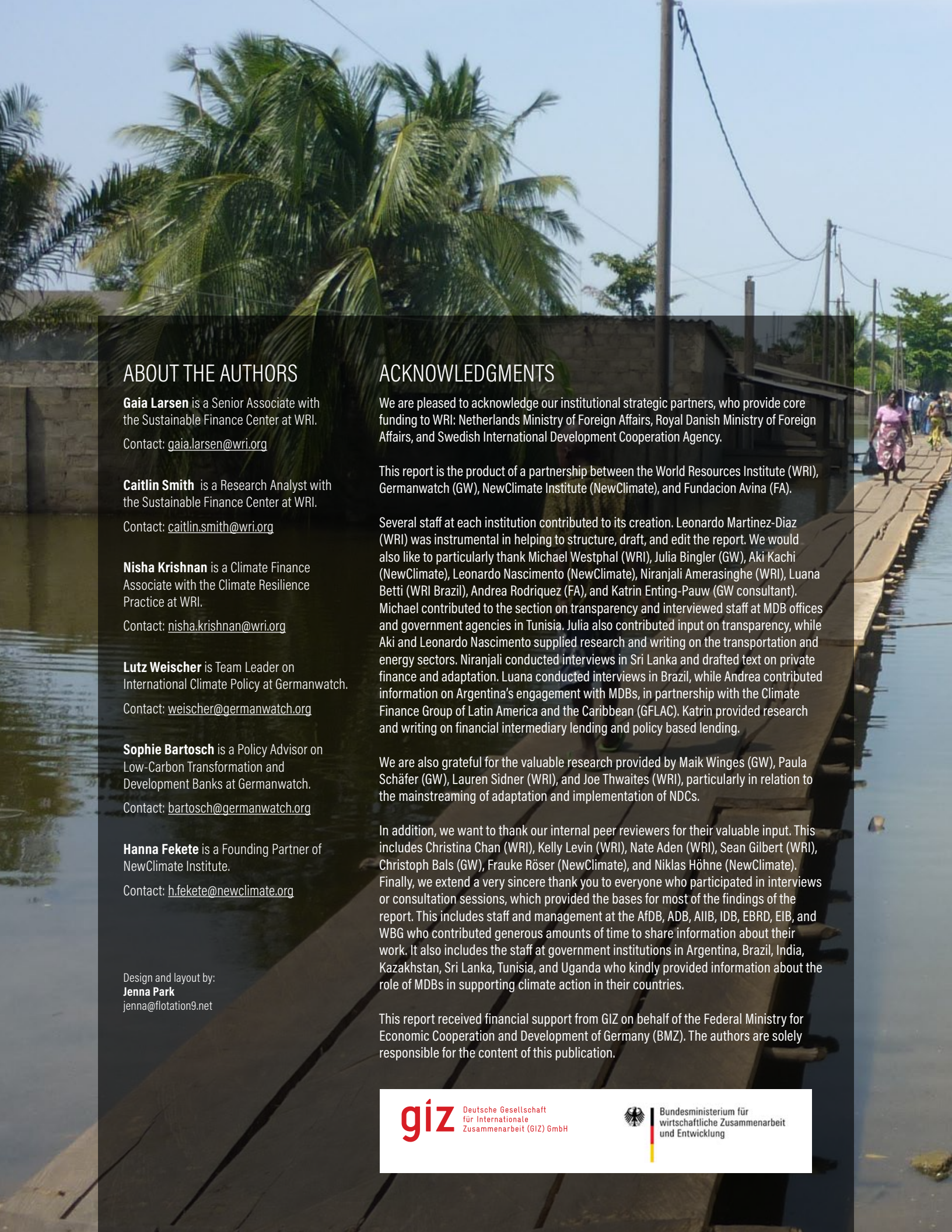

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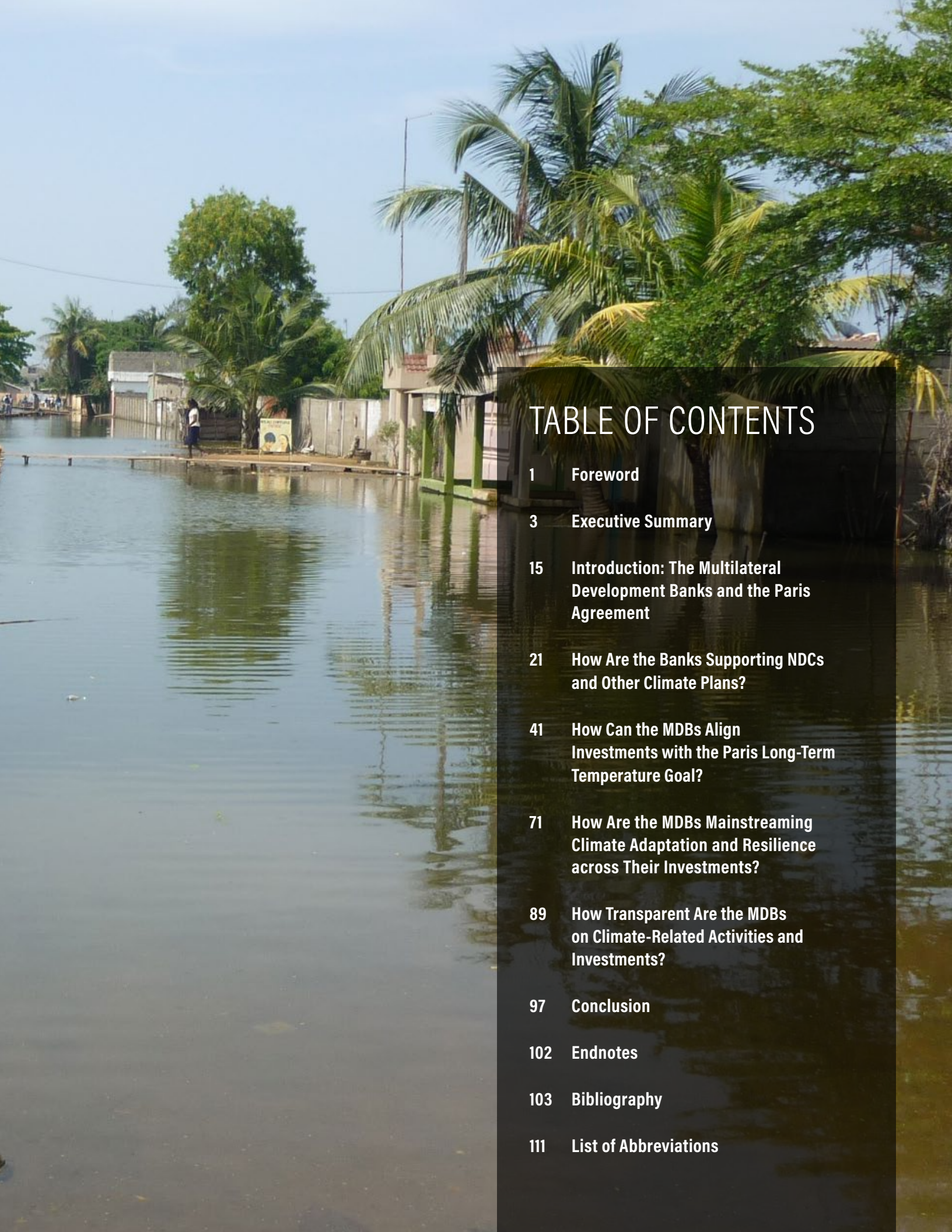

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# FOREWORD

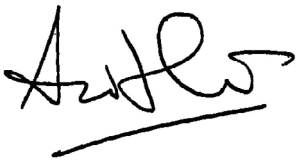
The world's climate goals can only be reached with enough financial support. Large-scale investments are needed in energy, transportation, and agricultural systems to ensure that countries can meet the needs of their populations without jeopardizing climate stability. And money must stop flowing to high-emission sectors and activities that exacerbate climate vulnerability, such as new apartment towers in flood-prone coastal zones.

Multilateral development banks (MDBs) can play a vital role in efforts to shift global finance toward a sustainable future. Each year, these institutions invest around $150 billion, mostly in developing and emerging economies. They also influence the financial decisions of others. By reducing risks associated with individual investments they steer public and private finance toward (or away from) activities that are vital to the transition to low-carbon and climate-resilient economies. Through policy, technical, and research support they also help shape the rules that guide public and private investment decisions around the world.

This report answers the question: what does it mean to invest in a way that is aligned with the Paris climate goals? It describes the actions that multilateral development banks have already taken to support climate-compatible development, the challenges remaining, and the additional steps that they can take to catalyze more rapid change.

In recent years the international community has tracked how much money is flowing to activities specifically aimed at climate change mitigation or adaptation. This counting exercise aims to shed light on whether financial institutions are reaching funding targets, including the commitment to raise $100 billion of climate finance per year by 2020. This report recognizes the importance of climate finance but calls for the MDBs to go further, ensuring that their whole portfolios—not just the climate-finance portions—are supportive of the Paris goals and that MDB-financed projects do not undermine the Paris Agreement. After all, climate goals can only be reached if all finance – including the trillions invested around the world annually – shift from high-emitting and maladaptive investments to sustainable alternatives.

The lessons and recommendations in this report are pertinent for a broad array of actors who want global financial flows to support accelerated climate action. Finance ministers and other senior officials who oversee the MDBs can use the report to understand how to strengthen MDB action on climate change. MDB staff and management can use it to restructure their investment portfolios. Citizens and civil society groups can use it as a basis for encouraging the MDBs to go farther, faster. The recent report of the Inter-Governmental Panel on Climate Change (IPCC) has made it clear that the world faces an all-hands on deck moment. This report shows how the MDBs can lead the way.



**Andrew Steer**
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# EXECUTIVE SUMMARY

The Paris Agreement aims to hold the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C. To contribute to the fight against climate change, the MDBs have operated under what this report refers to as a Climate Finance Paradigm. Yet, given the urgency of the challenge and the rate at which the world must reduce emissions, this current paradigm is not enough and a new paradigm is needed. This report describes this new paradigm, called the Paris Alignment Paradigm, and provides recommendations on how the MDBs can transition from the Climate Finance Paradigm to the Paris Alignment Paradigm.

## HIGHLIGHTS

- Multilateral development banks (MDBs) have a critical role to play in helping countries meet the goals laid out in the Paris Agreement. To contribute to the fight against climate change, the MDBs have to date largely operated under a Climate Finance paradigm that involves defining, tracking, and maximizing the amount of finance that MDBs provide and mobilize for climate change mitigation and adaptation.
- However, the current paradigm is not enough to meet the challenge. MDBs need to transition to a Paris Alignment Paradigm, which involves not only maximizing volumes of climate finance, but also gradually bringing the rest of the MDBs' pipelines and portfolios into alignment with the requirements of the Paris Agreement, mainstreaming adaptation across all MDB operations, and helping client countries implement and develop stronger Nationally Determined Contributions (NDCs).
- Climate scenarios strongly suggest that global $CO_2$ emissions need to reach net zero around 2050, meaning that energy supply and energy use (including transportation, buildings, and industry) needs to be decarbonized by that point. As a matter of policy, MDBs and their shareholders should embrace the need to reach a zero-emissions energy sector and overall net-zero $CO_2$ emissions by mid-century. They should work with clients to identify decarbonization pathways and renewable alternatives to emission-intensive activities.

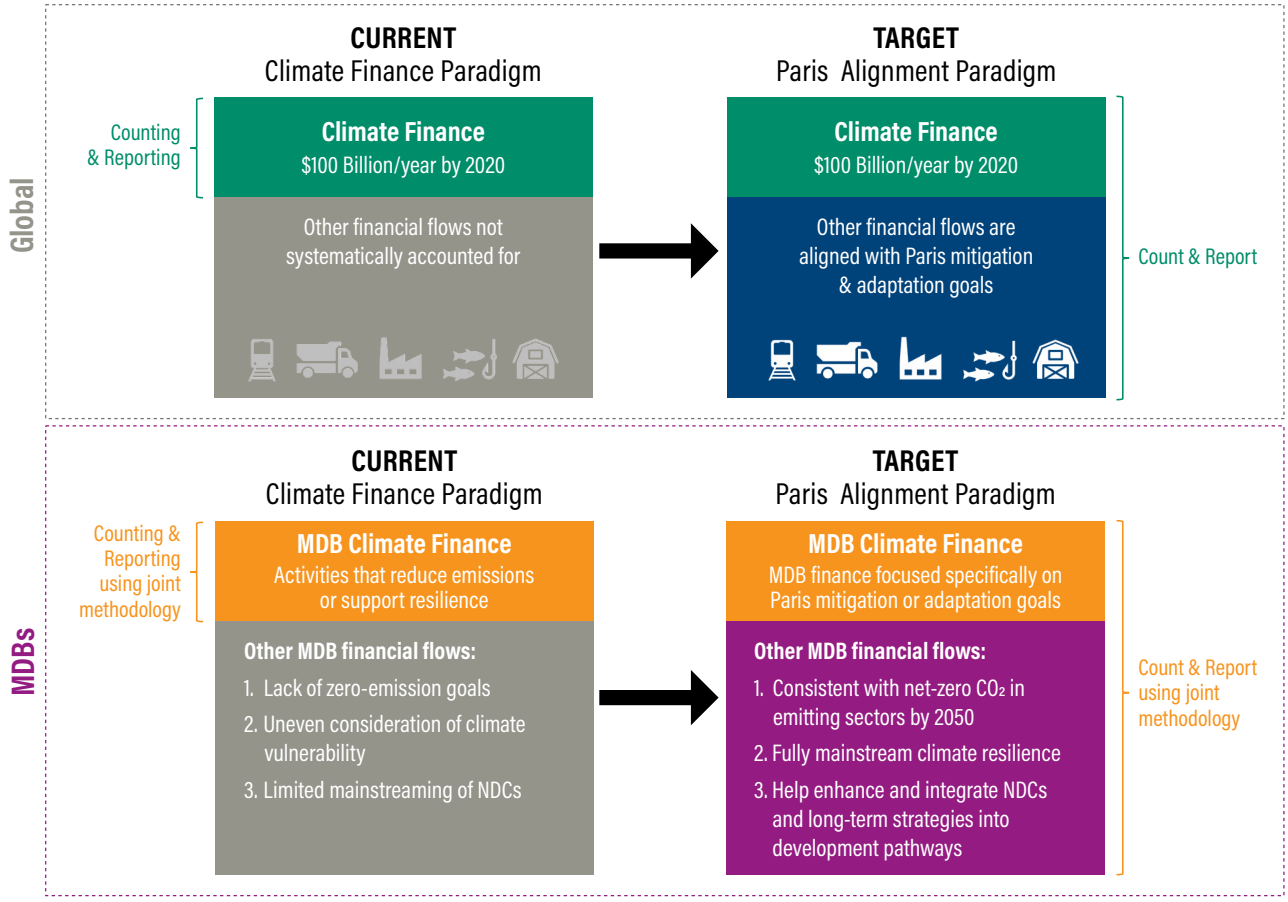
## Background

The Paris Agreement aims to hold the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C. Its signatories also seek to increase the ability of countries to adapt to the adverse impacts of climate change and foster climate resilience. Reaching the temperature goal of the Paris Agreement will be an enormous challenge that will require a transformation in many key sectors of national economies, including energy production, land use, and transportation.

To contribute to the fight against climate change, the MDBs have to date largely operated under what we refer to here as a Climate Finance Paradigm. That paradigm involves defining, tracking, and maximizing the amount of climate finance that MDBs provide and mobilize. The MDBs have announced climate finance targets, and since 2012, they have reported together on the amounts of climate finance they are providing.

However, given the urgency of the challenge and the rate at which the world must reduce emissions, the current paradigm is not enough. A different paradigm is needed, one that builds on the successes of the Climate Finance Paradigm but that also makes full use of the MDBs' capacity to advance Paris Agreement implementation. Stakeholders are now calling for what we call here a Paris Alignment Paradigm, which involves not only maximizing volumes of climate finance, but also gradually bringing the rest of the MDBs' pipelines and portfolios into alignment with the requirements of the Paris Agreement (see Figure ES-1).

Figure ES-1 | Overview of Shift from Climate Finance Paradigm to Paris Agreement Alignment




*Source:* Authors

## About This Report

To transition from Climate Finance to Paris Alignment, a baseline snapshot is required first, and that is what this study aims to do. The study is a landscape survey; as a result, it is broad in scope rather than deep and narrow. Many questions identified in this survey may be taken up in subsequent work. The report seeks to answer the following questions:

- How are MDBs **supporting NDCs** and long-term climate-related planning?
- How can the MDBs know if their **investments are in line with the Paris Agreement** temperature goal?
- How are the MDBs **mainstreaming climate adaptation** and resilience across their investments?
- **How transparent** are the MDBs on climate-related activities and investments?

The report is based on an extensive review of policy and academic literature and official documents. We also conducted semi-structured interviews with 115 MDB staff, representatives from MDB member countries, and other relevant stakeholders. Interviews took place at the headquarters of several MDBs and in seven countries that receive MDB finance: Argentina, Brazil, India, Kazakhstan, Sri Lanka, Tunisia, and Uganda.

## Supporting NDCs and Long-Term Climate Planning

**Implementing the first generation of NDCs is no simple matter.** NDCs are new and were created in record time. Not surprisingly, they vary widely in terms of scope, detail, and ambition. The process for developing and socializing the NDCs was often imperfect, as was their alignment with other national plans and strategies. Overall, NDCs still need to be more ambitious to meet the Paris temperature goal, and while long-term strategies are imperative, only a few are in place.

**MDBs have started to provide support for NDC implementation.** Most MDBs have launched NDC-focused technical assistance programs. These include *NDC Advance* (Asian Development Bank), *Africa NDC Hub* (African Development Bank), the *NDC Support Program* (European Bank for Reconstruction and Development), *NDC Invest* (Inter-American Development Bank), and the *NDC Support Facility* (World Bank). However, these efforts cover a small number of countries and are mostly financed through relatively small pots of grant funding.

**NDCs are incorporated into MDB country strategies, but progress is uneven.** In the two years after the Paris Agreement was adopted, the five banks that undertake country strategies and their client governments finalized 92 country strategies for 75 countries. Of these strategies, virtually all discuss how the bank's actions will help the country address climate change, but only 60 percent mention the country's NDC explicitly. Of these, about a quarter include a meaningful description of how bank activities will support NDC implementation. The rest mention the NDCs only (or primarily) as background.

**MDBs often support NDC implementation, but without specifically mentioning NDCs.** Virtually all country strategies reviewed mention climate change and include at least one investment commitment that is climate change related, even when the strategy does not mention the NDC.

**MDBs continue to support activities that may undermine NDC implementation, especially in the energy-supply sector.** MDBs continue to support fossil-fuel power generation even in countries where these projects are not included in the NDC and may therefore be contrary to the NDC's goals.

### Recommendations

- **Discuss NDCs in country strategy dialogues and include experts explicitly in country strategies.** MDB climate experts should be included in the upstream dialogues between the MDBs and clients. By 2020, 100 percent of new MDB country strategies should explain how MDBs' investments and activities link to the country's long-term climate-related planning, including the NDC.

- **Elevate NDCs in MDB communications and high-level discourse.** MDBs should use their communication platforms—including flagship knowledge products, annual reports, high-level dialogues, and speeches and communications by MDB senior management—to elevate the importance of NDCs and long-term climate goals.

- **Help strengthen the next generation of NDCs through technical assistance and analysis.** MDBs should support national authorities by presenting options to make NDC targets more ambitious. Efforts to enhance the NDCs should be coupled with support for long-term low greenhouse gas (GHG) emission development strategies.

- **Do not invest in activities that undermine the NDC.** MDBs should not invest in fossil-fuel generation and other high-carbon projects that may undermine the relevant country's NDC. If there is a disconnect between the NDC and other national plans, such as energy or development plans, MDBs should encourage the national authorities to reconcile the various strategies and ensure that the NDC (and long-term strategies, where they exist) is consistent with other national plans and leads to ambitious emissions reductions.

- **Consider how to scale up and secure long-term funding for NDC support**

**programs.** MDBs should consider how to secure additional and reliable funding for these programs, including from the MDBs' own resources, and how to ensure that resources for NDC support will be available even if donors cease to replenish dedicated trust funds for this purpose.

- **Help identify NDC-related opportunities for private actors.** MDBs that focus on engagement with the private sector should seek to identify potential investment opportunities associated with NDCs. They can also collaborate with partner MDBs focused on public institutions to help identify regulatory or fiscal actions that may help encourage private investment in NDC-aligned activities.

- **Train MDB staff and clients on NDCs, with priority for high-emitting countries or sectors.** Because MDB country offices and project teams have primary responsibility for engaging with clients, MDBs should provide information to sector and/or country experts on relevant NDCs and the strengths, weaknesses, and opportunities associated with NDC commitments.

## Aligning Investments with the Paris Agreement Temperature Goal

**The climate scenarios reviewed for this report strongly suggest that energy supply and demand need to be decarbonized by around 2050.** For some sectors, such as transportation and agriculture, achieving zero emissions will be very difficult to achieve. As a result, energy supply efforts needs to do more to compensate and meet the global pathways. Fortunately, decarbonization options in the energy-supply sector are readily available.

**MDBs have deployed a variety of tools to consider climate change mitigation in their operations, but how these tools are used varies considerably from bank to bank:**

- **Negative or exclusion lists.** Several MDBs do not fund certain activities related to oil and gas development; others exclude or drastically limit their support for coal-fired power plants.

- **Eligibility or positive lists.** The MDBs' joint climate finance methodology defines activities that can be counted toward each MDB's respective climate finance targets and therefore incentivize these investments.

- **Emissions standards.** The European Investment Bank (EIB) is the only MDB that currently uses an emission standard for all its electricity and heating investments.

- **GHG emissions accounting.** Most MDBs undertake GHG accounting for at least some projects and have agreed on common minimum requirements for tracking and reporting GHG emissions. However, each bank has adopted slightly different policies for GHG accounting; the European Bank for Reconstruction and Development (EBRD), the EIB, and the Inter-American Development Bank (IDB) are currently the only banks to publicly report portfolio-wide gross emissions from lending activities.

To reach the Paris Temperature goal, energy supply and demand need to be decarbonized by around 2050. Fortunately, decarbonization options in the energy supply sectors are affordable and readily available.

- **Shadow carbon pricing.** Four of the MDBs surveyed use shadow carbon pricing, although there is considerable variation as to the sectors and emissions to which the shadow carbon price applies. MDBs have set shadow carbon prices at different levels, ranging from US$19 to $77, with a median price of about $38. Crucially, some MDBs can approve projects even if they are not economically viable with the carbon price included. As implemented today, a shadow carbon price by itself is not enough to bring about necessary decarbonization.

- **Portfolio-level targets.** In addition to climate finance targets, a few of the banks have set targets associated with GHG emissions from their portfolios. However, no MDB currently has a reduction target for portfolio-wide gross emissions, although the Asian Development Bank (ADB) is committed to peaking its portfolio emissions by 2030 at the latest.

**Lending through financial intermediaries is also challenging because of the MDBs' lack of control over the final use of their funding.** Project-level climate tools currently used by MDBs are not consistently used for all financial intermediary operations. Instead, MDBs typically require financial intermediaries to implement some form of environmental and social risk management system that satisfies MDB standards.

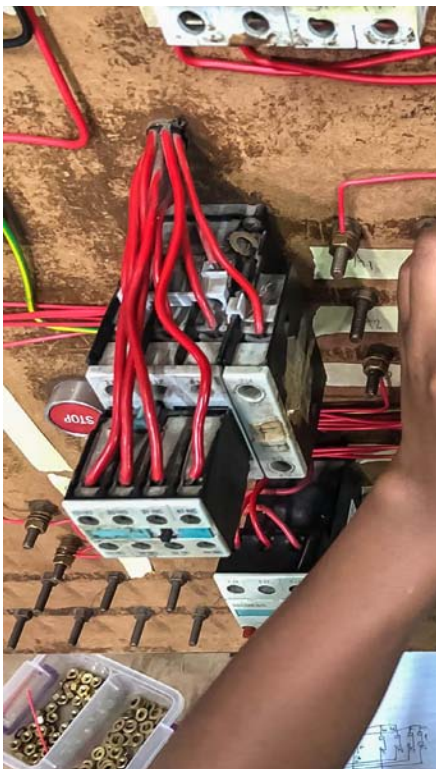
The International Finance Corporation (IFC) is the first of the MDBs to reduce this risk by eliminating general-purpose loans to financial intermediaries and tracking coal exposures of clients.

**Policy-based lending presents a climate challenge.** MDBs generally have separate operational policies for such lending, and most do not explicitly include climate change.

## Recommendations

- **As a matter of policy, MDBs and their shareholders should embrace the need to reach a zero-emissions energy sector and overall net-zero $CO_2$** emissions by mid-century. They should work with clients to identify decarbonization pathways and renewable alternatives to emission-intensive activities that are consistent with this goal.

- **MDBs should take steps to ensure alignment with the Paris temperature goal for lending through financial intermediaries.** MDBs should conduct a climate screening for each policy lending operation, including GHG estimates, so that they may be included in portfolio-wide GHG emissions accounting and targets. The MDBs should also support improved capacity among financial intermediaries to understand and act upon the climate impacts of their investments.



- **MDBs should explicitly incorporate climate considerations into policy-based lending.** Each policy reform linked to financial support should be screened for potential climate impacts. In-depth climate impact analysis should be conducted for policy loans categorized as high risks, including an assessment of the client's capacity to identify and manage the risk. For policy-based operations in sectors where climate change mitigation is highly relevant, at least one prior action should focus on climate mitigation.

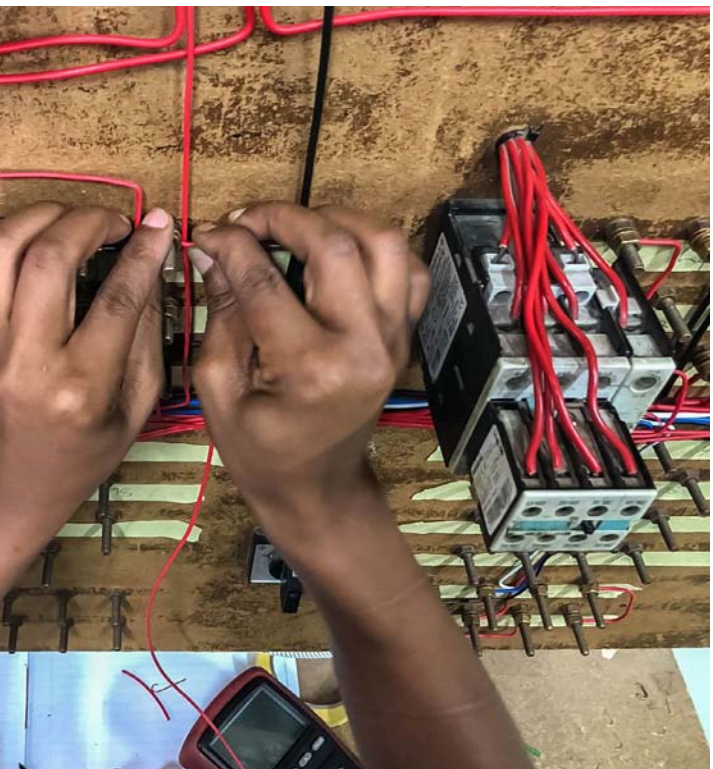
- **Make greater use of exclusion and eligibility lists.** Certain activities should automatically be excluded or encouraged in the energy and transportation sectors according to climate pathways. Exclusion and eligibility policies should be harmonized across all MDBs and updated over time.

- **Increase use of emissions standards.** Sector-specific emissions standards can either exclude misaligned investments that emit above a certain emission intensity or encourage aligned (low or non-emitting) investments. Emission standards should be in line with the global temperature goal.

- **Assess the relationship of a project to a national pathway to the decarbonization of the energy sector.** In cases such as natural gas-fired power plants, where Paris alignment depends not only on a technology itself but on the context in which it is deployed, MDBs should assess the role of the technology or fuel in national decarbonization plans. If no such plan exists, the MDBs should encourage the country to begin developing such a plan and to connect this plan to the country's other key climate documents, such as the NDC and long-term strategies.

- **Condition project approval on financial viability with a Paris-aligned carbon price.** MDBs should commit to not approving projects that are not financially viable with a carbon price applied. The price should be applied to both direct and induced emissions (where relevant, measurable, and significant), in the energy and transportation sectors, plus other sectors where such emissions are relevant.

- **Make use of additional tools for conditionally aligned investments in the transportation sector.** Transportation infrastructure (sidewalks, bike paths, room for bus rapid transit or tram) and policy measures (fuel taxes, vehicle registration fees) should



work together to bring transportation close to zero emissions. MDBs should emphasize electrification of the transportation sector wherever possible.

- **Make use of sector-specific emission targets.** Sector-specific emissions targets could help the MDBs move away from high-carbon investments. Emissions targets in the energy sector could become more stringent over time until they equal zero gross emissions by 2050.

## Mainstreaming Climate Adaptation

**All MDBs have made high-level commitments to adaptation, and a standard system is emerging among MDBs to identify and manage climate risk**. A majority of the MDBs now have processes in place to help determine whether proposed activities may be exposed to climate hazards, such as flooding, droughts, or storms. Across the MDBs, a relatively standard process is emerging, consisting of six main steps: initial screening, additional assessments, project design modification, project approval, implementation, and monitoring of results.

Among the MDBs, a standard system is emerging to identify and manage climate risk. Yet, both a lack of applicable data and a lack of widespread expertise on climate adaptation are undermining full mainstreaming of adaptation.

**The MDBs are integrating climate change into other due-diligence processes, but not yet systematically.** All the MDBs have preexisting due-diligence processes to assess investments prior to their approval, including environmental and social impact assessments, technical studies, and economic assessments. The MDBs have integrated climate change adaptation into these processes to various degrees. However, this is not yet standard practice.

**MDBs possess tools to identify and encourage investment in adaptation solutions.** Climate finance targets have played an important role in incentivizing investment in adaptation solutions. Also, MDBs have created internal guidance aimed at building internal staff capacity on adaptation. Several MDBs also provide technical assistance to clients specifically aimed at increasing their knowledge and awareness of climate-related risks and supporting their ability to identify and manage the impacts.

**Yet, a lack of widespread expertise on adaptation solutions undermines adaptation mainstreaming.** A lack of downscaled and applicable data, coupled with limited technical expertise on how to use such information to design adaptation options, limits investments in resilience. While there is growing understanding of the potential impacts of climate change, knowledge of how to best design initiatives to support climate resilience is not yet widespread among MDB project developers.

**Dealing with uncertainty remains a challenge.** Adaptation costs vary widely, depending on whether one is designing and implementing for a two-, three-, or four-degree world. Helpful approaches have been developed and often pioneered at the MDBs, including "no- or low-regret" adaptation and decision-making under deep uncertainty (DMDU). However, managing

uncertainty remains a challenge for many client countries, especially those without the resources to engage in sophisticated computer modeling required by approaches like DMDU.

**Who should pay for climate resilience remains a central question.** While initial climate risk screening processes are generally not resource-intensive, more thorough assessments of climate risks and adaptation options can be costly. Clients can be reluctant to pay for assessments and additional project development costs. The MDBs typically pay for vulnerability assessments out of their administrative budget or through multi-donor trust funds, but these resources are limited and cannot pay for all additional costs. The MDBs are therefore faced with decisions as to when they will seek access to concessional finance from places like the Green Climate Fund (GCF), in partnership with their clients.

**Getting the timing right for risk-management processes can be difficult.** MDBs and clients need to know about potential climate risks early in the project design process so that changes can still be made to project plans. However, some MDBs tend to initiate contact with clients when projects are already in a relatively late stage of project development. Even when MDBs assess climate risks early in the project cycle, the precise location or other relevant details of an activity may not yet be known, creating additional challenges. At several MDBs, growing pressure to shorten the project cycle is overstretching project teams and limiting opportunities for real capacity building among clients.

**Private-sector involvement in resilience remains limited.** Many private actors still lack access to easily digestible data and information on how climate risks may affect their operations and investments. Also, there is inadequate demand from regulators that the private sector adhere to resilience standards. A perennial barrier is that some adaptation actions do not generate direct financial return or provide predictable cash flows. Private adaptation investments are also limited by generic barriers to private investment, such as political or foreign exchange risk.

## Recommendations

- **Integrate climate change into due-diligence processes.** More should be done to ensure that climate risks are systematically integrated into project design documents. Environmental and social impact assessments should integrate analysis of a project's impacts on climate resilience. Also, economic assessments should examine the potential economic impact of climate change on the project and the economic value of relevant adaptation options.

- **Incentivize integration of climate risks through targets and performance metrics.** Climate-related information should be required in project approval processes. The MDBs that do not already have them should identify adaptation finance targets to encourage a focus on adaptation investments, not just on mitigation. Climate change should be part of staff performance evaluations.

- **Help pay for the cost of resilience assessments, project design improvements, and investments in resilience.** Identify predictable and long-term financing that reinforces the notion that climate considerations are not a parallel process, but rather integral to MDB efforts. Core MDB resources should be made available to pay for these elements in the case of public projects; in private-sector projects, the costs should be borne by the private-sector partner.

- **Invest in identifying strategic short- and long-term adaptation opportunities.** MDBs should help clients and staff identify where resilience investments are most needed. MDBs should emphasize systemic change, long-term planning, and highlighting of the economic benefits associated with adaptation options, particularly for private-sector clients.

- **Integrate climate resilience into monitoring and evaluation.** Projects are often altered over time as conditions change, and climate is likely to affect activities in unanticipated ways. Integrating climate risk-

screening processes into ongoing project monitoring will help the MDBs and their clients better anticipate and respond to evolving climate impacts.

- **Focus on engaging with private actors in key adaptation sectors.** MDBs should require private clients to implement effective climate risk-management processes. MDBs should continue ongoing efforts to identify market opportunities and showcase effective resilience partnerships. They should also continue to support industry and country standards for resilience and encourage the use of different financial structures and instruments for adaptation purposes.

## Enhancing Transparency of Climate-Related Activities and Investments

**The MDB climate finance tracking approach has several strengths.** All MDBs now report on mitigation and adaptation finance based on the Common Principles for Climate Change Mitigation and Adaptation Finance Tracking. Mitigation finance tracking relies on a positive set of activities, while adaptation finance tracking uses a three-step process for classifying adaptation finance. The common reporting and internal climate finance targets have helped to catalyze climate ambition by inducing climate finance related competition among the banks.

**Climate finance tracking still has some weaknesses.** For example, the methodology is not explicitly aligned with the Paris Agreement. Some activities that reduce GHGs are currently counted toward mitigation finance, regardless of whether they are congruent with 1.5°/ <2°C pathways. The MDB tracking methodology is also only focused on finance inputs, not impacts. It can thus be difficult to understand what effect investments have had on global emissions and climate resilience and what types of spending have the greatest impact. Finally, joint MDB reporting has to date not consistently included project-level data. Four of the MDBs currently report such data to varying degrees.

**Reporting on the rest of the portfolio is less robust than reporting of climate finance.** It is impossible to get a complete picture of Paris alignment without consideration of all MDB finance. Yet, MDBs do not have a joint methodology for reporting investments that are not specifically tagged as climate finance.

**The Taskforce on Climate-Related Financial Disclosures (TCFD) recommendations introduce a new global emphasis on reporting not only positive investments in climate-related activities, but also the risks that investments face from the changing climate.** For the MDBs this could mean, for example, publicly reporting not only on climate finance but also on how investments in vulnerable geographies and sectors like hydropower or

agriculture may be affected by the changing climate. In March 2018, the EBRD became the first MDB to commit to the TCFD recommendations, while the IFC has been the first MDB to include TCFD-related disclosures in its annual report.

## Recommendations

- **Continue to improve reporting on climate finance.** The MDBs should update mitigation finance tracking to reflect the temperature goal in the Paris Agreement. To do so, MDBs could make the mitigation categories more restrictive. For example, this could include the exclusion of all fossil-fuel thermal power from climate finance reporting, including natural gas.

- **MDBs should begin to report more systematically on the impacts of their climate finance**. This should include data on gross emissions and emission reductions associated with the mitigation finance, per project, and aggregated at a country and/or sectoral basis (and for the power sector relative emissions per installed capacity or generation). Relatedly, reporting on results from adaptation finance could be a valuable exercise in identifying where such finance is having the greatest impact.

- **MDBs should provide project-level data on mitigation and adaptation finance, including the amount of climate finance per project.** This would shed more light on the geographic distribution of MDB climate finance flows and on how much of an MDB's portfolio in each country is counted as climate finance.

- **Unify reporting on overall portfolio**. The MDBs should agree to a uniform reporting methodology for all their investments (not just those categorized as climate finance). The reporting methodology need not be overly detailed but should be granular enough to allow for meaningful analysis of the data. The World Bank's current sector-based tagging methodology is a useful model.

The MDBs should adhere to high standards of transparency regarding their funding flows, the climate impacts of their activities, and the potential risks climate change poses to their investments. The current MDB climate finance tracking approach falls short of these standards.

- **Start reporting in a way that is compatible with the TCFD recommendations**. This will require reporting on physical risk and transition risk across the entire investment portfolio. The MDBs should develop a common set of scenarios (including a 2°C or lower scenario) and modeling approaches. The methodology used and results of the scenario analysis should be disclosed

- **Develop comprehensive reporting on progress toward Paris alignment.** MDBs should increase transparency on the impacts their investments might have on the achievability of global and national climate targets and the steps they are taking to minimize these risks. This could be done in a form similar to TCFD disclosures, including, for example, information on the scenarios used and aspects of a climate strategy.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कारगिल चौक
KARGIL CHOWK
गाँधी मैदान
GANDHI MAIDAN
समाहरणालय
COLLECTRIATE
भट्टाचार्या रोड़
BHATTACHARYA ROAD
कदम कुआँ
KADAM KUAN
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# INTRODUCTION: THE MULTILATERAL DEVELOPMENT BANKS AND THE PARIS AGREEMENT

The Paris Agreement was a breakthrough, the first collective commitment by virtually all countries in the world to address the climate crisis. The agreement recognizes that to combat climate change, action by all countries and stakeholders is necessary. Its entry into force in record time in 2016, not even one year after its adoption, underlined the determination of its signatory governments to make the necessary transition toward carbon-neutral and climate-resilient societies.

The Paris Agreement has one overarching temperature goal. It aims to hold the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels. Its signatories also seek to increase the ability of countries to adapt to the adverse impacts of climate change and foster climate resilience. Parties to the Agreement must "prepare, communicate, and maintain" NDCs (UNFCCC 2015), which explain how each member country will contribute to the effort to attain the global goal. NDCs are to be updated every five years, with escalating levels of ambition. To implement these NDCs and finance the transition to a low-carbon world, the Paris Agreement calls for ensuring that finance flows are consistent with a pathway toward low GHG emissions and climate-resilient development.

Reaching the temperature goal of the Paris Agreement will be an enormous challenge. It will require a transformation in many key sectors of national economies, including energy production, land use, and transportation. This, in turn, will require strong political will and policy changes to shift finance toward activities that will put the global community on a pathway toward meeting the Paris objectives and away from investments that undermine climate ambitions.

## The Multilateral Development Banks

MDBs have a critical role to play in helping countries meet the temperature goal laid out in the Paris Agreement. MDBs are major finance providers to developing countries, including for infrastructure, much of which will be around for decades and therefore have a long-term effect on countries' development trajectories and future carbon emissions. The banks also directly or indirectly mobilize additional finance by acting as lead investors and attracting others to invest alongside them. In 2017, for example, the MDBs covered in this report mobilized an estimated $154.4 billion in additional long-term public and private finance, about $54 billion of this in middle- and low-income countries (AfDB et al. 2018). This report focuses on the following development banks: the African Development Bank (AfDB), the Asian Development Bank (ADB), the Asian Infrastructure Investment Bank (AIIB), the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the Inter-American Development Bank (IDB), and the World Bank Group (including IBRD, IDA, and IFC).

MDBs do not only have impact through their direct investments and mobilization of additional finance. They also set standards that are often followed by other financial institutions, companies, and governments through the projects they invest in and the policies they apply. Many of the banks also conduct policy research, offer technical assistance, and provide policy-based finance, all of which can have a significant positive impact on the policies, laws, and institutions in the countries where they operate.

The MDBs have committed to supporting implementation of the Paris Agreement. At the Paris Climate Conference in December 2015, six MDBs promised to "support the outcomes of the Paris conference"(AfDB et al. 2015). At the One Planet Summit in December 2017, MDBs and the bilateral and national development banks that are members of the International Development Finance Club (IDFC) reaffirmed "their joint commitment to align their financial flows with the Paris Agreement" (MDBs and IDFC 2017).

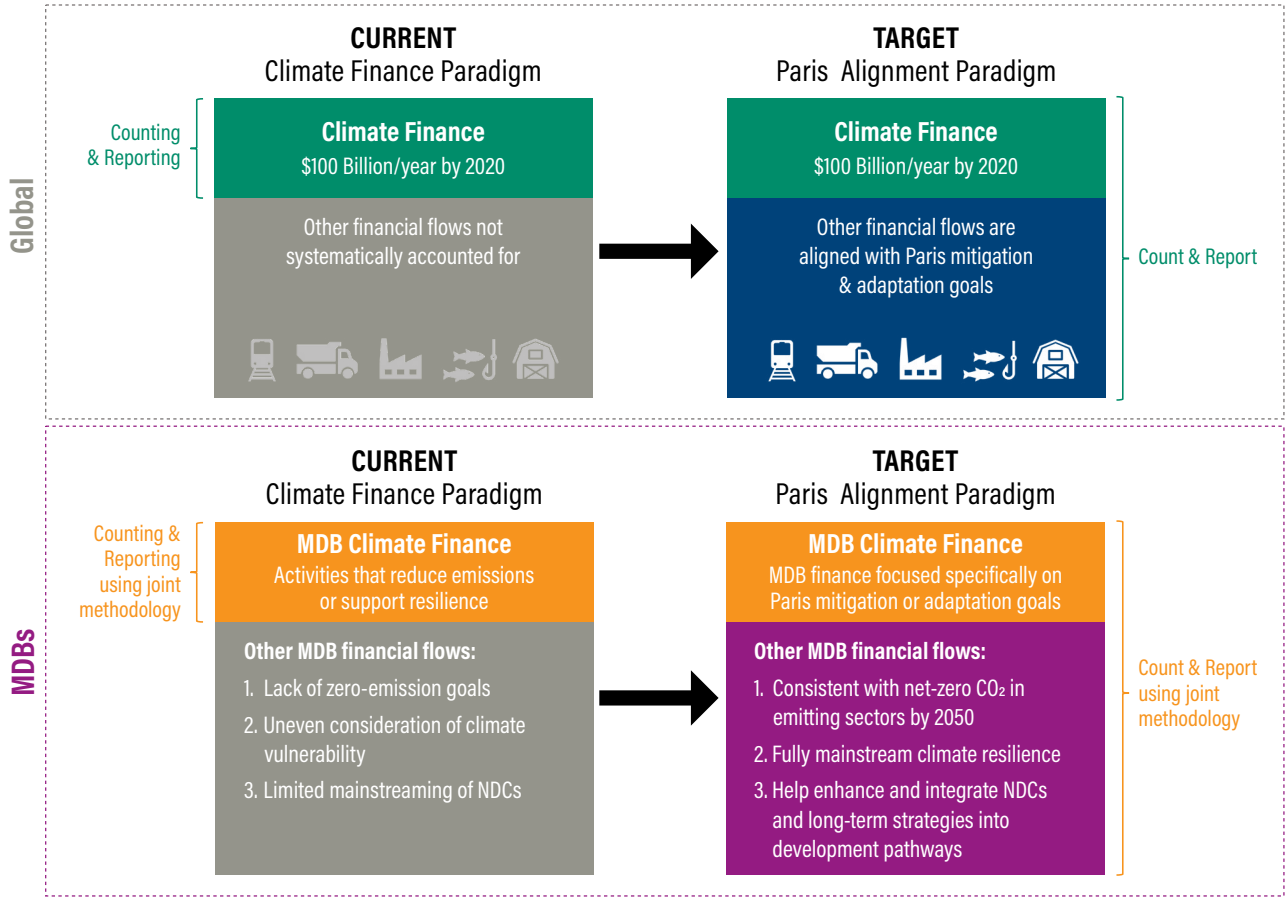
## Shifting Paradigms

To contribute to the fight against climate change, the MDBs have to date largely operated under what we refer to here as a Climate Finance Paradigm. That paradigm involves defining, tracking, and maximizing the amount of climate finance that MDBs provide and mobilize. Accordingly, the banks have adopted a common methodology for defining and tracking climate finance. They have announced climate finance targets, and since 2012, they have reported together on the amounts of climate finance they are providing. MDB-provided climate finance has grown over time, reaching some $35 billion in 2017. In some cases, climate finance targets are being revised to make them more ambitious.

Progress on the Climate Finance Paradigm has been encouraging, and much has been achieved in recent years. However, given the urgency of the challenge and the rate at which the world must reduce emissions to have a reasonable chance of meeting the Paris Agreement temperature goal, the current paradigm is not enough. A different paradigm is needed, one that builds on the successes of the Climate Finance Paradigm but which also makes full use of the MDBs' capacity to advance Paris Agreement implementation. Stakeholders are now asking for what we call here a Paris Alignment Paradigm, which involves not only maximizing volumes of climate finance, but also gradually bringing the rest of the MDBs' pipelines and portfolios into alignment with the requirements of the Paris Agreement and enabling client countries to build the capacities they need to develop stronger NDCs.

The Paris Alignment Paradigm involves three elements, which are covered by this study. The first is the role of the MDBs in supporting countries' NDCs, both in terms of providing financing to implement them and providing technical support to improve and enhance future NDCs. The second involves mainstreaming climate resilience into the banks' operations, ensuring that eventually all MDB-financed projects are sensitive and responsive to expected future climate impacts, as well as enabling countries to strengthen their own national and regional adaptive capacities, particularly among poor and vulnerable populations. And third, the Paris Alignment Paradigm involves developing ways to ensure that eventually all MDB projects—not just those labeled as climate finance—involve designs, technologies, and approaches that are consistent with the Paris Agreement's temperature goal (see Figure 1).

Figure 1 | Overview of Shift from Climate Finance Paradigm to Paris Agreement Alignment




*Source:* Authors

To transition from Climate Finance to Paris Alignment, a baseline snapshot is required first, and that is what this study aims to do.

## Questions and Methodology

To transition from Climate Finance to Paris Alignment, a baseline snapshot is required first, and that is what this study aims to do. The report seeks to answer the following questions:

- How are MDBs supporting NDCs and long-term climate-related planning?
- How can the MDBs know if their investments are in line with the Paris Agreement temperature goal?
- How are the MDBs mainstreaming climate adaptation and resilience across their investments?
- How transparent are the MDBs on climate-related activities and investments?

The paper is based on an extensive review of policy and academic literature and official documents. We also conducted structured and semi-structured interviews with 115 MDB staff, representatives from MDB member countries, and other relevant stakeholders. Interviews took place at the headquarters of several MDBs and in seven countries that receive MDB finance: Argentina, Brazil, India, Kazakhstan, Sri Lanka, Tunisia, and Uganda. These countries were selected because each finalized two or more MDB country strategies since the signing of the Paris Agreement, except for Argentina, which completed only one country strategy during this time but is of special importance because it holds the G20 presidency. This allowed us to understand variations in how climate-related issues were treated by each bank while controlling for country. The following documents were analyzed for the report:

- All 92 MDB country strategies finalized between January 2016 and December 2017
- NDCs in the 75 countries with MDB country strategies finalized between January 2016 and December 2017
- Various climate scenarios, including those from integrated assessment models (IAMs), energy-sector models, and renewables or efficiency scenarios
- Project documents for MDB investment projects
- Existing research on climate change and financial institutions by the MDBs and other actors

The report is divided into four main sections. The first identifies how the MDBs are supporting with recipient country governments on the implementation and enhancement of their NDCs. It includes an overview of some of the challenges associated with implementing this first round of NDCs and provides recommendations on what can help strengthen this support. The second shows how the banks can ensure that their investments are aligned with the global temperature goal, including the application of various decision-making tools to this process. Section three documents how the MDBs are mainstreaming climate change resilience throughout their investment portfolios and suggests way to accelerate this process. Section four looks at how the banks currently report on their investments and identifies potential areas for improvement.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CHAPTER I

# HOW ARE THE BANKS SUPPORTING NDCS AND OTHER CLIMATE PLANS?

NDCs are what makes the Paris Agreement come to life. More than 195 countries have submitted NDCs to the United Nations Framework Convention on Climate Change (UNFCCC). In these documents, governments lay out their plans to reduce emissions and strengthen resilience and adapt to climate change impacts.

These country-owned commitments must be revised every five years with increasing ambition to enable Parties to reach the global mitigation and adaptation goals agreed to in Paris. NDCs also create increased transparency about each country's planned actions and a link between the need for global reductions in emissions and the policy decisions to reduce emissions that ultimately must take place at the national level.

But ensuring implementation and enhancement of the NDCs is not easy. All the NDCs will require new policies and investments. These documents were often created through imperfect processes, which adds additional challenges to ensuring that the commitments are met and exceeded.

The MDBs play a critical role in enabling countries to finance their NDCs along with other development priorities, and the MDBs have made political and high-level policy commitments to support NDC implementation. For example, at the 2017 One Planet Summit, the MDBs and IDFC members committed to a variety of actions as part of their efforts to align their financial flows with the Paris Agreement, including to "strengthen institutions to enable the translation of NDCs into policies (MDBs and IDFC 2017). Additionally, the World Bank has pledged ongoing work "with countries to help them deliver on and exceed their Paris ambitions, including through financing, technical assistance, and knowledge sharing on the implementation of the NDCs" (WBG 2018). One of the guiding principles of the ADB's Climate Change Operational Framework to 2030 is "supporting ambitious climate objectives articulated in nationally determined contributions and other climate plans (ADB 2017). Meanwhile, the AfDB, ADB, EBRD and the WBG are also institutional members of the NDC Partnership (NDCP), a global partnership of governments, development finance institutions, and others that "aims to enhance cooperation so that countries have access to the technical knowledge and financial support they need to achieve large-scale climate and sustainable development targets as quickly and effectively as possible" (NDC Partnership 2018a).

To follow through, MDBs have started to incorporate NDCs into their engagements with client countries, but the process is in its early stages. As NDCs are relatively new, both banks and governments are still identifying how best to implement their commitments and how to grapple with the fact that the process that gave rise to the NDCs and the NDCs themselves remain works in progress. So far, the MDBs have set up platforms, tools, and programs especially focused on facilitating NDC implementation, and a larger ecosystem of public and private finance—of which the MDBs are a part—is emerging to enable NDC financing. But there is more the MDBs can be doing, as we suggest in our recommendations.

In this section, we present a snapshot of how the MDBs are currently supporting countries with their NDCs, the remaining challenges, and recommendations on how they can be even more supportive of countries as they implement and strengthen NDCs. The section is based on an analysis of MDB policies, programs, and activities to support NDC implementation, including policy commitments and technical assistance programs. We also examined the 92 MDB country strategies that were finalized after the Conference of the Parties (COP) adopted the Paris Agreement, along with the 76 NDCs of the countries covered by these strategies (some countries developed strategies with more than one bank during this time).

This research was supplemented with interviews with MDB staff and national authorities in Argentina, Brazil, India, Kazakhstan, Sri Lanka, Tunisia, and Uganda. These countries were selected because they developed country strategies with at least two MDBs since the Paris Agreement was adopted, allowing us to understand better variation in the treatment of NDCs by different banks within the same country. The exception is Argentina, which completed only one country strategy during this time but is of special importance because it currently holds the G20 presidency. As such, we hope the Argentine experience will help inform the upcoming G20 policy deliberations on climate finance and the MDBs.

## Implementing the First Generation of NDCs Is No Simple Matter

The creation of NDCs is a novel development in international climate diplomacy. These are complex plans, demanding a comprehensive vision of the present and future direction of a national economy and a clear understanding of where the biggest opportunities exist for emissions reductions. They also require broad consultations and buy-in from many stakeholders across society. Countries had to do their best during this process, even when resources and capacities available to produce the NDCs varied dramatically across countries. In addition, the first generation of NDCs had to be completed and submitted to the UNFCCC in a relatively short period of time.

Not surprisingly, the products vary widely in terms of scope, detail, and ambition. Some NDCs are very high-level, while others contain much more granular detail. The process for developing and socializing the NDCs was often imperfect, as was their alignment with other national plans and strategies. Overall, NDCs still need to be more ambitious to meet the Paris temperature goal. When MDBs engage national authorities on their NDCs, accepting and working with all of these issues inherent in the NDCs has been part of the course and part of the challenge.

## NDCs vary widely in detail and specificity

In general, the review of NDCs found that the plans outline high-level commitments but vary in detail and specificity. Kazakhstan's NDC, for example, includes an unconditional target to reduce GHG emissions by 15 percent below 1990 levels but does not include additional sector-level targets or planned actions (Government of Kazakhstan 2016). Conversely, Brazil's NDC sets targets to reduce GHG emissions by 37 percent and 43 percent below 2005 levels by 2025 and 2030, respectively, and then sets additional targets and actions in three sectors that the IPCC has identified as critical for keeping temperatures below 2 degrees Celsius. Brazil's commitments include specific targets to increase biofuel consumption, reduce emissions from land-use change and forests, and increase the use of renewable energy (Federative Republic of Brazil 2016). Because NDCs for many countries are drafted at a high level of generality, defining clear sub-targets and actions for implementation—and therefore, identifying clear financing priorities—remains a gap to be filled.

## NDCs were created through imperfect processes

Most NDCs were drafted before the adoption of the Paris Agreement by the COP, which did not provide clear guidance as to how NDCs should be developed. As a result, countries used a wide range of processes to draft the documents and select their targets. These processes have, in turn, shaped the quality of the NDCs and identified pathways to implementation.

Some countries drafted their NDCs through effective multistakeholder processes that helped ensure buy-in from other government and nongovernmental stakeholders. In Argentina, for example, the government created the Climate Change National Cabinet to update its original NDC and secure buy-in across the new government, civil society, and the private sector (see Box 1). Sri Lanka developed its NDC through a collaborative process led by its Ministry of Environment, in which each of the country's 52 ministries provided inputs about their sector plans and agreed on final targets that formed the basis of the NDC targets. In Tunisia, the Ministry of Environment coordinated the NDC process and had each ministry use its own priorities and sector strategies as the basis for Tunisia's NDC targets.

Frequently, though, ownership of the NDCs has remained primarily with one ministry, often the environment ministry, and the plans have lacked strong buy-in from government institutions that hold significant political or fiscal power. In Kazakhstan, for example, the Ministry of Environment led the process to develop the NDC with input from EBRD, experts from Nazerbayev University, and the Climate Coordination Committee, an independent organization. But after Kazakhstan submitted its NDC, the Ministry of Environment was dissolved, and its core responsibilities were transferred to the Ministry of Energy, where four of the five programmatic divisions set and implement policies to advance the interests of the coal, oil, and natural gas industries, which constitute two-thirds of Kazakhstan's GDP. In Sri Lanka, although the process led by the environment ministry was inclusive of many different voices, it did not designate which ministries would be responsible for implementing each NDC target, thus confusing the path to NDC implementation, as Sri Lanka has a total of 12 ministries responsible for energy, agriculture or land, and water.

Subnational actors at the state or municipal level were also frequently disconnected from NDC processes, which can pose implementation challenges, particularly in countries where subnational governments have a high degree of autonomy from the central government. For example, India's National Ministry of Environment, Forests, and Climate Change led the process to develop the country's NDC. India's governing bodies are split between the national agencies and the municipal governing institutions of India's 36 states and union territories. These subnational entities all developed and adopted state action plans for Climate Change between 2008 and 2010, but none of these plans were incorporated into the development of the national NDC.

## BOX 1 | ARGENTINA AND A TALE OF TWO NDC PROCESSES

Argentina completed a revision of its initial NDC in September 2016. The two different processes that the country used to create the first and second iteration of the plan help illustrate the range, pitfalls, and opportunities of different processes that were used to develop NDCs.

Argentina's first intended NDC was developed quickly so that it could be submitted to the UNFCCC in October 2015, before COP21. This NDC was developed primarily by the Ministry of Environment and set an unconditional target to reduce emissions by 15 percent relative to business as usual by 2030, equal to a total net emissions level of 570 million tons $CO_2e$ by 2030 (Republic of Argentina 2015). Under the second iteration of the NDC, Argentina committed to a more ambitious target to limit net emissions to 483 million tons of $CO_2e$ by 2030 (Republic of Argentina 2016b).

This revised, more ambitious NDC came about after newly elected President Mauricio Macri created the Environment and Sustainable Development Ministry in December 2015 and established an inter-ministerial National Climate Change Cabinet charged with developing a revised NDC, preparing a national plan for response to climate change, and proposing sector plans delineating mitigation and adaptation efforts to be pursued at the ministerial level. The National Climate Change Cabinet is led by the chief of the Cabinet Ministers (a position akin to prime minister) and coordinates meetings on sectoral and cross-cutting topics with representatives from 12 national ministries, municipal governments, the Federal Council of the Environment, and civil society organizations (Republic of Argentina 2016a).

As a first initiative, the National Cabinet set out to develop a revised NDC. To do this, the Ministry of Environment sent out a list of targets for each of the ministries and asked them to review and revise the targets so they were at least as—and preferably more—ambitious than the initial targets. The Ministry of Environment then compiled these new targets into a revised NDC that had more ambitious targets and enjoyed more widespread support within the ministries (Republic of Argentina 2016b). Once this revised NDC was submitted, the ministries in Argentina set about developing sector road maps to identify relevant barriers, regulations, needs, and financing that will affect the success of the NDC targets. Sector plans for forests, transportation, and energy, covering the vast majority of the country's mitigation commitment, were approved in late 2017 and form the foundation of Argentina's push to create both a national mitigation strategy and a national climate change strategy.

### The NDCs are unevenly aligned with other domestic strategies and plans

NDCs are part of a larger ecosystem of national policy documents and plans, including national development plans, adaptation plans, and economic strategies. In some instances, the NDC is consistent with and well-integrated into this ecosystem. In Ethiopia, for example, the paramount climate-related policy document is the Climate Resilient Green Economy Strategy, published in November 2011 as part of the Climate-Resilience Green Economy Initiative (CRGE) (Federal Democratic Republic of Ethiopia 2011). Ethiopia's NDC uses the same targets as the CRGE and is thus anchored in the larger national strategy. Argentina's National Climate Change Cabinet plans to turn the revised NDC and related sector implementation plans into a coherent national strategy on climate change that, once approved by Parliament, will be enforced as law. If successful, Argentina's international NDC commitments will be anchored in and aligned with Argentina's domestic laws, national strategies, and ministerial operational plans.

In other cases, inconsistencies are apparent between the NDC and each country's domestic strategies and national plans. For example, Kazakhstan's NDC and its main economic strategy document, the Green Economy Concept, adopted in 2013, use different targets and point to different emission trajectories. Achieving the target in the Green Economy Concept would put Kazakhstan on a lower emissions pathway than achieving its NDC target. Another example is Tunisia, where the NDC includes targets that are based on existing strategies but are still sometimes inconsistent with the targets laid out in the individual strategies of key ministries. The NDC breaks its topline emissions-reduction commitment into expected contributions from numerous sectors, including the energy, agriculture and land-use, and

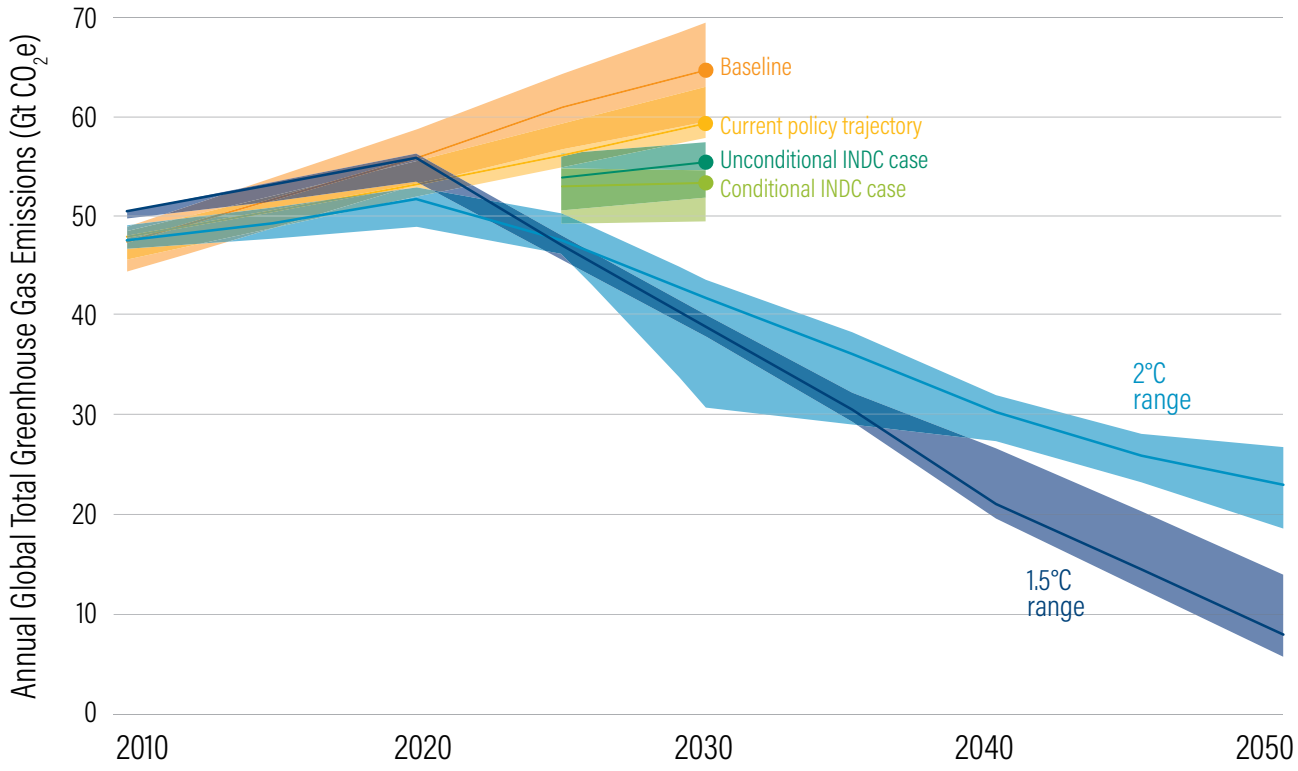
waste sectors. The renewable energy target in the NDC is identical to the one laid out in Tunisia's Solar Energy Plan (Ministry of Environment and Sustainable Development of Republic of Tunisia 2015), but the Ministry of Environment and Sustainable Development's climate change strategy commits to reduce its carbon intensity 60 percent by 2030. This is more ambitious than the NDC, which aims for a conditional target to reduce its carbon intensity 41 percent by 2030 (Ministry of Environment and Sustainable Development of Republic of Tunisia 2018).

The NDCs were initially envisioned primarily as mitigation-focused documents, meaning that all countries were obligated to discuss mitigation but not adaptation. Thus, not all NDCs outline the country's adaptation priorities; those often appear elsewhere. This is true even among highly vulnerable countries. Fiji, for example, is among the countries most vulnerable to climate change but does not discuss its adaptation needs in its NDC. Instead, these are to be laid out in Fiji's National Adaptation Plan. Similarly, adaptation is excluded from the (I)NDCs submitted by Turkey and Trinidad and Tobago, despite the fact that both countries are highly vulnerable to climate change (Republic of Turkey 2015; Government of Trinidad and Tobago 2015).

## Current NDCs do not get us to the Paris temperature goal

Current NDCs don't get the global community where it needs to be in terms of global emissions levels. The NDCs are relatively short-term commitments meant to guide action until around the year 2030. Even if fully implemented, the NDCs put us on a path to between 2.6°C and 3.2°C of warming, with the IPCC estimating that the NDCs lead to pathways of 3°C (Climate Action Tracker 2017; IPCC 2018), meaning the NDCs are insufficient to allow us to reach the Paris goal of "well below" two degrees Celsius (see Figure 2). If the current batch of NDCs is implemented, emissions are projected to exceed the remaining available carbon budget for 1.5°C warming (see Section 2 for more on negative emissions). According to the IPCC, "[t]here is high agreement that current NDC emission levels are not in line with pathways that limit warming to 1.5°C by the end of the century" (IPCC 2018, ch. 4).

Figure 2 | Emissions Gap between NDCs and Pathways to Paris Temperature Targets




*Source:* UNEP Emissions Gap Report (UNEP 2017b).

That NDCs, taken together, exceed the remaining carbon budget for reaching 1.5°C warming is not surprising, given that this is only the first round of NDCs. The Paris Agreement lays out a structured timeline for a global stock-take on mitigation, adaptation, and finance in 2023 and then every five years thereafter (UNFCCC 2015, Article 14.9). The next opportunity for submitting revised NDCs will occur in 2020 and presents an important opportunity for countries and other stakeholders in the climate community to produce NDCs that are more ambitious and better integrated into each country's existing development and climate agendas, thereby making them more likely to be implemented.

## Long-term strategies are imperative, but only a few are in place

The Paris Agreement also encourages all countries to "strive to formulate and communicate long-term low greenhouse gas emission development strategies" (UNFCCC 2015, Article 4.19). Such long-term strategies ask countries to plan to mid-century, or a couple decades beyond the time horizon of the NDCs, to help ensure that countries have a coherent approach to supporting the long-term transition to a net-zero GHG future. Although countries have until 2020 to submit their long-term strategies, 10 countries (the United Kingdom, Czech

Republic, France, Benin, the United States, Mexico, Germany, Ukraine, the Republic of the Marshall Islands, and Canada) have already done so.

Long-term strategies underscore the importance of tracking long-term trends and creating plans to ensure that each country's domestic policy agenda is consistent with their international commitments under the Paris Agreement. Indeed, the long-term strategies submitted by the United Kingdom and under development by Brazil, for example, show that the strategies can help to promote this type of consistency. The United Kingdom submitted its Clean Growth Strategy to the UNFCCC as its long-term strategy, which provides specific targets for emission reductions from key sectors, outlines policies to boost the country's renewable energy sectors, and includes targets for the intervening years between 2020 and 2050 (United Kingdom 2017). Brazil is in the process of developing its long-term strategy, with the goal of releasing it at COP24. The aim is for the targets and pathways laid out in the long-term strategy to be integrated into the revised NDC that Brazil will submit in 2020.

Thus, thinking long-term can help countries avoid locking in pathways based on current technology and instead focus on prioritizing investments that are consistent with both the Paris temperature goal and the country's economic plans (Ross and Fransen 2017).

## MDBs Have Started to Provide Support for NDC Implementation

The previous section outlined the many challenges inherent in working with the current generation of NDCs. Yet, as the key connective tissue between the Paris Agreement and national policies and actions, the NDCs must be financed and implemented, and the next generation of NDCs must mark a leap forward in terms of quality, clarity, and ambition. This is where the MDBs play a major role. This section provides a snapshot of how the banks are supporting NDCs through NDC-specific technical assistance programs, country programming processes, and financing envelopes.

### Most MDBs have launched NDC-focused technical assistance programs, although these efforts cover small number of countries and are mostly financed externally through ad hoc trust funds

Five of the MDBs have launched or are in the process of developing technical assistance (TA) programs specifically focused on helping countries with their NDCs (see Table 1). These programs are typically funded through donor trust funds and, although they share the general aim of helping countries deal with some of the challenges associated with the NDCs, differ in structure, scope, and means of engagement.

The IDB and the World Bank have the most well-established NDC-focused technical assistance (TA) programs to date. IDB first launched its NDC Invest platform in October 2016 and has since supported 17 countries, 4 regional activities and 10 pipeline development projects under the program. NDC Invest has a budget of $20 million and provides grant assistance, funded by a mix of internal and donor resources, to both public and private actors. NDC Invest has backed activities that include identifying a pipeline of NDC-relevant infrastructure projects in Argentina, supporting stakeholder engagement processes aimed at

increasing NDC awareness in Brazil, and increasing transparency on the use of climate finance in Guatemala and Jamaica. The IDB is currently making modifications to the structure of NDC Invest, which includes the creation of a new results framework. Through its Deep Decarbonization Pathways Project in Latin America and the Caribbean, the IDB is also providing technical support in six countries aimed at building the capacity of local think tanks and academia to model long-term decarbonization pathways. The intention is to help enable national experts to prepare sound climate-related plans, including long-term strategies and strengthened NDCs, and provide a path to decarbonization by the end of the century.

Meanwhile, the World Bank is implementing NDC-focused technical assistance in 22 projects across 18 countries through its NDC Support Facility. The facility is strongly aligned with the work of the NDC Partnership. The NDCP Support Facility is backed by a $23 million grant from the German government. It is currently in its third round of funding. The facility is bank-executed; teams across different sectors and countries apply to receive grants to pay for NDC-related activities either as part of existing or independent projects. The first round of funding was allocated to a variety of activities, including support for analytics to inform NDC-relevant economic decision-making with the Ministry of Finance in Indonesia, laying the groundwork for clean bus systems in Latin American cities, and supporting government coordination around the NDC in Vietnam. In addition, the facility funds the Climate Action Peer Exchange, a forum for peer learning, knowledge sharing, and mutual advisory support that brings together ministers and senior technical specialists from finance ministries across the world, as well as World Bank staff and other international experts, to discuss the fiscal challenges involved in implementing the NDCs.

In 2017, the AfDB launched its NDC Hub, which supports NDCs through three pillars. The first pillar will focus on translating the NDCs into a national program or programs and integrating mitigation and adaptation issues into national climate policies. The aim of the first pillar is to promote and support actions that foster long-term climate action. The second pillar will focus on mobilizing the financing, capacity building, and technology transfer required to achieve NDC commitments. The third pillar focuses on facilitating information exchange through improved coordination, advocacy, and partnership (AfDB 2018a). In addition to the AfDB, the NDC Hub includes 13 partners ranging from pan-African institutions to United Nations Agencies and NGOs (AfDB 2017a, 2017b).

The ADB and EBRD are in the initial phases of their NDC-focused technical assistance programs. ADB's NDC Advance program aims to translate the NDCs into subnational and/or sectoral policy and investment plans. It will be funded initially with $3 million from ADB's own resources. ADB's climate team hopes to use these NDC-focused sector plans as a platform to integrate climate into ADB's sector-specific operations. ADB aims to launch its NDC Advance program by the end of 2018. The initial phase of EBRD's NDC Support Program was launched in July 2017. It provides direct technical support to a smaller number of countries, currently Mongolia, Kazakhstan, and Egypt, and NDC-focused communication and outreach, which is available to all EBRD countries. The EBRD initiative is capitalized with €5 million from donor funding, and the initial phase will run through 2022, after which EBRD plans to expand the program.

The NDCs are key connective tissue between the Paris Agreement and national actions, and the next generation of NDCs must improve in clarity, quality, and ambition. This is where the MDBs play a major role.

Table 1 | NDC Technical Assistance Initiatives

| BANK | PROGRAM TITLE | STATUS | COUNTRIES CURRENTLY SUPPORTED* | FUNDING (MILLIONS) |
|---|---|---|---|---|
| ADB | NDC Advance | To be launched end of 2018 | To be determined | $3 |
| AfDB | Africa NDC Hub | Operational | **18 Countries:** Angola, Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Mozambique, Niger, Nigeria, Sao Tome and Principe, Senegal, Sierra Leone, Togo<br>**2 Regional:** Sub-Saharan Africa (2 countries) and North Africa (2 countries) | $1.6** |
| EBRD | NDC Support Program | First phase operational until at least 2022 | Egypt, Kazakhstan, Mongolia | €5 |
| IDB | NDC Invest | Operational and undergoing revisions | **17 Countries:** Argentina, Bolivia, Barbados, Brazil, Chile, Costa Rica, Colombia, Dominican Republic, Guatemala, Guyana, Jamaica, Mexico, Panama, Paraguay, Peru, Uruguay, Suriname<br>**5 Regional:** Sustainable islands, clean bus facility, climate risks in PPPs, modeling of deep decarbonization pathways & sovereign green bonds | $20 |
| WB | NDC Support Facility | Operational | **14 Countries:** Bangladesh, Brazil, Chile, Colombia, Costa Rica, Côte d'Ivoire, Georgia, Indonesia, Kyrgyzstan, Morocco, Mozambique, Pakistan, Sao Tome and Principe, Vietnam<br>**2 Regional:** North & Sub-Saharan Africa; Latin American Cities | $23 |

*Notes:* *Meant to be indicative, not exhaustive, as of October 2018, as these programs are ongoing.
**The Africa NDC Hub is a platform, so all activities are funded by each partner institution and will not be covered by this $1.6 million.

*Source:* Interviews with MDB staff.

In addition to NDC-focused technical assistance programs, some of the MDBs have also produced and released knowledge products focused on NDC implementation. For instance, the World Bank launched the NDC Platform, a website that maps the global NDCs commitments in a searchable database, along with implementation plans and cost estimates as provided by the countries themselves ((NDC Partnership 2018b). The IFC analyzed the NDCs of 21 emerging market countries and identified $23 trillion in climate-smart investment prospects in these countries until 2030 (IFC 2016a). EBRD's Law in Transition Program conducted an assessment focused on legal and institutional actions required to support implementation of the NDCs in Jordan, Morocco, and Tunisia (EBRD 2017a). These targeted technical assistance and knowledge programs provide valuable grant funding for NDC-related activities and incentives for countries to continue to engage with and improve upon their NDCs and can help to catalyze additional funding or capacity-building work that can facilitate larger NDC-related investments later.

However, a main challenge facing these programs is their small size relative to both the total investment needs required to meet the NDCs and the total operational footprint of each MDB. Thus, the NDC TA programs are insufficient by themselves to meet all requests for NDC support and do not by themselves ensure that MDB investments support NDC implementation. Also, financing for many of these programs is done through ad hoc trust funds financed through the generosity of donor governments; this raises questions as to the scale and future sustainability of these initiatives, especially because NDCs will require support for years to come, and perhaps even decades.

To help countries build a climate-coherent approach to development finance—one ensuring that all investments support (or at least do not undermine) a country's climate goals—other actions will be needed, actions that help ensure that NDCs and related climate plans are mainstreamed into MDB operations.

## NDCs are starting to be incorporated into MDB country strategies, but progress is uneven

In addition to technical assistance programs, some MDBs are starting to implement other processes to integrate NDCs into investment cycles. This includes efforts to bring NDCs (and other climate plans) into upstream dialogue with clients on investment opportunities.

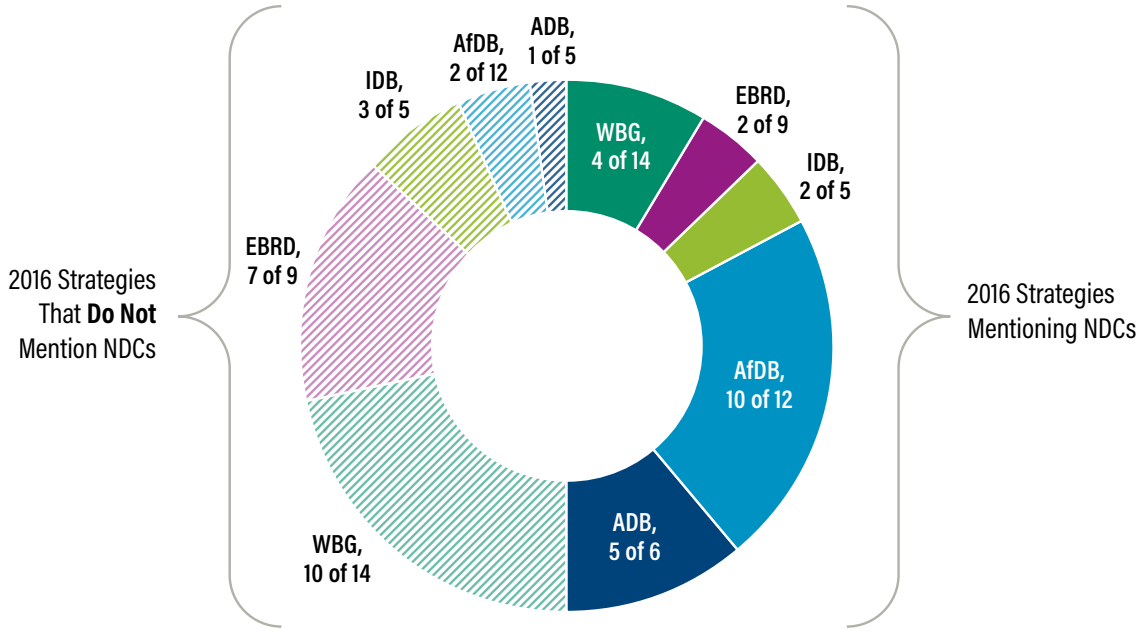
The MDBs and their government counterparts conduct regular planning and policy dialogues to set the country's development priorities that the banks will support over a lending period typically lasting between three and five years. For five of the seven MDBs reviewed in this study, the process results in a country strategy. The banks begin this process with a diagnostic of each country's development needs. These diagnostics are typically conducted by bank staff and are designed to identify the development barriers that should be targeted first. The World Bank, in particular, emphasizes the use of its Systematic Country Diagnostic to identify development barriers in a country (WBG 2018b). This diagnostic is then used as an input for the country strategy. The strategies play somewhat different roles within the banks, but in general they provide overarching guidance as to what could be financed over the period covered in the strategy.[1] The EIB and AIIB do not create investment strategies at the country level but instead focus their engagement at the project level, often through co-financing with the other development banks. EIB does not plan to launch a dedicated NDC technical assistance program as the other banks have but plans to use NDCs as policy documents that can shed light on whether a project that EIB is considering is aligned with a country's policy framework. The benefit of this approach is that it creates an opening for the NDCs to become mainstreamed into EIB's operations; however, it also makes it difficult to assess whether the NDCs are integrated into EIB's operations. In operation since 2016, AIIB is still finalizing the full scope of its policies and programming initiatives, and it is not clear how the NDCs will fit into its programming. Thus, our analysis of MDB country strategies does not include EIB and AIIB. It covers only the five banks that publish country strategies: AfDB, ADB, EBRD, IDB, and the WBG.

Whether an MDB country strategy references the country's NDC and engages with the document in a meaningful way matters for two reasons: First, since NDCs will remain key documents that operationalize and advance commitments under the Paris Agreement for many years, it is symbolically and practically important that a direct dialogue emerge between the NDC and country strategies with multilateral development banks. The more meaningful the engagement between both documents, the greater the chances that MDB financing will directly support, or at least not hinder, NDC implementation. Second, the country strategies published by the WB, IDB, ADB, and AfDB are the result of joint dialogue between the governments and MDBs, so a meaningful connection between NDCs and MDB country strategies also helps ensure that finance ministries, which typically lead country engagement with multilateral banks, are fully informed and supportive of the NDC. This has benefits in and of itself, given the important role that finance ministries play in policymaking.

As a result, some of the banks have made explicit commitments to NDC engagement in the context of the country strategy process. The World Bank, for example, requires all Country Partnership Frameworks and Systemic Country Diagnostics under the 18th IDA replenishment to "reflect (Intended) Nationally Determined Contributions" (WBG 2017b). IDB and AfDB have similar requirements in their climate action plans (IDB 2016b; AfDB 2016).

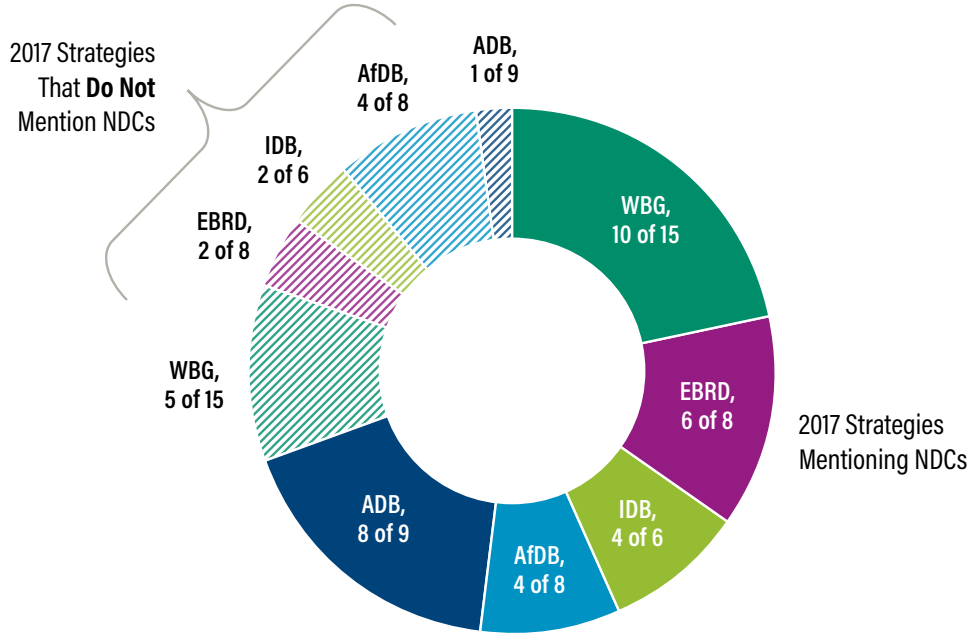
Between January 1, 2016, and December 31, 2017—the years after the Paris Agreement was adopted—the five banks that undertake country strategies and their client governments finalized 92 country strategies for 76 countries (some countries completed more than one strategy). Of these strategies, virtually all discuss how the bank's actions will help the country address climate change, but only 60 percent mention the country's NDC explicitly. The NDC mentions range from purely pro forma mentions of NDC commitments to detailed formulations of how MDB financing can support NDCs. Notably, the percentage of country strategies mentioning NDCs grew substantially in 2017 relative to 2016 (see Figures 3 and 4). Almost three-quarters of strategies completed in 2017 mention NDCs (compared to around half in 2016). This increase may reflect the NDCs seeping into the national policy dialogue with the passage of time. Overall, about a quarter of the strategies go beyond merely mentioning the NDCs to including a description of how bank activities will support the implementation of the NDCs. The rest mention the NDCs only (or primarily) as background (see Figure 5).

Figure 3 | NDC Mentions in Country Strategies Finalized in 2016



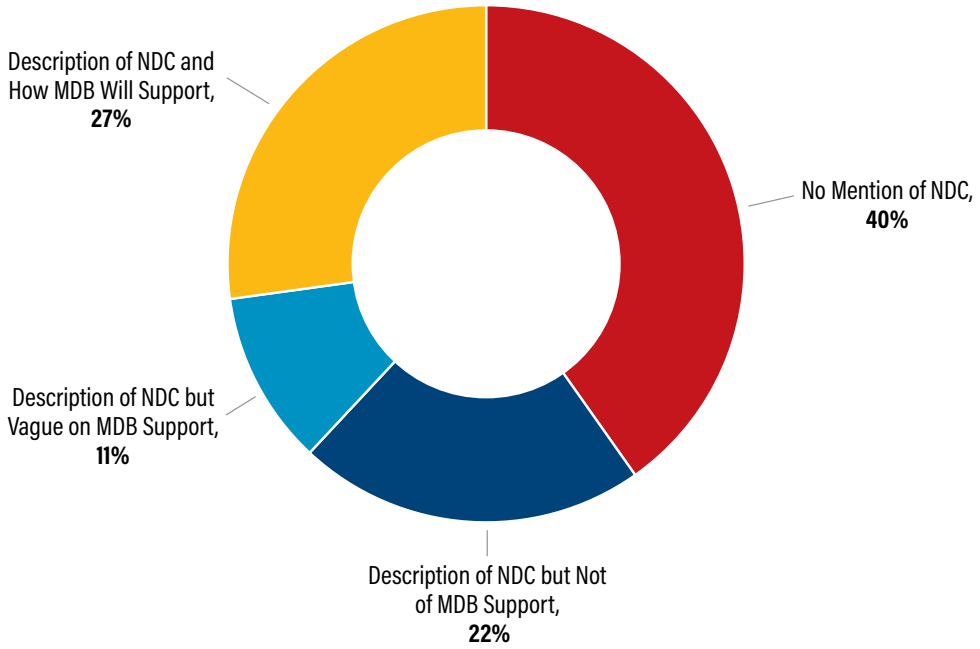

*Source:* Author calculations based on MDB country strategies and country NDCs.

Figure 4 | NDC Mentions in Country Strategies Finalized in 2017




*Source:* Calculations based on MDB country strategies and country NDCs

Figure 5 | Substance and Significance of NDC Mentions in Country Strategies (2016 and 2017)




*Note:* If the NDC was described as a policy document or in the background information on a country, but either not included in the bank's proposed programming or followed up with a commitment from the MDB to support NDC implementation, it was categorized as "description of NDC but not MDB support."

"Vague MDB Support" refers to instances where strategy includes a variation of the phrase "the bank will support NDC implementation," but provides no additional detail about that support or includes that phrase in a footnote to the strategy.

Strategies that identified how MDB programming would help the country implement its NDC were classified as "description of NDC and how MDB will support."

*Source:* Calculations based on MDB country strategies and country NDCs.

## BOX 2 | THE IFC'S SCALING SOLAR PROGRAM

The IFC's Scaling Solar Initiative describes itself as a one-stop shop for privately funded solar energy projects, backed by the technical expertise and support of the IFC. Launched in January 2015, the initiative is operational in Ethiopia, Madagascar, Senegal, and Zambia, all of which have set targets to expand renewable energy in their NDCs. It is designed to help countries overcome barriers to private sector investment, such as a lack of scale and competition, limited institutional capacity, high transaction costs, and perceived risks. To do this, IFC staff provide each country with a package of preapproved financing and insurance products, template documents, and technical assistance. This support then enables each country to design and conduct an efficient, transparent, competitive auction for solar generation. Ideally, each project under the Scaling Solar program will take no more than two years to prepare the project, award a tender, sign the financial deal, complete construction, and become operational (WBG n.d.-b).

In its first auction in Zambia, the Scaling Solar program awarded a 25-year fixed contract at a then record low of US 6.015 cents per kWh for two projects, both of which recently began construction. Following this success, Zambia signed a second contract with Scaling Solar in February 2017 to develop up to 500 MW of solar and has started soliciting tenders for five projects totaling 100 MW of solar. Senegal solicited help from the Scaling Solar program to build two projects totaling 60 MW of solar power, equal to 10 percent of its current installed capacity. Senegal held two auctions that yielded tariffs under EUR 4 cents per kWh, 60 percent lower than the previous lowest tariff in Senegal. Ethiopia had a record number of developers apply to be eligible to bid. Meanwhile, Madagascar is launching the first solar tender to require both solar PV generation and battery storage. In attracting and scaling private sector investment in renewable energy in these countries, the IFC's Scaling Solar program is also facilitating NDC implementation, as part of each country's NDC pledge to reduce emissions and substantially increase in renewable energy (WBG n.d.-b).

### MDBs often support NDC implementation, but without specifically mentioning NDCs

The MDBs are also undertaking activities that could have a positive impact on NDC implementation, but often without specifically referencing NDCs. All the MDBs operate in the same sectors that are prioritized in the NDCs. While only 60 percent of the MDB country strategies mention NDCs explicitly, virtually all mention climate change and include at least one investment commitment that is explicitly tied to helping a country address its climate vulnerabilities or climate commitments. The EBRD, for example, focuses its sustainability efforts on its Green Economy Transition approach, which was launched in 2015 and typically includes investments in renewable energy and energy efficiency, sectors that reduce emissions and are commonly discussed in NDCs (EBRD 2015). Although all 17 EBRD strategies devote one-quarter to one-half of their programming to providing a detailed description of how the EBRD's investments support the Bank's Green Economy Transition program, only three strategies provide an explicit discussion of how EBRD's planned investments support the country's NDC.

Interviewees gave several reasons why NDCs were not mentioned in a country strategy even though the activities financed by an MDB were supportive of NDC components. Some said that a bank may work "from the bottom up," focusing more on the transaction level and working "one or two levels" of specificity below the NDC. Others suggested that the non-mention of an NDC in a strategy might be politically driven, as the ministry in charge of the policy dialogue with the MDB may not hold the NDC in high regard or may find it politically controversial.

In other cases, the MDBs have undertaken activities focused on climate-related planning that positively impact NDC implementation, even if these activities are not specifically focused on NDCs. Under its GET program, for example, the EBRD has engaged its countries of operation in policy dialogues to improve the regulatory frameworks and thus investment conditions for NDC-relevant sectors. The WBG's Partnership for Market Readiness (PMR), for example, operates in 20 countries with the aim of providing capacity building support to scale up a broad range of climate mitigation efforts. As part of its policy work, the PMR is providing analytical and modeling support to Sri Lanka, Morocco, Costa Rica, Chile, Vietnam, Brazil, and Colombia, which will benefit efforts to strengthen these country's NDCs. Other programs provide NDC support without specifically mentioning NDCs, such as the IFC's Scaling Solar Initiative (see Box 2).

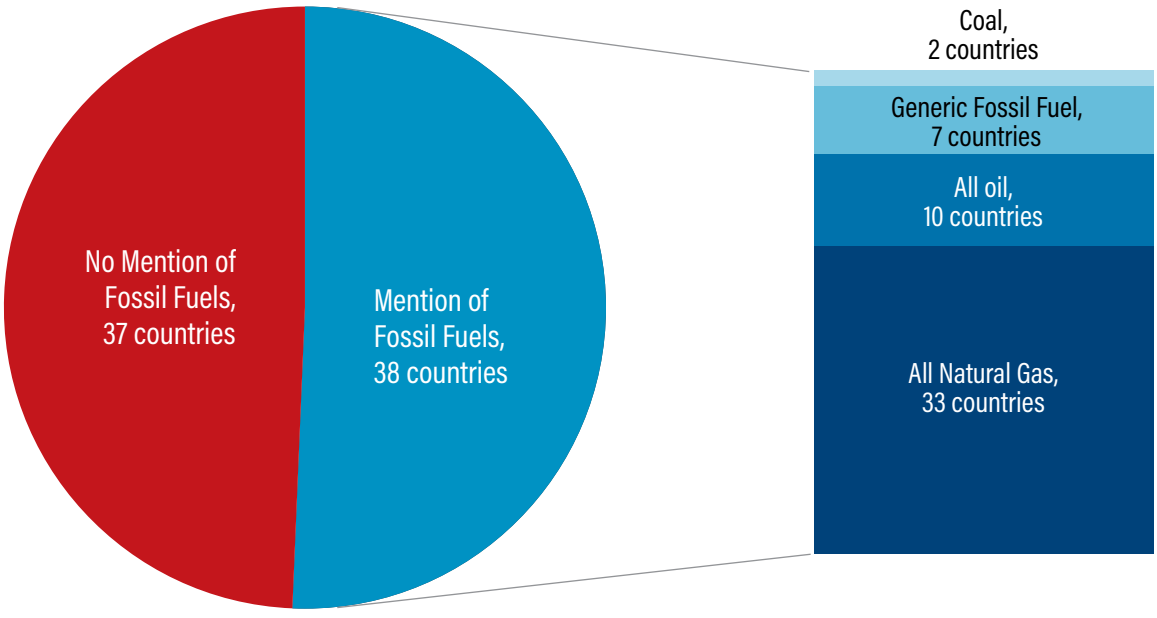
Finally, the MDBs use a range of targets, tools, and decision-making processes to ensure that their operations are addressing climate change considerations generally. The tools most appropriate to mitigating climate change are discussed in Section 3 of this report, while Section 4 explores the adaptation tools.

The finding that MDBs operations are supporting NDC implementation without mentioning NDCs is not necessarily problematic, particularly if the overall trend shows that MDB support helps to enable countries to meet their NDC targets over time. The MDBs operate by financing projects while the NDCs are high-level planning documents that often do not provide the level of detailed information that would be useful in identifying or structuring financeable projects, so there is at times an unnatural fit between the NDCs and MDB project-level decisions. But the risk with MDB operations supporting NDC implementation without being clear about that link is that it can undermine efforts to bring greater clarity and transparency to how the NDCs are being implemented. Such an outcome could undermine the credibility and effectiveness of the Paris Agreement's ratcheting and global stock-take mechanisms.

## MDBs continue to support activities that may undermine NDC implementation

While MDBs support NDC implementation, either explicitly or not, they also continue to support initiatives that could potentially hinder NDC implementation. This is most evident within the energy sector. Thirty-eight of the 75 countries reviewed indicate plans to invest in the fossil fuel energy sector in their new MDB strategies (see Figure 6). Countries intend to use MDB resources to support investments in natural gas in 33 of the 75 countries, while coal is mentioned in EBRD's strategies for Kosovo and Mongolia (EBRD 2016d, 2017b) and the World Bank's strategy for Kosovo. (The World Bank has since made clear that it will not support the Kosovo coal project on cost-effectiveness grounds (WBG 2017c).

Figure 6 | Mentions of Fossil Fuels in Countries with New MDB Strategies (2016–2017)




*Source:* Authors' review of MDB country strategies.

Project finance data suggest that although the MDBs are reporting record levels of climate finance, they are also continuing to invest in carbon-intensive projects. For example, although EBRD helped develop Kazakhstan's NDC, its most recent energy investments are a $9.9 million loan to JSC Circle Maritime Invest, which specializes in logistics for the oil industry, and a $80 million loan to KazPetrol, which specializes in oil and gas exploration (the loan to KazPetrol is pending board approval) (EBRD 2017c). Since 2016, the World Bank has approved 36 projects for more than $8.5 million in the oil and gas sector although it has also committed to phasing out upstream oil and gas starting in 2019 (WBG 2018c).[2]

Investments in fossil fuels are not necessarily against NDC implementation. Of the 74 NDCs reviewed for this study, 20 (nearly one-quarter) mention natural gas electricity generation.[3] This includes countries like China and Bosnia and Herzegovina, which currently rely on coal for much of their electricity generation and where natural gas could reduce carbon emissions. It also includes countries like Benin, Tanzania, Eritrea, and Mozambique with electrification rates under 50 percent (WBG 2018a). In these countries, natural gas investments could increase access to electricity, but renewable sources of electricity may also be available to serve that purpose. Meanwhile, MDBs pledge to support natural gas for electricity generation in 18 of the 74 countries that do not discuss natural gas for electricity in their NDCs. For example, Albania currently obtains nearly all of its electricity from hydropower (International Hydropower Association 2018) and commits in its NDC to further reducing GHG emissions from the energy sector. EBRD's strategy for the country, though, states that the bank will support Albania in developing a functioning gas market in the country (EBRD 2016). Albania has limited domestic natural gas production and plans to purchase natural gas from Azerbaijan to take advantage of several natural gas pipelines planned for the country (Albania Energy Association 2017).

## Recommendations

Although the shortcomings of the NDCs present challenges, the MDBs are well-placed to help clients strengthen and implement the commitments. MDBs are beginning to support the implementation of NDCs, but more effort is needed to ensure that a country's climate goals help guide MDB investments. This research shows that the MDBs can be effective at encouraging the implementation and enhancement of NDCs, including the processes through which the commitments are created. Although the MDBs are demand-driven and can only provide financing for projects supported by the clients to whom they lend, they are not passive observers in this process and have an opportunity to help influence the role and quality of the NDCs. MDBs can help inform dialogues, introduce new proposals, and elevate ideas in the policy debate.

### Discuss NDCs in strategic dialogues and include explicitly in country strategies

While the inaugural round of NDCs may not be strong enough as a group to reach the global temperature goal, it is crucial that NDCs be institutionalized at the MDBs, starting at the strategy level. The direct engagement of NDCs in country strategies can help catalyze such change. As an example, Sri Lanka government representatives report that inquiries from the MDBs about how a proposed investment project linked to the NDC provided an incentive for actors like the Ministry of Finance to understand and engage more actively with the country's NDC. MDBs should consistently bring NDCs into conversations with ministries, local financial institutions, and others to help elevate the role of NDCs in development planning processes.

To ensure that climate considerations are a part of the early conversations about investment opportunities, MDB climate experts should be included in the upstream dialogues between the MDBs and clients. For example, for those MDBs that create country strategies in collaboration with governments, climate staff should consistently be included in these strategic discussions. By 2020, 100 percent of new MDB country strategies should explain how MDB's investments and activities link to the country's long-term climate-related planning, including the NDC.

### Discuss NDCs in global dialogues

MDBs also play an important role in shaping global dialogue on economic development. The MDBs should use their communication platforms—including flagship knowledge products, annual reports, high-level dialogues, and speeches and communications by MDB senior management—to help elevate the importance of NDCs and the value of efforts to align development with long-term climate goals.

### Help strengthen the next generation of NDCs through technical assistance and analysis

When engaging with clients on NDCs, it will be vital for MDBs to acknowledge and help tackle shortcomings in the first round of commitments. How that is done will vary depending on each MDB's mandate, but as a group, the MDBs should supporting national authorities by generating analysis of options to make NDC targets more ambitious in the most cost-effective way possible. Depending on the needs of the country, strengthening NDCs can mean both increasing the ambition of the commitments and ensuring that countries have in place the institutions, data, and stakeholder buy-in necessary to ensure that commitments can be implemented.


Efforts to enhance the NDCs should be coupled with support for long-term, Paris-compatible development strategies that outline national decarbonization pathways and adaptation plans. The MDBs are particularly well-placed to assist governments in developing these pathways and in identifying investments, incentives, and systems to shift financial flows into Paris-compatible development.

Some of the shortcomings of current NDCs arise from the commitments not being fully embedded and institutionalized in a country's governance process. In many cases, efforts to address this shortcoming will go a long way to ensure the implementation of the NDCs. In other cases, governments can use support to ensure that their next NDC presents strong and actionable targets.

Efforts to enhance the NDCs should be coupled with support for long-term low GHG emissions development strategies that outline national decarbonization pathways, as well as adaptation-focused planning, such as that captured in National Adaptation Plans (NAPs). The IDB's work to support the capacity of countries to identify their own pathways to decarbonization with an emphasis on a just transition is a positive example of such support (Vogt-Schilb 2017).

MDBs are particularly well-placed to assist governments in identifying investments, incentives, signals, and systems to help shift financial flows toward Paris-compatible development and to enable private actors to take advantage of such government action. Long-term strategies will ideally include

- a time frame for the strategy and a long-term quantified outcome for reductions in GHG emissions;
- goals for sustained and inclusive development, a just transition for workers, creation of decent work and quality jobs, and poverty reduction;
- goals for human and environmental well-being;
- a long-term outcome for climate adaptation and resiliency;
- consideration of the interactions between development and mitigation and adaptation responses; and
- a trajectory toward the long-term vision (Levin et al. 2018).

### Do not invest in activities that undermine the NDC

Aligning MDB operations with the Paris Agreement can only occur if the MDBs make sure that no investments go against the temperature goal. The MDBs should therefore understand the relationship between investment decisions and the country's NDC or similar climate plans, such as NAPs or long-term strategies. Assessing alignment with climate commitments for some investments is relatively simple. For example, investments in renewable energy will be supportive of a given country's NDC, since virtually all NDCs discuss the reduction of emissions from the energy sector. Other investments, such as those in certain types of financial reforms, will neither support nor hinder the implementation of climate plans. But still others, such as those in fossil-fuel energy resources or emission-intensive transportation infrastructure, can undermine a country's national climate commitments. The MDBs should ensure that they clearly understand both the country's climate target long-term climate trajectories and whether their investments threaten to undermine these objectives.

Sections 2 and 3 of this report go deeper into the tools and processes that banks can employ to ensure that each investment is systematically evaluated as to whether it aligns with global climate aspirations.

### Consider how to scale up and secure long-term funding for NDC support programs

NDC support programs will soon be in place at most, if not all, the MDBs. But funding remains modest relative to demand for support, and questions remain about the long-term sustainability of relying heavily or exclusively on donor largesse to support what will become a long-term support and technical assistance function. MDBs should consider how to secure additional funding for these programs, including from their own resources, and how to ensure that resources for NDC support will be available even if donors cease to replenish dedicated trust funds for this purpose.

### Help identify NDC-related opportunities for private actors

Those MDBs that focus primarily or exclusively on engagement with the private sector should seek to identify potential private investment opportunities associated with NDCs. Tying NDCs directly to private-sector opportunities will not always be easy. But MDBs can assist with highlighting for private actors the market signals sent by the NDCs. They can also collaborate with other MDBs focused on public institutions to help identify regulatory or fiscal actions that may help encourage private investment in NDC-aligned activities. MDBs that work with public institutions can support these institutions in putting in place investment plans, regulatory frameworks, and other actions to help shift private finance toward NDC-aligned activities and away from actions that could undermine the country's climate goals.

### Train MDB staff and clients on NDCs, with priority for high-emitting countries or sectors

Because MDB country offices and project teams have primary responsibility for engaging with clients, these staff members must have sufficient information and motivation to bring the NDCs into their dialogues with public and private actors. This can only happen if the banks have internal processes to provide high-quality and relevant climate-related information to country offices and project teams and if appropriate incentives are in place to encourage bank staff to grapple with country climate commitments.

One method to help encourage interest among bank staff is to provide information to sector and/or country experts on relevant NDCs and the strengths, weaknesses, and opportunities associated with the commitments. One example of this is the IDB's NDC Guide and NDC Country Profiles, which delineate how the NDC fits into the IDB's current programming in that country and what additional investments could arise from NDC implementation.

CHAPTER 2

# HOW CAN THE MDBS ALIGN INVESTMENTS WITH THE PARIS LONG-TERM TEMPERATURE GOAL?

As we saw in the previous section, supporting current and future NDCs and long-term strategies is one part of the multilateral development banks' necessary transition from a Climate Finance paradigm to a Paris Agreement Alignment paradigm. The second element of this shift, however, is more ambitious.

It begins by recognizing that the MDBs are not only providers of finance, technical assistance, and knowledge products, but also an integral part of an ecosystem of public financial intermediaries that must do their part to help the world peak global carbon emissions by mid-century and thus avoid catastrophic climate change impacts. In this section, we consider what this role entails and describe the tools available to the MDBs to put it into practice.

We realize that for the MDBs, as intergovernmental organizations with sustainable development mandates, fully embracing the role of aligning all their investments with the Paris temperature goal will involve sometimes making tough choices and taking difficult stances. Indeed, of all the sections in this report, this one has been the most controversial among our reviewers. We have heard two main concerns.

The first is that MDBs are demand-driven organizations that largely respond to what client countries want, so the banks have very limited scope to change course. This objection fails to recognize that changing course is not a one-way street. As discussed in the NDC section, MDBs also play an important role in shaping global understandings of what is possible and desirable in international development. Their advisory and research functions help countries diagnose sustainable development challenges and identify the best courses of action. MDBs regularly put new facts, analysis, and opportunities on the table, expanding the choice set in the iterative dialogue among the MDBs, country authorities, and the private sector. Also, MDBs—through their boards of governors and executive directors—ultimately make decisions about what they will fund and not fund. They make policy determinations, provide management with policy guidance, and ultimately approve or reject loan proposals. In short, MDBs also have agency.

The second concern we have heard relates to the speed at which different countries should embrace low-carbon-resilient alternatives. Paris Agreement alignment inevitably means saying no to fossil fuel- and other high-carbon technologies, but the concern is whether this policy should fall equally on everyone. In many developing countries, for example, energy access should not be held back by concerns over carbon emissions. As many have argued elsewhere, this apparent tradeoff is often a false one. In many parts of the developing world, access to electricity, especially for populations that fall outside the grid, off-grid solar solutions are bringing the benefits of electricity without adding to carbon emissions. Tailored solutions will have to be found for each country.

We do not provide a one-size-fits-all answer here. Instead, this section makes a central point: All credible scenarios suggest that global emissions from electricity generation will have to go to zero by mid-century if we hope to meet the Paris temperature targets, particularly the 1.5°C goal. As the recent IPCC report on 1.5°C makes clear, there is a significant difference between a 1.5°C world and a 2°C world in terms of damage to natural ecosystems and to human development; the former world is much more preferable (IPCC 2018). This section also acknowledges that power-generation infrastructure typically has a multi-decade lifespan, and, given that the middle of the century is only three decades away, there is little room left to add to dirty technologies anywhere in the world. That is the urgent context within which the board and management of each MDB will have to make choices about what to finance and what not to finance as it shifts to a Paris Alignment Paradigm.

This section begins by providing an overview of the main messages coming out of climate scenarios. It then reviews the tools that MDBs currently use to integrate climate change mitigation into their investment decisions, and it ends with recommendations on how to continue to improve these tools. Reaching the Paris temperature goal will require substantial emission reductions from many sectors, including agriculture, forests, and waste management. Examples in this section of the report draw particularly from the energy and transportation infrastructure sectors, as these are high-emitting and the destination of significant levels of MDB finance. An in-depth discussion of additional sectors is beyond the scope of this report, but this should not be interpreted as inferring that other sectors are not important to the global temperature goal.

## What Are the Climate Scenarios Telling Us?

Climate change mitigation scenarios indicate different pathways for reaching a set temperature. They are generally constructed by selecting an emission or temperature target and then defining the actions necessary to reach that target. They can be created through different methods and be based on different assumptions and datasets. To understand the role that MDBs and other financial intermediaries must play in helping countries reduce carbon emissions, a close look at the key messages emerging from the scenarios is instructive.

Table 2 illustrates the global or regional studies reviewed for this report. These were selected to provide an overview of what the current academic literature says on options for reaching the Paris temperature goal. Given the range of assumptions underlying the various studies, it is essential to understand the assumptions behind each scenario. This report looks at the overall messages from a range of studies and does not recommend the exclusive use of any one specific source.

Table 2 | List of Studies Reviewed for This Report

| SCENARIO NAME | INSTITUTION (OR AUTHORS) | FINAL OUTCOME OR PURPOSE | TIME PERIOD | KEY CHARACTERISTICS |
|---|---|---|---|---|
| Advanced Energy [R]evolution | Greenpeace (Teske, Sawyer, and Schäfer) | Power, heat, and transportation sectors are fully decarbonized | 2015 to 2050 | ■ No temperature definition<br>■ Excludes nuclear and CCS<br>■ Assumes a faster introduction of new technologies than 2°C scenarios |
| Sustainable Development Scenario | International Energy Agency (IEA) | Integrates the objectives of the SDGs on climate change, energy access, and air quality | 2017 to 2040 | ■ Assumes an early peak in $CO_2$ emissions and then a rapid decline<br>■ Achieves universal electrification<br>■ Projects emissions levels by 2040 that are consistent with a median temperature increase of 1.7–1.8°C by 2100 |
| Energy Technologies Perspective: Beyond 2°C Scenario | IEA | Deploys an "accelerated clean energy technology approach" to avoid lock-in of emissions-intensive infrastructure | 2014 to 2060 | ■ 50% chance of limiting temperature increase to 1.75°C by 2100<br>■ Targets a carbon-neutral energy system by 2060 |
| The Emissions Gap Report | United Nations Environment | Estimates emission reductions gap between 1.5°C and 2°C scenarios and those projected by the NDCs | 2020 to 2030<br>2030 to 2050 | ■ 50–66% chance of limiting global warming by 2100 to below 1.5°C above pre-industrial levels<br>■ Synthesizes existing scenarios on 1.5°C and 2°C |

*Source:* OECD/IEA and IRENA (2017); Taske et al. (2015); IEA (2017b); (IEA 2017c); UNEP (2017b); Rogelj et al. (2015); Rogelj et al. (2018); van Vuuren et al. (2018); IPCC (2018).

Table 2 | List of Studies Reviewed for This Report (cont'd)

| SCENARIO NAME | INSTITUTION (OR AUTHORS) | FINAL OUTCOME OR PURPOSE | TIME PERIOD | KEY CHARACTERISTICS |
|---|---|---|---|---|
| Perspectives for the Energy Transition | IEA and International Renewable Energy Agency | 66% probability of keeping the average global surface temperature rise to below 2°C throughout the 21st century | 2015 to 2100 | ■ Assumes energy policies are implemented to reduce GHG emissions to reach Paris targets<br>■ Assumes full removal of fossil fuel subsidies<br>■ Assumes a carbon price in all power & industry sectors |
| Energy system transformations for limiting end-of-century warming to below 1.5°C | Rogelj et al. 2015 | Identify the factors that lead to 1.5°C temperature increase and not 2°C | 2020 to 2100 | Compares scenarios of 2°C and 1.5°C to analyze:<br>■ emissions pathways in short and long term<br>■ pace of energy system transformation<br>■ importance of CCS and storage<br>■ required investments |
| Scenarios toward limiting global mean temperature increase below 1.5 °C | Rogelj et al. 2018 | Restrict median warming to below 1.5°C by 2100 | 2020 to 2100 | ■ Uses six integrated assessment models and a simple climate model<br>■ Uses different socio-economic, technological, and resource assumptions |
| Alternative pathways to the 1.5°C target that reduce the need for negative emission technologies | van Vuuren et al. 2018 | Keep warming to below 1.5°C with limited negative emissions | 2020 to 2100 | ■ Assumes strong changes in consumer behavior to limit energy demand<br>■ Assumes minimal negative emissions |
| Special Report on 1.5 Degrees | IPCC | Compare climate and development impacts of 1.5°C versus 2°C<br>Identify emissions pathways to 1.5°C | 2020 to 2100 | ■ Assesses available scientific, technical, and economic and socio-economic literature relevant to 1.5°C<br>■ Responds to a request in the Paris Agreement requesting a special report on the two temperature targets |

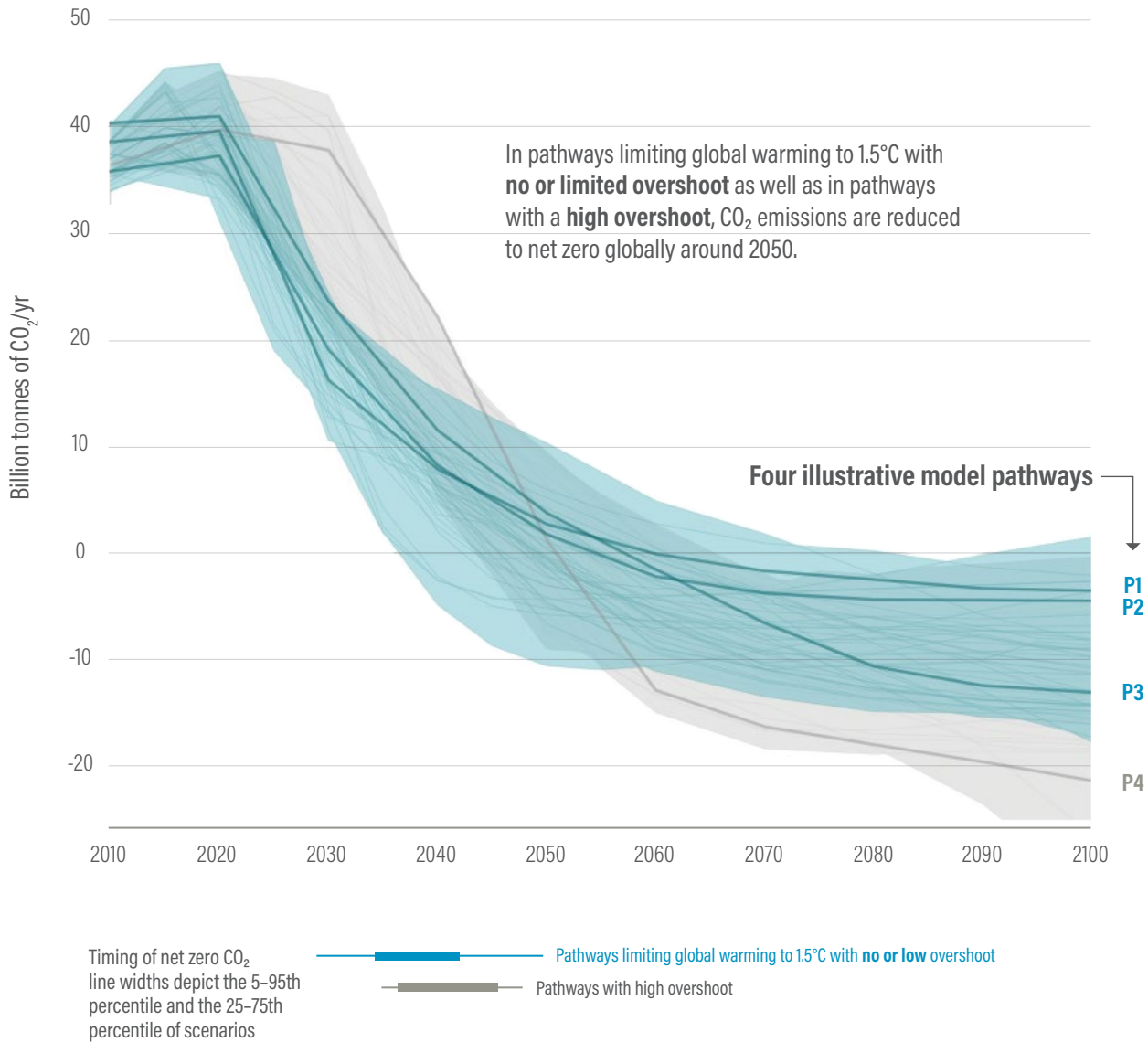
*Source:* OECD/IEA and IRENA (2017); Taske et al. (2015); IEA (2017b); (IEA 2017c); UNEP (2017b); Rogelj et al. (2015); Rogelj et al. (2018); van Vuuren et al. (2018); IPCC (2018).

The scenarios shown in Table 2 were produced by different tools, including Integrated Assessment Models (IAMs), energy sector models, and bottom-up analysis. They also employ different assumptions and focus on achieving a range of climate pathways, defined by either temperature targets or sector-specific pathways. The studies focused on a specific temperature target help shed light on what a Paris-aligned world would look like, while the studies focused on specific sectors highlight what changes can and must occur now to bring to fruition the pathways described in the temperature scenarios.

Climate impacts will be much more severe under a 2°C world than in a 1.5°C world. The recent IPCC Special Report on 1.5°C found that the impacts on extreme heat, ecosystem loss, crop and fishery yields, and sea level rise would be significantly

less severe if global warming is kept to 1.5°C. Limiting warming to 1.5°C, however, will require deep and rapid transitions in the energy, land, urban, industrial, and infrastructure systems, with global emissions peaking between 2020 and 2030, reaching net-zero around 2050, and then continuing to decline through 2100 (see Figure 7) (IPCC 2018). These findings are consistent with the other studies reviewed. For example, the 2015 study by Rogelj et al. (2015), which aims to highlight differences between pathways to 1.5°C and 2°C warming, concludes that to limit global warming to 1.5°C, net carbon emissions need to be zero by around 2050 and become negative thereafter. Scenarios based on 2°C allow for another 10 to 20 years before emissions must reach net zero.

Figure 7 | Emissions Pathways to 1.5°C and 2°C from 2015 to 2100




*Source:* IPCC Special Report on 1.5 Degrees C.

Limiting warming to 1.5 C requires all countries, at all development stages, to act quickly. Justice-centered pathways show ambitious domestic emission reductions and international cooperation where wealthier countries provide poorer ones with technological, financial, and capacity building support.

The scenarios reviewed also highlight that avoiding climate impacts can support sustainable development and poverty eradication. Limiting warming to below 1.5°C will particularly benefit the poor, who otherwise stand to suffer the most from climate impacts, and is also consistent with efforts to promote economic development and improve well-being. The IPCC reports that limiting warming to 1.5°C will expose between 32 and 36 million people to lower crop yields, while 2°C of warming will expose between 330 and 396 million (IPCC 2018). Meanwhile, in its 2017 World Energy Outlook, the IEA found its sustainable development scenario, which projected warming of 1.7°C to 1.8°C, led to better health outcomes through reduced air pollution and achieved universal electrification (IEA 2017).

But to reach the goal, all countries must act. According to the IPCC, maintaining warming at 1.5°C "would require fast action across all countries at all levels of development, rather than late accession of developing countries." To help encourage greater equity in the transition, developed countries must provide support. As stated by the IPCC: "Emerging literature on justice-centered pathways to 1.5°C points toward ambitious emission reductions domestically and committed cooperation internationally whereby wealthier countries support poorer ones, technologically, financially, and otherwise to enhance capacities" (IPCC 2018). Developed countries must also transition very rapidly to zero emissions, preferably before 2050.

Overall, the following messages about the successful attainment of the Paris temperature goal emerge clearly from our review of the scenarios and their pathways:

- Energy supply needs to decarbonize by around 2050, meaning that final energy use or energy conversion should not emit GHGs by that point. For some sectors, such as transportation, agriculture, and some industrial processes, achieving zero emissions will be very difficult or impossible within the required time frame. As a result, other sectors need to do more to meet the global pathways. One such sector is the energy supply sector, where more decarbonization options are readily available (Rogelj et al. 2015; van Vuuren et al. 2018; OECD/IEA and IRENA 2017; Rogelj et al. 2018; IPCC 2018).

- Significant transitions to low-carbon alternatives and sustainable consumption patterns in all sectors are necessary; the transitions must begin now, with a long-term perspective in mind (UNEP 2017; OECD/IEA and IRENA 2017; Rogelj et al. 2018; Climate Action Tracker 2017; Rogelj et al. 2015; van Vuuren et al. 2018; IPCC 2018). For example, low-carbon industrial solutions must be developed today so that they are available as large-scale investment options by mid-century to bring emissions to net zero.

- On the energy-demand side, effective energy-efficiency measures are necessary; consumption patterns in all sectors will have a very large

impact on how costly the transition will be. Lower global consumption will decrease the cost of the transition, while higher consumption will increase the cost of the transition (OECD/IEA and IRENA 2017; WWF 2011; Teske et al. 2015; Rogelj et al. 2018; van Vuuren et al. 2018; Cozzi et al. 2017; Rogelj et al. 2015; IPCC 2018).

- In the transportation and building sectors, massive shifts away from fossil fuels toward electricity, plus a significant and permanent increase in fuel and energy efficiency, are required. The shift away from fossil fuels and to electricity may not reduce GHG emissions in the short term but is essential for a long-term transition to decarbonization (OECD/IEA and IRENA 2017; Cozzi et al. 2017; Climate Action Tracker 2017; van Vuuren et al. 2018; Rogelj et al. 2015; IPCC 2018).

- Negative emissions, or carbon dioxide removal through bioenergy with carbon capture and storage (BECCS) are present in all pathways to 1.5°C and almost all pathways to 2°C (see Box 3). Pathways that temporarily overshoot the 1.5C limit by a large margin will need very substantial amounts of negative emissions to bring the temperature levels back down and to compensate for residual non-$CO_2$ emissions (Rogelj et al. 2018; Cozzi et al. 2017; OECD/IEA and IRENA 2017; Rogelj et al. 2015; IPCC 2018).

## What the scenarios tell us about the future of different technologies

The scenarios and their pathways describe the role of different technologies in meeting the Paris Agreement temperature goal and are thus useful in helping us to categorize certain investments in the energy supply and transportation sectors as aligned or misaligned with the Paris Agreement (see Table 3).

In all the pathways reviewed, for example, investments in new coal plants or in coal mining are not aligned with Paris temperature goal. Yet, in 2016 coal accounted for about 38 percent of global electricity generation, and its combustion remains

### BOX 3 | THE ROLE OF NEGATIVE EMISSIONS THROUGH CARBON DIOXIDE REMOVAL IN 1.5 C PATHWAYS

In addition to reducing emissions, mitigating climate change will likely require active reduction of atmospheric GHG concentrations. Several options exist for pulling carbon out of the atmosphere, including afforestation or reforestation, soil carbon sequestration, direct air capture, biochar, enhanced weathering, and ocean fertilization (Fuss et al. 2018). The exact role of so-called carbon dioxide removal varies in climate pathways, but most models indicate that some form of carbon dioxide removal will be necessary to reach the global temperature goal.

Among the carbon dioxide removal activities, only afforestation or reforestation has so far been commercially deployed at large scale. Restoring forest landscapes has multiple benefits beyond its GHG sequestration effects. Forests protect watersheds, support biodiversity, and help control erosion, among other positive impacts. Nonetheless, there continues to be under-investment in forest protection relative to the need and potential benefits (Harper et al. 2018).

BECCS is included in many IAMs (Boettcher et al. 2017; Rogelj et al. 2015). BECCS is based on coupling biomass with CCS technology both for power or fuel production. Plants absorb carbon. Instead of burning the biomass, thereby releasing the carbon back into the atmosphere, it can be burnt for energy and the $CO_2$ captured and stored long-term in geological sites. The IEA's Sustainable Development Scenario, for example, considers BECCS as a key option to offset residual emissions in sectors such as aviation and shipping where direct emission abatement is difficult or costly (IEA 2017). However, BECCS brings various challenges, including a potential need for significant land coverage (Williamson 2016; Smith et al. 2016). Land covered by energy crops could grow by almost four times in a 1.5°C scenario when compared to a reference scenario; this reduces land availability for food and feed crops, pasture, forest, and other natural land (Vaughan et al. 2018). Even in the modeling community, there are concerns about the technical, economic, and resource constraints of BECCS and specifically the economic, environmental, and societal sustainability of the technology (Cozzi et al. 2017; Vaughan et al. 2018).

the largest single source of $CO_2$ emissions in the energy system (IEA 2018). Thus, all pathways require that the share of coal in the electricity portfolio decline, leaving no room for additional coal capacity. Similarly, Carbon Tracker estimates that oil and gas companies' planned capital expenditures through 2025 exceed the allowed carbon budgets under 2°C pathways by one-third (Carbon Tracker and UN PRI 2017). Investments in oil and gas will also have to decrease.

On the other hand, renewable energy technologies represent a considerable share of the energy mix in Paris Agreement-compatible pathways. They are instrumental to decarbonizing electricity generation, which then makes it possible to electrify the transportation sector. For example, Rogelj et al. (2015) estimate that by 2050 low-carbon sources, defined as wind, solar, nuclear, and carbon capture and storage, will need to account for more than 95 percent of all electricity in 1.5°C pathways and more than 80 percent in 2°C pathways. Similarly, the IPCC estimates that renewable energy accounts for between 63 and 81 percent of electricity generation by 2050, while natural gas either disappears from the electricity portfolio or accounts for no more than 21 percent of electricity generation (IPCC 2018).

In the transportation sector, infrastructure such as rail and roads built solely to transport coal or petroleum are misaligned with the Paris temperature goal. Meanwhile, investments that promote low-carbon transportation methods, such as bike lanes, bike-sharing infrastructure, electrified public transit, and electric-vehicle-charging infrastructure are considered always aligned with the goal. Table 3 provides a complete summary of how each fuel source or technology is categorized, but critically, many investments in the energy and transportation sectors fall into the conditional category, meaning they could be classified as either aligned or misaligned, depending on the specific attributes of a given project.

Crucially, all investments to electrify transportation are considered aligned based on the assumption that the electricity sector will constantly move toward full decarbonization by 2050. Electricity (from a decarbonized grid) needs to account for roughly 25 percent of all energy used in the transportation sector by 2050 to be consistent with pathways to likely 1.5°C and 2°C (Rogelj et al. 2015). If the electricity sector does not move toward decarbonization, investments to electrify the transportation sector are not aligned.

Other activities cannot be so easily classified as aligned or misaligned with the Paris temperature goal in this manner. In these cases, the alignment of the investment depends on the specific attributes of a given project, such as its design and location. Table 3 provides a summary of how each fuel source or technology can be categorized, based on a review of available studies.

Notably, comparing pathways to 2°C versus 1.5°C of warming does not provide clear evidence that these technology categorizations should differ. The 1.5°C pathways reach it with an earlier and more rapid increase of zero-carbon technologies, greater use of negative emissions technology, faster phase-out of gas-fired power generation, and more profound changes in consumption patterns and energy efficiency. Additionally, 1.5°C pathways show a higher volume of rapid investments than in 2°C pathways. Reflecting this result, the report combines the two temperature goals in the Paris Agreement into a single phrase: the Paris temperature goal.

Table 3 | Activity Alignment or Misalignment with Paris Temperature Goal in Energy Supply and Transportation

| | PARIS-ALIGNED | CONDITIONAL | MISALIGNED |
|---|---|---|---|
| | **Fully aligned with Paris Agreement consistently across all scenarios** | **Only aligned under certain conditions** | **Consistently Paris misaligned in all scenarios** |
| Energy supply infrastructure | ■ Renewable energy (solar, wind, small hydro, tidal, wave and ocean)<br>■ Electricity system flexibility option | ■ Energy transmission and distribution infrastructure<br>■ Geothermal[2]<br>■ Gas (power plants, transport of gas)[1]<br>■ Large hydropower[3]<br>■ Biomass, incl. bio energy carbon capture storage[3,4]<br>■ Coal with carbon capture and storage[1,3]<br>■ Nuclear[3] | ■ Coal-fired power plants with unabated emissions over their lifetime<br>■ New upstream oil and gas production and exploration<br>■ Coal mining<br>■ Oil power plants |
| Transport infrastructure | ■ Zero-carbon transport fueling infrastructure (electricity, hydrogen, alternative fuels)<br>■ Non-motorized transport insfrastructure (sidewalks and dedicated bike-lanes, bike-sharing infrastructure)<br>■ Integration of transport and urban development planning<br>■ Electric rail and rolling stock (passenger and freight)<br>■ Electric public transport<br>■ Inland waterways<br>■ Transport and travel demand management measures | ■ Road infrastructure, including tunnels and bridges<br>■ Diesel rail and rolling stock<br>■ Port expansion for transport of non-fossil fuel freight | ■ New road, rail, waterway, and port infrastructure for fossil fuel transport<br>■ New airports/airport expansion[5] |

*Notes:*

[1] This investment area causes direct GHG emissions.

[2] THis investment area can cause direct GHG emissions.

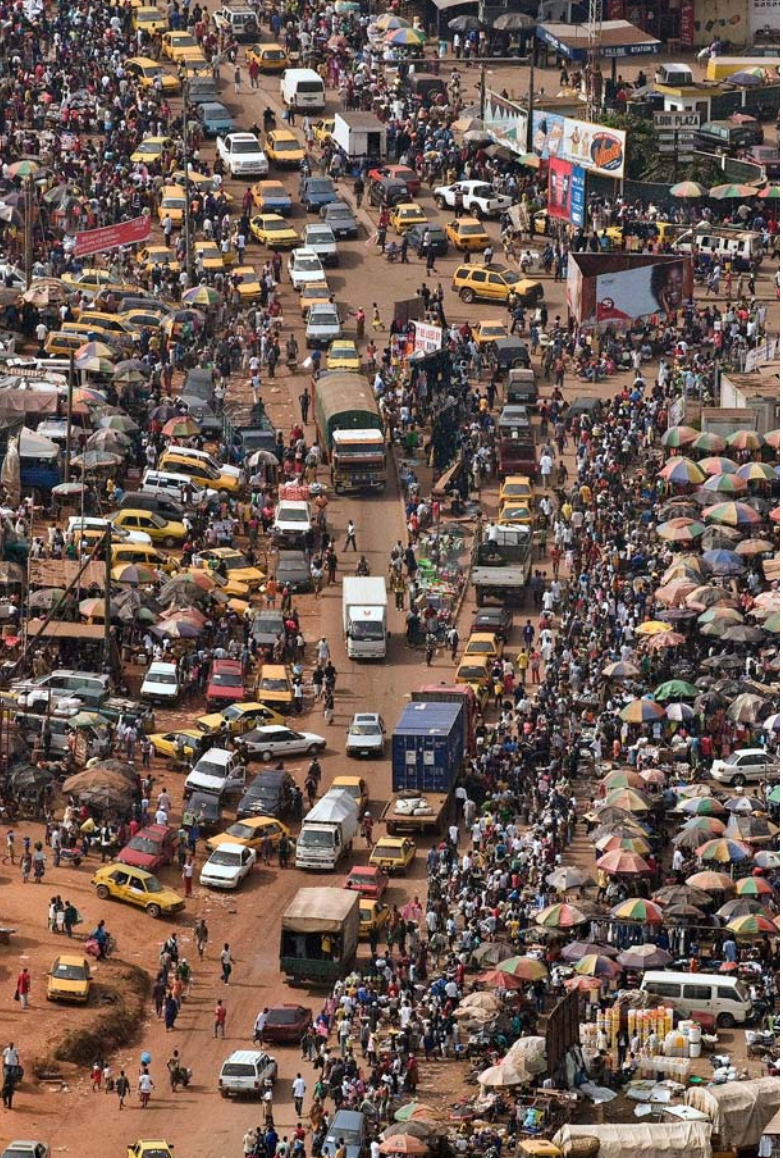
[3] This investment area is subject to critical sustainability and/or security concerns.

[4] The production of bioenergy can cause substantial GHG emissions. We differentiate this from other investment areas, where emissions occur during the manufacturing process, because the impact of unsustainable production of the fuel is proportionally larger, and not limited to the manufacturing of the technology.

[5] The authors do recognize that alternatives for air travel are more limited compared to, for example, coal or petroleum for electricity. This highlights the need for further investigation of fuel alternatives for air transport.

This list relies on global scenarios, with limited regional or national detail, so it can be refined to fit a specific country's context by using a national scenario that is in line with the Paris temperature goal and moving technologies currently defined as conditional to either the aligned or misaligned categories, depending on the country context.

*Source:* Authors.



## MDBs have deployed a variety of tools to consider climate change mitigation in their operations, but how these are used varies considerably from bank to bank

Over the last decade, the MDBs have begun to implement various policies, systems, and tools to understand and limit the negative effect of their investments on climate change mitigation efforts. Most of these tools are used to make decisions about individual projects, but others are more focused on the overall investment portfolio of the institution. The list includes exclusion and eligibility lists, emissions performance standards, shadow carbon pricing, and GHG accounting. Table 4 shows whether and how these tools are being deployed by the different banks.

### Exclusion or negative lists

Exclusion or negative lists identify categories of projects and technologies that banks will not finance. For example, the AfDB, ADB, and WBG do not fund certain activities related to oil and gas development. The AfDB (2012b) excludes exploration of new oil and gas fields, while the ADB (2009) will not invest in oil and gas exploration and oil extraction. The WBG will cease funding for all upstream oil and gas activities, such as exploration, drilling, and operating wells, after 2019 (WBG 2017a). In its draft energy-sector strategy, the EBRD commits to "not finance any upstream oil exploration; and not finance upstream oil development projects except in rare and exceptional circumstances where the projects reduce GHG emissions or flaring" (EBRD 2018c). The EIB, in its energy lending criteria, states that "standard EIB structures would probably not allow funding for early stage 'exploration/appraisal,' but all other parts of the chain should be eligible" (EIB 2013b). The ADB, AfDB, AIIB, EIB, and IDB also exclude commercial logging and/or the purchase of logging equipment for use in original forests, which has major climate implications. (ADB 2009b; AfDB 2013; AIIB 2016; EIB 2017a; IDB n.d.)

Some MDBs also use exclusion lists to withdraw (or drastically limit) their support for coal-fired power plants. The World Bank has committed to not fund greenfield coal plants except in rare and exceptional circumstances where no other viable electricity or financing options are available (WBG 2013). With its announcement to drop support for the Kosovo Power Project, the World Bank has effectively eliminated the last coal plant from its books. EBRD's draft energy-sector strategy states that the bank "will not finance thermal coal mining or coal-fired electricity generation capacity" (EBRD 2018c).

Exclusion lists are a relatively straightforward method to ensure that MDBs do not invest in activities that are misaligned with the Paris Agreement temperature goal. These lists provide clear guidance to MDB staff and clients on which activities to pursue and to avoid. The main challenge is that many activities cannot be categorized as misaligned with the Paris agreement based solely on the technology or fuel involved. Thus, many tools are unlikely to be included in exclusion lists, and so additional tools are necessary.

Table 4 | Summary of MDB Carbon Emissions Mitigation Tools

| TOOLS BY BANK | | AFRICAN DEVELOPMENT BANK | ASIAN DEVELOPMENT BANK | EUROPEAN BANK FOR RECONSTRUCTION AND DEVELOPMENT | EUROPEAN INVESTMENT BANK | THE INTER-AMERICAN DEVELOPMENT BANK | WORLD BANK GROUP (INCLUDING THE IFC) | ASIAN INFRASTRUCTURE INVESTMENT BANK |
|---|---|---|---|---|---|---|---|---|
| Exclusion Lists | Coal | – | – | Thermal coal mining or coal-fired generation capacity (draft energy strategy) | – | – | Coal except in "rare and exceptional circumstances" | – |
| | Oil | Exploration of new oil fields | ■ Exploration of new oil fields<br>■ Extraction of oil | ■ Upstream oil exploration<br>■ Upstream oil development projects except if project reduces GHG flaring (draft energy strategy) | – | – | All upstream oil activities after 2019 | – |
| | Gas | Exploration of new gas fields | Exploration of new gas fields | – | – | – | All upstream gas activities after 2019 | – |
| | Logging | Purchase of logging equipment to be used in primary tropical rainforests | Commercial logging operations in primary tropical or old-growth forests | – | ■ Converting natural forests to plantations<br>■ Commercial logging in primary tropical and subtropical forests | Commercial logging operations in primary tropical forests | – | Commercial logging operations in primary tropical or old-growth forests |
| Emissions Performance Standard (EPS) | | – | – | – | 550g $CO_2$e/kWh for all energy projects | Standards for chemical and cement plants include climate considerations.* | – | – |
| Eligibility List | | Harmonized list for a project's eligibility for the Common Methodology for Joint Reporting for Climate Finance | | | | | | |
| Shadow Carbon Pricing | | – | $36.3 in 2016 | €35 in 2014 | Between €15 and €52 in 2015 | Internal recommendation to use carbon price of $40–$80 in 2020 | Between $38 and $77 in 2018 | Under Development |
| | | Table 6 shows a more detailed breakdown of shadow carbon pricing levels and policies for each bank | | | | | | |
| GHG Accounting | | Follow International Financial Institution Framework for a Harmonized Approach to Greenhouse Gas Accounting. | | | | | | Under Development |

*Note:* *The IDB has industry benchmarks for high-emitting sectors, such as chemical and cement plants. If the GHG emission intensity of a specific plant is significantly higher than the benchmark, the IDB will have to closely scrutinize the planning of the proposed plant for reduction options as part of its engineering review.

*Sources:* Exclusion Lists: ADB (2009a); AfDB (2012c, 2013); AIIB (2016); EBRD (2014b, 2018c); EIB (2017a); IDB (n.d.); WBG (2013, 2017a). Emissions Performance Standards: EIB (2013b); IDB (2011, 2013). Eligibility List: MDBs and IDFC (2015a); AfDB et al. (2018). Shadow Carbon Pricing: ADB (2017b); EBRD (2014a); EIB (2013c); European Commission, (n.d.); WB (2017a).

## Eligibility or positive Lists

Climate-related eligibility or positive lists specify activities that are eligible for funding. One example is the joint climate finance reporting process and its joint methodology on tracking climate change mitigation, now used by the ADB, AfDB, EBRD, EIB, IDB, Islamic Development Bank, and WBG. The tracking system for mitigation finance provides a list of activities that qualify as climate finance and thus finance amounts that can count toward each bank's respective climate finance targets, discussed below. Some programs use eligibility lists to encourage support for climate-compatible investments, such as the IFC's Scaling Solar program (see Box 2 in Section 1), which is specifically targeted at catalyzing investments in solar energy.

Eligibility lists are valuable in that they can incentivize necessary investments in Paris Agreement-aligned activities. To be effective, lists should include only activities that clearly support the transition to a net-zero carbon world (Table 3). The current climate finance tracking methodology was developed before the Paris Agreement and so does not adhere to this approach. For example, under the current methodology, funding of industrial processes that use fossil fuels can count as climate finance so long as the investment reduces GHG emissions, without requiring a certain depth or scale of emission reductions. The MDBs are working on revising the climate-finance methodology so that it is more consistent with the Paris temperature goal (see Section 5 for more information on the climate-finance tracking methodology).

## Emissions or efficiency standards

Another tool involves benchmarking, in which a minimum performance standard for emission intensity (e.g., in $gCO_2e$/kWh) or energy efficiency (e.g., percentage reduction in energy use over a baseline), is set. At a minimum, all investment must meet these standards (IEA 2009).

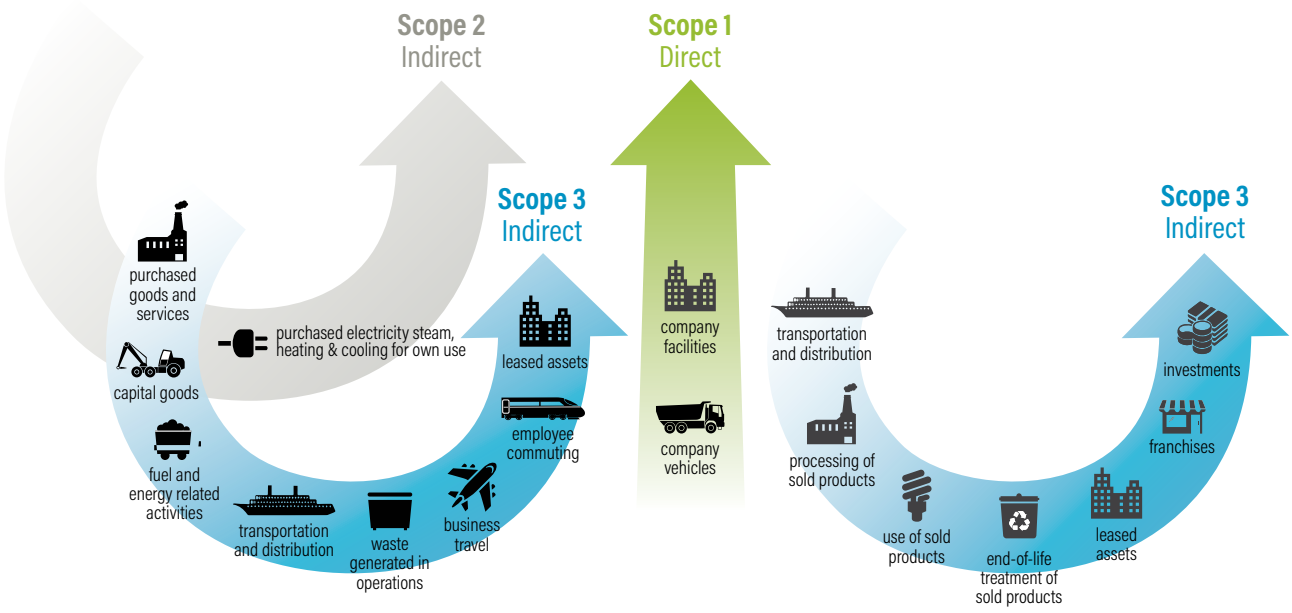
The EIB is the only MDB today that uses an emission standard for its electricity and heating investments. The EIB's energy lending criteria specify that "EIB will screen out projects whose carbon footprint benchmark—or the emission performance standard (EPS) in g/kWh—is above a threshold level." The threshold is set based on the EU's commitments to limit carbon emissions as established in EU energy and climate legislation. Exceptions can be made to the standards in unique situations, such as on small islands where it is "the only economically viable alternative" (EIB 2013b). EIB's EPS is currently 550 $gCO_2e$/kWh for all power and concentrated heat power generation projects, without discrimination among fuels (EIB 2013b). This is lower than the IPCC's estimates of lifecycle emissions from commercially available coal facilities (between 670 $gCO_2e$/kWh and 1,700 $gCO_2e$/kWh) but above the estimates for lifecycle emissions from combined cycle natural gas (350 $gCO_2e$/kWh and 975 $gCO_2e$/kWh) (Edenhofer et al. 2012).

## GHG emissions accounting

GHG emissions accounting measures the carbon footprint of a project and is a prerequisite for understanding how a given project will affect climate change mitigation efforts. Six of the MDBs reviewed for this study undertake GHG accounting for at least some projects. Through the International Financial Institution Framework for a Harmonized Approach to Greenhouse Gas Accounting, MDBs have agreed on common minimum requirements for tracking and reporting GHG emissions (MDBs and IDFC 2015a). The framework requires MBDs to account for their direct emissions (scope 1 and 2) and gives them the option to also report on induced, or scope 3, emissions (see Figure 8).

GHG emissions accounting and reporting is conducted during the project development process, so it is based on ex-ante estimates. Induced emissions are important for many projects, particularly in the transportation sector. The main source of emissions that arise from a project to build a new road, for example, is not those produced in the construction of the road (scope 1), or by the electricity required to build the road (scope 2), but rather from the cars and trucks that use the road over the lifetime of the road (scope 3).

Figure 8 | Scopes and Emissions for GHG Accounting




*Source:* GHG Protocol (2011).

Each bank has adopted slightly different policies for GHG emissions accounting, summarized in Table 5, below. EIB accounts for scope 3 emissions (induced emissions) if they are significant and from a facility 100 percent dedicated to the project activity that would not have existed otherwise. Typical examples include projects in the transportation, energy network infrastructure, or industry operations sectors. ADB's policies require assessment of scope 3 emissions from transportation projects, while the WBG does so for energy and transportation projects, provided that the scope 3 emissions are from a source that is significant and measurable (WB 2012; ADB 2016b, 2017a). Meanwhile, IDB limits accounting of scope 3 emissions to those within the geographic boundary of the project, which includes the facilities that exist only to serve the needs of the project (IDB 2013).

Under the IFI framework, the MDBs have also committed to account for gross (or absolute) emissions and net (or avoided) emissions from their projects and to disclose net emissions from mitigation projects. Despite this commitment, some of the MDBs only account for net or avoided emissions (see Table 5), which do not paint the full picture of investment impacts on GHG emissions. EBRD, EIB, and IDB are currently the only MDBs to publicly report aggregate data on gross emissions from lending activities. IDB displays aggregate gross emissions numbers in its sustainability report (IDB 2018).

AIIB has not yet committed to the IFI framework. As the bank has only been in operation since 2016, some tools and practices have yet to be determined. In its Environmental and Social Framework, AIIB commits to financially supporting clients in GHG accounting and reporting, if requested (AIIB 2016). The energy strategy, released in 2018, requires the AIIB, in turn, to use "GHG reductions in [metric] tons $CO_2e$/year" as a project result indicator. The details of how this will be implemented are still being determined.

Table 5 | GHG Accounting Policies by MDB

| INSTITUTION | CATEGORY | EMISSIONS & SECTORS INCLUDED IN GHG ACCOUNTING |
|---|---|---|
| Asian Development Bank | Scopes Covered | Scope 1 for all clean energy (including energy efficiency) projects and all projects over the threshold |
| | | Scope 2 for all clean energy (including energy efficiency) projects and all projects over the threshold |
| | | Scope 3 only for transportation projects |
| | Gross or Net | Net* emissions are accounted for |
| | Thresholds | Gross emissions of 100,000 $tCO_2e$/year for emitting projects<br>All mitigation projects that reduce emissions |
| | Sectors Applied | All projects above the threshold, and sector-specific guidance for clean energy & transportation |
| | | Commercial and residential buildings; public services; transmission and distribution systems; power plants; renewable energy; transportation; agriculture; waste and wastewater |
| European Bank for Reconstruction & Development | Scopes Covered | Scope 1 for all projects |
| | | Scope 2 for all projects |
| | | Scope 3 only in case of emissions savings from mitigation projects |
| | Gross or Net | Both, if considered quantifiable and necessary. Otherwise, only net* emissions. |
| | Thresholds | Threshold of 25,000 $tCO_2e$/year in net* emissions |
| | Sectors Applied | All sectors and projects considered to be above threshold |
| European Investment Bank | Scopes Covered | Scope 1 for all projects |
| | | Scope 2 for all projects |
| | | Scope 3 included if they are from a facility 100% dedicated to the project activity that would not have existed otherwise and where scope 3 emissions are significant.<br>Examples are transportation, energy network infrastructure, or industry operations |
| | Gross or Net | Both |
| | Thresholds | Gross emissions of 100,000 $tCO_2e$/year and/or<br>20,000 $tCO_2e$/year net* emissions<br>Currently under revision |
| | Sectors Applied | All sectors and projects considered to be above threshold |
| World Bank Group (including the IFC) | Scopes Covered | Scope 1 for all projects |
| | | Scope 2 for all projects |
| | | Scope 3 for projects with material emissions. When induced effects are counted in cost-benefit analyses, then emissions from induced effects are counted as costs |
| | Gross or Net | Both |
| | Thresholds | World Bank: Net* emissions of 25,000 $tCO_2e$/year<br>IFC: Gross emissions of 25,000 $tCO_2e$/year |
| | Sectors Applied | World Bank: Energy; transportation; agriculture; forestry; water; solid waste |
| | | IFC: Cement, thermal power, and chemical industry (pilot phase for all sectors above the threshold) |

Table 5 | GHG Accounting Policies by MDB (cont'd)

| INSTITUTION | CATEGORY | EMISSIONS & SECTORS INCLUDED IN GHG ACCOUNTING |
|---|---|---|
| Inter-American Development Bank | Scopes Covered | Scope 1 emissions for all projects |
| | | Scope 2 emissions for all projects |
| | | Scope 3 emissions generated during the first year of full operation/production if emissions are within geographic boundaries. May include construction emissions averaged over the project's lifetime |
| | Gross or Net | Both |
| | Thresholds | Either net* or gross emissions of 25,000 $tCO_2e$/year |
| | Sectors Applied | Energy; industry; agriculture; water & sanitation; transportation; urban development; tourism |
| African Development Bank | Policy TBD | Not clear whether a formal policy has been adopted. Began piloting project-level GHG accounting for the energy sector using the IFI methodology in 2016 |
| Asian Infrastructure Investment Bank | Policy TBD | To be conducted in the energy sector, but internal guiding documents are under development |

*Note:* *Net emissions are defined as estimated gross emissions within the project-baseline scenario. The baseline scenario is estimated gross emissions without the project.

*Sources:* ADB (2010, 2017b); AfDB (2016); AIIB (2016, 2018); CIFs (2016, 2017); EBRD (2018, n.d.); EIB (2014, 2015); IDB (2016a); IFC (2011, 2017b); WBG (2016).

## Shadow carbon pricing

Shadow carbon pricing can provide a price incentive to reduce emissions, either by internalizing the negative externality of GHG pollution or by indicating the mitigation costs of each avoided metric ton of carbon. A carbon price is typically applied during the economic appraisal of a project. During the economic appraisal, the MDBs compare the outcomes of the project's cost-benefit analyses with and without a shadow carbon price. Four of the MDBs surveyed use shadow carbon pricing, although they vary based on the sectors and emissions to which they apply the shadow carbon price. Each MDB's approach to shadow carbon pricing is summarized in Table 6.

For informing decisions on Paris alignment, the shadow carbon price needs to reflect the cost of mitigating emissions to the required levels. In 2017, the High-Level Commission on Carbon Prices, led by Joseph Stiglitz and Nicholas Stern, examined multiple lines of evidence, including technological road maps, national mitigation and development pathways, global integrated assessment models, and the existing literature on carbon pricing, to determine the level of carbon pricing that would be consistent with achieving the Paris temperature goal (Carbon Pricing Leadership Coalition 2017). The High-Level Commission recommended initial carbon prices of $40 to $80, with an annual growth rate of 2.25 percent, depending on the country context and assuming a supportive policy environment (WBG 2018d). Because the cost of various mitigation options varies and the demand elasticity of energy use differs by sector, a universal shadow carbon price is not as effective as a unique shadow carbon price by sector and country. However, a universal price is easier to use.

The WBG set its carbon price equal to the commission's recommendation, while the ADB and EBRD set their carbon prices before the High-Level Commission published its findings but have levels that are close to the bottom range. The EIB's shadow carbon price range is almost in line with the recommendation from the High-Level commission and is projected to be the

A shadow carbon price can provide a financial incentive to reduce emissions, and four MDBs use one. The MDBs have different policies on how to use the shadow carbon price.

highest by 2050. The IDB's Climate Change and Strategic Development Effectiveness Divisions recommend that project developers use a shadow carbon price between $40 and $80, and increasing by 2.25 percent, as suggested by the High-Level Commission. The IDB is planning to use the lessons learned from using a shadow carbon price based on an internal recommendation to evaluate its options for developing a public policy and associated documents on shadow carbon pricing.

The MDBs vary in how they apply the shadow carbon price across sectors and emissions (see Table 6). ADB prices scope 3 emissions "if they are the main source of emissions," and the World Bank applies a carbon price to scope 3 emissions in transportation projects where these emissions arise from a source that is measurable and significant (WB 2017a, WBG 2017b). Although IFC currently uses a shadow carbon price only for projects in the thermal power, cement, and chemical industry sectors, these sectors account for 80 percent of IFC's financed emissions. IFC is currently piloting the use of shadow carbon pricing in all sectors, not just these three. EIB applies a shadow carbon price to net emissions for all transportation projects and to all projects in which a cost-benefit analysis is performed. EIB defines net emissions to include scope 3 emissions when they are significant, such as in transportation, energy infrastructure, or industry operations. The EBRD currently uses a shadow carbon price for all coal projects and in projects where an economic analysis is applied to infrastructure projects, such as transportation and municipal infrastructure (EBRD 2014a).

Table 6 | Shadow Carbon Pricing at the MDB

| INSTITUTION | PRICE... | ...IN BASE YEAR | ANNUAL INCREASE | 2020 PRICE[a] | 2020 PRICE[a] | 2020 PRICE[a] | THRESHOLD FOR GHG ACCOUNTING | SECTORS & EMISSIONS PRICED |
|---|---|---|---|---|---|---|---|---|
| Asian Development Bank | $36.30 | 2016 | 2% | $39.30 | $47.90 | $71.00 | Gross emissions: 100,000 $tCO_2e$/year | All scope 1 and 2 net[b] emissions from projects that exceed the GHG accounting threshold |
| European Bank for Reconstruction and Development[c] | €35 | 2014 | 2% | €39 | €48 | €71 | Net[b] emissions: 25,000 $tCO_2e$/year | Currently: Coal-fired power generation & associated infrastructure. (The 2018 draft energy strategies call for application to all hydrocarbon investments.) |
| European Investment Bank | Low Value: €15 | 2015 | €0.5 (to 2030)<br>€1 (2031 to 2040)<br>€2 (2041 to 2050) | Low Value: €17.5 | Low Value: €22 | Low Value: €54 | Gross emissions: 100,000 $tCO_2e$/year<br>and/or<br>Net emissions[b]: 20,000 $tCO_2e$/year | Net emissions for all transportation projects<br>Net emissions for all sectors where a cost-benefit analysis is performed |
| | Central Value: €35 | | €1 (to 2030)<br>€2 (2031 to 2040)<br>€3 (2041 to 2050) | Central Value: €40 | Central Value: €52 | Central Value: €121 | | |
| | High Value: €52 | | €2 (to 2030)<br>€4 (2031 to 2040)<br>€8 (2041 to 2050) | High Value: €62 | High Value: €82 | High Value: €230 | | |
| World Bank Group (including the IFC)[b] | Low Value: $38 | 2018 | 2.25% | Low Value: $40 | Low Value: $50 | Low Value: $78 | WB: Net emissions[b]: 25,000 tons $CO_2e$/year<br>IFC: Gross emissions: 25,000 $tCO_2e$/year | Carbon price is applied to all projects subject to GHG accounting (can be applied to gross or avoided emissions) |
| | High Value: $77 | | | High Value: $80 | High Value: $100 | High Value: $156 | | |
| AfDB | No shadow carbon pricing currently applied | | | | | | | |
| IDB | No shadow carbon pricing policy in place<br>IDB recommends that project developers use a shadow carbon price between $40 and $80, starting in 2020 | | | | | | | |
| AIIB | Shadow carbon pricing policy under development but not yet public | | | | | | | |

*Notes:*

[a] Based on the annual increase from the base year used by each bank. As each bank uses a different base year, these prices refer to different years.

[b] Net emissions = estimated gross emissions with the project – estimated gross emissions without the project (baseline scenario).

[c] The EBRD is currently revising its policy on shadow carbon pricing and plans to have the revisions complete by the end of 2018.

*Sources:* ADB (2016, 2017a, 2017b); AIIB (2018); European Commission (n.d.); EBRD (2013, 2014, 2018a); EIB (2013a, 2014); IFC (2016b); WBG (2017b).

## BOX 4 | CALCULATING GHG EMISSIONS FOR A ROAD PROJECT IN KAZAKHSTAN

A sound methodology for calculating GHG emissions is key to decision-making for a low-carbon transition. While the MDBs have agreed to overarching principles for GHG accounting, to date processes such as GHG accounting and shadow carbon pricing are often merely inputs into the project approval process and not key factors in determining whether a project is approved.

As an example, the World Bank approved a loan for the Center West Regional Development Corridor project in Kazakhstan in 2016, which would have added and rehabilitated 1,014 km of road between Astana and smaller cities such as Aktobe and Aktau. The project was canceled by the Kazakhstan government, but according to the project appraisal document it would have increased total $CO_2$ emissions from the relevant portion of the road network by 104 percent, with more than 80 percent of these emissions attributed to generated and induced traffic resulting from the new road. The economic analysis included a carbon price of $30/ton $CO_2$, which reduced the economic internal rate of return on the project from 16.3 to 15.6 percent. Overall, however, the project yielded a total net present value of more than $1 billion and so was approved by the World Bank Board because it initially had strong backing from the Government of Kazakhstan and was projected to generate substantial economic benefits. The project indicated that it addressed climate change as a cross-cutting topic. The project team argued that the economic development from this project might be enough to support the modernization of the vehicle fleet, where the fuel efficiency of each vehicle increases but the $CO_2$ emissions from each car might decline (WB 2016).

The example illustrates that the shadow carbon price would have needed to be unrealistically high to lead to a negative net present value of the proposed project. Additionally, comparing the economic rate of return for the proposed project to a non-emitting alternative infrastructure project typically occurs only if the non-emitting project is considered "the most likely alternative." This practice dilutes the impact of a shadow carbon price.

Crucially, some MDBs can approve projects even if they are not economically viable with the shadow carbon price. At the WBG and ADB, the shadow carbon price is used only to inform decision-making (see Box 4). A project with an unfavorable cost-benefit analysis using a shadow carbon price is not immediately excluded. EIB states that it will exclude such a project "in principle," when a project's economic internal rate of return falls below the level required for project approval. EIB compares the economic rate of return on a project with a shadow carbon price against a baseline scenario that is "the credible, expected alternative without the project." EBRD uses the strictest wording in its methodology for assessing coal-fired power plants, which states that the levelized cost of energy of the proposed project should be the least cost option among all realistically available alternatives using the shadow carbon price. EBRD is building off its methodology for coal-fired power plants and developing a methodology on shadow carbon pricing for projects that increase emissions (EBRD 2018c).

Shadow carbon pricing as a stand-alone tool does not appear to change investment decisions, so by itself, is not the solution to decarbonization (see Box 4). Instead, it must be used in conjunction with other tools and processes that also incentivize investments in decarbonization pathways.

### Portfolio-level targets

In addition to climate tools implemented at the level of individual investments, institution-wide targets can provide strong incentives for shifting investment decisions. Such targets can focus on emissions, types of funding, or other measurable goals.

#### Climate Finance Targets

Six of the seven banks have publicly announced climate finance targets (see Table 7).[4] MDB climate units and senior management have found these external commitments to be key in encouraging, incentivizing, and in some cases, mandating their colleagues and practice or country teams to address climate risk considerations. For example, meeting the 30 percent institutional climate finance target at IDB requires that the transportation and infrastructure-related divisions (as the largest

Table 7 | MDB Climate Finance Targets

| MDB | TARGET ANNOUNCED |
|---|---|
| ADB | ■ $6 billion by 2020, of which $4 billion is for mitigation and $2 billion is for adaptation<br>■ $80 billion total from ADB's own resources from 2019 to 2030<br>■ Ensure that 75 percent of the number of its committed operations (3-year rolling average) support climate finance mitigation and adaptation by 2030 |
| AIIB | ■ No climate finance commitment |
| AfDB | ■ 40 percent of its total new investments by 2020 (about $5 billion a year by 2020) |
| EBRD | ■ 40 percent of annual investments by 2020 will be dedicated to the Green Economy Transition Approach |
| EIB | ■ 25 percent of investments are committed to climate change mitigation and adaptation<br>■ 35 percent of investments in developing countries by 2020 |
| IDB | ■ 30 percent of operational approvals by 2020 and average of $4 billion per year |
| WBG | ■ 28 percent of annual portfolio by 2020 |

*Sources:* ADB (2015); AfDB (2016); EBRD (2016); EIB (2015a, 2015b); IDB (2016c); WBG (2016).

portfolios) actively participate. Likewise, at the World Bank practice and country managers are establishing more ambitious targets in certain cases. The South Asia region has set an internal target of 40 percent, compared to the World Bank's 28 percent target, which prompts sector specialists to actively seek opportunities. Similarly, the EBRD's country and sector teams are motivated to meet their specific GET finance targets and involve the climate team.

## Sector-specific GHG targets

Some of the banks have set targets from their portfolios associated with GHG emissions. IDB, for example, has committed to a target of 8 million metric tons of avoided emissions annually through its mitigation projects from 2016 and 2019 (IDB 2016a). IFC, in turn, has a target of avoided emissions of 21.79 million metric tons between fiscal years 2016 and 2019 (IFC 2017b). AIIB's energy-sector strategy states that it will use GHG emissions reduced from energy supply as an indicator of the bank's efforts to support its client countries in reducing the energy intensity of their energy supplies. However, the strategy does not specify a target for GHG emissions reduced across the portfolio (AIIB 2018).

These portfolio-wide reduction targets look specifically at projects that reduce GHG emissions, not the total gross emissions funded. While these portfolio-wide reduction targets may help incentivize climate finance projects and illustrate their impact, they do not say anything about total emissions from all projects financed by the bank. If increased climate finance were accompanied by increased emission-intensive investments for other investments, overall portfolio emissions would increase, yet the target would still be reached. Currently, no MDB has a reduction target for portfolio-wide gross emissions, although ADB has committed to peaking its portfolio emissions in 2030 "at the latest" (ADB 2017d). While this is a first step, the scientific literature estimates that emissions need to peak by 2020 to have a chance at the least-cost pathway to 2°C, so ADB's target year needs to be more ambitious (Levin and Rich 2017).

## Financial intermediary lending and policy-based operations give rise to additional challenges

Certain types of MDB finance are more difficult to assess for their impact on climate change mitigation targets than is standard investment finance. This is true, for example, for lending to other financial institutions, where MDB finance is not directly tied to one project but is intermediated through another institution that makes its own investment decisions. It is also true for policy-based loans, where general budgetary support is provided to governments upon the completion of certain institutional or regulatory reforms.

### Use of Climate Tools in Financial Intermediary Lending

MDBs provide a significant share of their funding through financial intermediaries (around 20 to 50 percent depending on the MDB) (MDBs and IDFC 2017; IDB 2018a; ADB 2018a; AfDB 2018b; EBRD 2018a). Financial intermediaries that may receive MDB finance include commercial banks, public development banks, micro finance institutions, and insurance companies. A wide range of financial instruments is used to transfer funds via financial intermediaries, including loans (senior, subordinated), guarantees, technical assistance, and equity. Typically, the financial intermediary blends the MDB support with its own finance before distributing resources to the final client.

Resources are extended to financial intermediaries for a purpose that can range from rather general objectives, such as strengthening of capital markets, to a specific end use, such as investments in solar energy. However, the projects to be ultimately financed are not known when the MDB and financial institution sign the contract for a new project. This makes it more difficult to assess the ultimate climate impacts of the MDB investment prior to project approval. Project-level climate tools currently used by MDBs, such as GHG accounting or a shadow price on carbon, are not consistently used for all financial intermediary operations. Instead, MDBs typically require financial intermediaries to implement some form of environmental and social risk-management system satisfying MDB standards. Not infrequently, MDBs add technical support to improve the environmental and social risk-management system of the recipient financial institution. Nonetheless, the main risk associated with such lending is the MDBs' lack of control over the final use of their funding (Roasa 2017).

The IFC is the first of the MDBs analyzed to minimize this risk by eliminating general-purpose loans to financial intermediaries. In October 2018, the IFC announced that it is "ring-fencing" about 95 percent of its lending to financial institutions to "ensure that the financing only supports targeted areas, such as projects promoting energy efficiency, renewables, women business owners, or small and

medium-sized enterprises" In addition, the IFC announced a series of actions aimed at ensuring that it does not invest in new coal projects and divests itself from "all equity investments in financial intermediaries that have invested in coal in the past" (Le Houérou 2018). These actions follow two tracks. The first is to actively seek and develop approaches to working with the financial institutions that want IFC's help in greening their portfolios and reducing their exposure to coal. The second track is to improve transparency and disclosure from financial institutions regarding their exposure to and investments in coal. This push will require additional cooperation from other stakeholders, including the Sustainable Banking Network (Le Houérou 2017).

### Use of Climate Tools in Policy-based Lending

Policy-based lending is conditional on the implementation of policy reforms rather than individual projects and is used by the World Bank, ADB, AfDB, IDB. Disbursement of funding takes place after implementation of institutional or regulatory reforms that are developed and approved in a detailed dialogue between the MDB and the country. These loans have historically constituted roughly 20 to 30 percent of MDB portfolios and cover the range of development and governance issues, such as public-sector management or electricity-sector reform (ADB 2016a; IDB 2016b; WB 2015a).

The MDBs have a mixed record of promoting low-carbon development pathways through policy-based loans. Some loans, such as those to the Philippines and Serbia to improve disaster risk management, have provided support for policies to reduce and manage climate impacts (WB 2018b, 2018a). Others have encouraged policy reforms that could bring about significantly increased GHG emissions. For example, a policy-based loan in Mozambique aims to help the country develop an oil and gas industry (WB 2017c, 2017d). Loans in Egypt and Jordan aim to promote general reforms in the energy sector by supporting the expansion of renewable energy generation but also the growth of the natural gas industry (WB 2016a; Van Den Berg 2017).

Because the modalities for policy-based loans differ substantially from investment finance, MDBs generally have separate operational policies

Policy-based lending is conditional on implementing policy reforms, not individual projects. The MDBs have a mixed record of using policy-based loans to promote low-carbon development pathways.

for such lending. For example, the World Bank explicitly excluded policy-based loans from its new Environmental and Social Framework (effective October 2018). Its policy for such loans instead requires an assessment of the country's policies and institutional framework and capacity to identify environmental or social risks and mitigation measures. Climate change is not mentioned in the policy. Of the MDBs, only AfDB has a separate section on climate change in its policy on policy loans. This section requires AfDB to assess whether the policies to be supported "will have significant implications for the country's environment and climate change." If so, the appraisal report should address how these gaps will be filled before or during implementation (AfDB 2012a).

### Identifying mitigation opportunities

Beyond specific tools for understanding how investments align with the Paris Agreement, the MDBs also provide clients with important guidance and/or capacity building to identify economically viable low-carbon projects. This support does not, by itself, ensure alignment with the Paris Agreement temperature goal, but the MDBs have implemented these initiatives to help clients overcome one of the main barriers to climate-compatible investing: a dearth of well-prepared

projects that meet financial, social, and climate needs. Shifting investments toward low-carbon initiatives requires a new way of thinking and new expertise, which is not always readily available to public or private MDB clients.

For example, all MDB climate teams are active in helping clients and other MDB staff identify opportunities to incorporate climate-related elements into proposed projects. The World Bank conducts an analysis at the concept stage of all IBRD or IDA operations, including investment, development policy lending, and program-for-results lending, to identify the potential for climate mitigation and adaptation or resilience activities. Some of the MDBs like IFC have climate anchors based in country offices that engage with clients to help identify potential mitigation projects. The MDBs also conduct research and analysis to identify potential investment opportunities. For example, the EBRD uses energy audits, which aim to identify potential investments in energy savings for individual private clients (EBRD 2013), while the IFC uses an EDGE Green Building tool to help clients construct buildings that minimize emissions and energy use. The MDBs also tend to operate project preparation facilities to develop projects that are technically and economically sound, attract private finance, and support low-carbon development.

## Recommendations

The experience to date with existing policies, systems, and tools to help promote climate change mitigation, plus a review of climate trends and studies, gives rise to emerging best practice on how to ensure alignment of investments with the Paris temperature goal. The following recommendations indicate some of the ways in which the MDBs can more effectively integrate the learning from climate change pathways into their decision-making processes, particularly in the energy and transportation sectors.

### Embrace the need for a zero-emission energy sector by mid-century

Because the energy sector will be easier to decarbonize than other sectors like transportation or agriculture, the energy sector must reach zero emissions around the year 2050. Investments in electricity generation from fossil fuels that will extend beyond 2050 should therefore no longer take place.

MDBs should embrace the need for, and develop operational pathways to, a zero-carbon energy sector by mid-century and net-zero GHG emissions during the second half of the century. They should work with clients to identify decarbonization pathways and renewable energy-based alternatives to emission-intensive activities. The following tools and steps can help the MDBs reach this goal.

### Take steps to ensure that non-direct investment lending aligns with the Paris temperature goal

MDBs should consistently make sure that all funding, including funding for financial intermediaries or policy-based loans, is aligned with the Paris temperature goal.

#### Financial Intermediaries

To do so, MDBs should ensure that tools such as exclusion lists, GHG accounting, shadow carbon pricing, and emissions standards also apply to MDB funds provided to financial intermediaries. To encourage this, MDBs should conduct more thorough climate-related assessments prior to approving financial institution lending. They should also require financial intermediaries to put in place climate impact management systems to ensure that MDB finance is not used for activities that counteract the Paris temperature goal. The MDBs should also encourage use of these systems for non-MDB finance. Climate-specific indicators should be established and performance against them should be monitored and reported.

In instances of unknown end use of funds, MDBs should do their best to make realistic assumptions of the likely impact on GHG emissions based on the financial institution's track record and sector-specific emissions factors. Uncertainty around the use of funds is highest in the case of general-purpose lending. The IFC's recent commitment to eliminating such lending, to help its clients green their portfolios and reduce their exposure to coal, and to track and report on their clients' potential coal exposure is a step in the right direction (Le Houérou 2018). The other MDBs should follow suit.

### Policy-Based Lending

In terms of policy-based lending, MDBs should make sure that each policy reform is thoroughly screened for potential climate impacts and that these screenings are made publicly available. No activities that are clearly misaligned with the Paris temperature goal should be supported through the policy loans. Instead, the tool should be used to help countries put in place the policy and institutional frameworks necessary to reach national climate goals. For policy-based operations in sectors such as energy, transportation, and infrastructure where climate change mitigation is highly relevant, at least one policy action (also known as prior action) should focus on climate mitigation. Performance and the impact of reforms after implementation should be monitored, evaluated, and publicly disclosed.

## Make greater use of exclusion and eligibility lists

Exclusion and eligibility lists can be a straightforward way to help ensure that MDBs both avoid investments in activities that always contradict the Paris temperature goal and prioritize activities that support achievement of the goal. To be effective for this purpose, exclusion or eligibility policies need to reflect a path to net decarbonization by mid-century. Table 8 outlines activities that should automatically be excluded or encouraged in the energy and transportation sectors according to the climate pathways.

Harmonization of MDB policies on what is excluded can help send a strong signal to markets and clients about where emphasis should be placed in project development. Exclusion lists will need to be updated over time to reflect a need for continued reduction in emissions. Alerting project developers of upcoming changes by indicating five-year milestones for exclusion will help provide a signal to clients on how best to make use of MDB finance going forward.

Table 8 | Activities to Exclude and Encourage in the Energy Supply and Transportation Infrastructure Sectors

| EXCLUDE INVESTMENT IN … | ENCOURAGE INVESTMENT IN… |
|---|---|
| Coal-fired power plants with unabated emissions | Solar energy |
| Coal mining | Wind energy |
| Upstream oil and gas exploration and production | Small hydropower |
| Heavy fuel oil/light fuel oil power plants | Tidal, wave, and ocean energy |
| New road, rail, and port infrastructure for coal and petroleum transportation | System flexibility options (energy storage, demand side management) |
| | Sidewalks and dedicated bike lanes |
| | Bike-sharing infrastructure |
| | Electric rail and rolling stock (passenger and freight) |
| | Electric public transportation (non-rail) |
| | Infrastructure for electric on-road transportation |
| | Electric vehicle charging infrastructure |
| | Traffic logistics efficiency improvements |

*Source:* Authors.

Conversely, the eligibility lists as currently used for climate finance reporting need to be adjusted and limited to investments in activities that are always aligned with the Paris temperature goal. A good opportunity to make these adjustments is during the planned review of the methodology to cover the period after 2020.

### Increase use of emissions standards

Another way to exclude or encourage investments in certain activities is to set mandatory emissions standards. For example, both hydropower and geothermal can release significant amounts of GHG emissions if poorly designed and implemented. Care must be taken to ensure that the project is designed to minimize or eliminate emissions. Emissions standards can be useful in this context. Emissions standards can be set at a level either to exclude misaligned investments that emit above a certain emission intensity (EIB's emission performance standard of 550 $gCO_2eq/kWh$ is an example of this) or to encourage aligned (low or non-emitting) investments, or both. Specific emissions levels can be set for various sectors including energy, transportation, and industry. Emissions standards will need to decrease over time to be in line with the global temperature goal. Future levels should be communicated for specific milestones, such as every five years, to encourage long-term planning by project developers.

MDBs should help clients identify and develop operational pathways to a zero-carbon energy sector by 2050 and to net-zero GHG emissions during the second half of the century.

### Make use of additional tools for conditionally aligned projects in the energy sector: Assess their relationship to national pathways to decarbonization

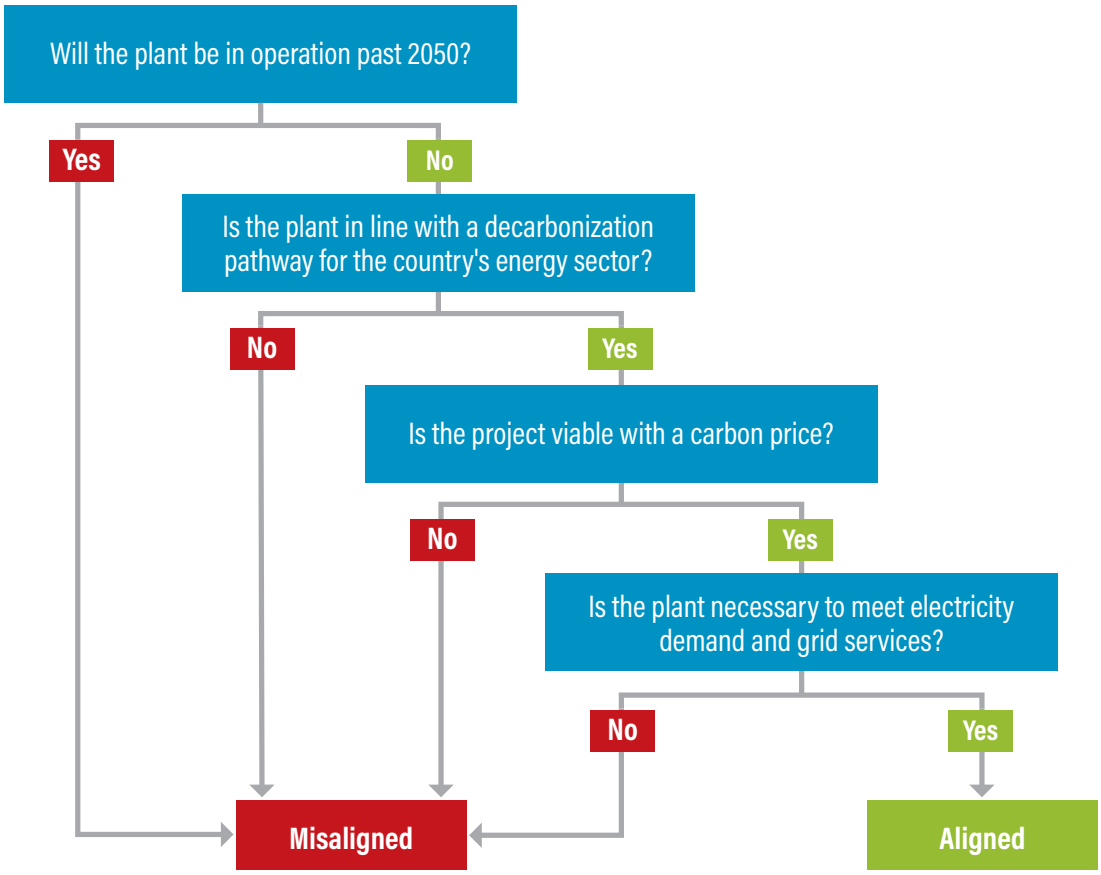
#### Electricity Generation Units

In other cases, whether an investment is aligned with the temperature goal has more to do with the context within which the project is implemented than with the project design. This is true, for example, for natural gas, as climate studies differ on the need for and role of natural gas in the energy transition. The IEA Sustainable Development Scenario, a scenario at the lower end of the ambition range of Paris-aligned pathways, includes natural gas as an important bridge technology, presenting it as the largest single fuel by 2040; while the Greenpeace Advanced [R]evolution Scenario highlights the need to completely phase out all fossil fuels by 2050 (Teske et al. 2015; Cozzi et al. 2017). These estimates are consistent with the range of pathways presented in the IPCC Special Report (IPCC 2018).

One way to deal with such investments is to assess the role of the technology or fuel in national plans to decarbonize the energy sector. In instances where a country does not have a national plan to decarbonize the electricity sector, the MDBs should take a role in helping the country to develop such a plan, and to connect this plan to the country's other key climate documents, such as the NDC and long-term strategies (see Section 1).

When no national decarbonization pathway is available, one could be modeled by combining available global (or regional) climate pathways with data on the country's electricity plant stock. Conducting assessments based on such information can help MDBs determine a reasonable peaking of the technology or fuel that will allow that country's electricity sector to get on a path to zero carbon by 2050 (see Figure 9). In any case, the MDBs should not invest in electricity generation that involves material levels of GHG emissions and that will be operational after 2050 (Germanwatch et al. 2018). In the case of natural gas, care must also be taken to ensure that any natural gas investments effectively limit methane leakage.

Figure 9 | Decision Tree for Natural Gas Plant Alignment with the Paris Temperature Goal




*Note:* This figure illustrates a decision tree for a gas power plant support infrastructure. A generalized illustration for any electricity generation plant is available in Germanwatch et al. (2018); Bartosch et al. (2018); and Germanwatch and NewClimate Institute (2018, Figure 3).

*Source:* Authors

To help assess whether an investment in a new GHG-emitting electricity plant is necessary, the MDBs should also ensure that they have answers to the following questions:

- *Future demand: Is it possible to cover projected electricity demand, taking into consideration electricity trade between countries, without investing in new emitting capacity?* By taking into account national supply, national demand, and trade with neighboring countries, MDBs can assess the extent to which new capacity is needed.

- *Capacity pipeline: Are other stakeholders already planning capacity additions that would meet demand?* MDBs should be aware of the pipeline of planned energy projects in the relevant country and take these into account when assessing the country's decarbonization pathway.

- *Idle capacity today: Are there spare capacities available (idle plants not running at full load) and usable?* Making more effective use of available energy sources can be a more efficient way for meeting energy demand (assuming these sources are not more carbon-emitting). Studies indicate that there is a mismatch between the installed capacity and capacity needed in some countries (ADB 2017d; IEEFA 2017)

- *System flexibility: Is the planned capacity required to ensure the system's flexibility?* If the current energy system cannot cope with renewables expansion, has a high level of congestion, or has experienced unmanageable shortages and peaks, GHG-emission electricity plants may still be a technical alternative while transitioning to a decarbonized electricity supply. However, other flexibility options should be considered first.

### Electricity Transmission and Distribution

The approach described earlier targets electricity generation units. Other critical pieces of electricity supply infrastructure are transmission and distribution grids. Investment in the transmission and distribution of electricity is essential in Paris-aligned pathways, to support electrification of demand sectors and integrate a high share of renewable energy in the system. Investments in new transmission and distribution lines or improvements to lines directly connected to a carbon-intensive power plants are not aligned, while lines that are directly linked to renewable plants can always be considered aligned. The investments need to be in line with national plans for decarbonization, as far as available. These can be long-term emissions development strategies or sectoral decarbonization plans. If available, the investments should be checked against models of the grid under high shares of renewable energy.[5]

## Condition project approval on financial viability with a realistic shadow carbon price

As an early step in the project evaluation, MDBs should continue to expand the use of a shadow carbon price for investments. Most importantly, MDBs should commit to not approving projects that are not financially viable with a carbon price applied. Additionally, the MDBs should require that all proposed projects with a realistic shadow carbon price in the energy supply sector are compared to a renewable energy project that would provide comparable energy services and electricity access. These steps ensure that the MDBs are using the carbon price as an incentive to minimize their GHG footprint. The carbon price should realistically reflect the mitigation cost and be in line with recommendations from the High-Level Commission on Carbon Prices or similarly authoritative guidelines. The price should be applied to both direct and induced emissions in the energy and transportation sectors, plus other sectors where such emissions are significant and relevant. To enable this, MDBs should regularly include scope 3 emissions in their GHG accounting practices, particularly induced emissions and emissions from the supply chain of purchased goods and services, provided these projects and supply chains have clear-cut boundaries. Ideally, carbon prices should be country- and sector-specific as mitigation costs differ.

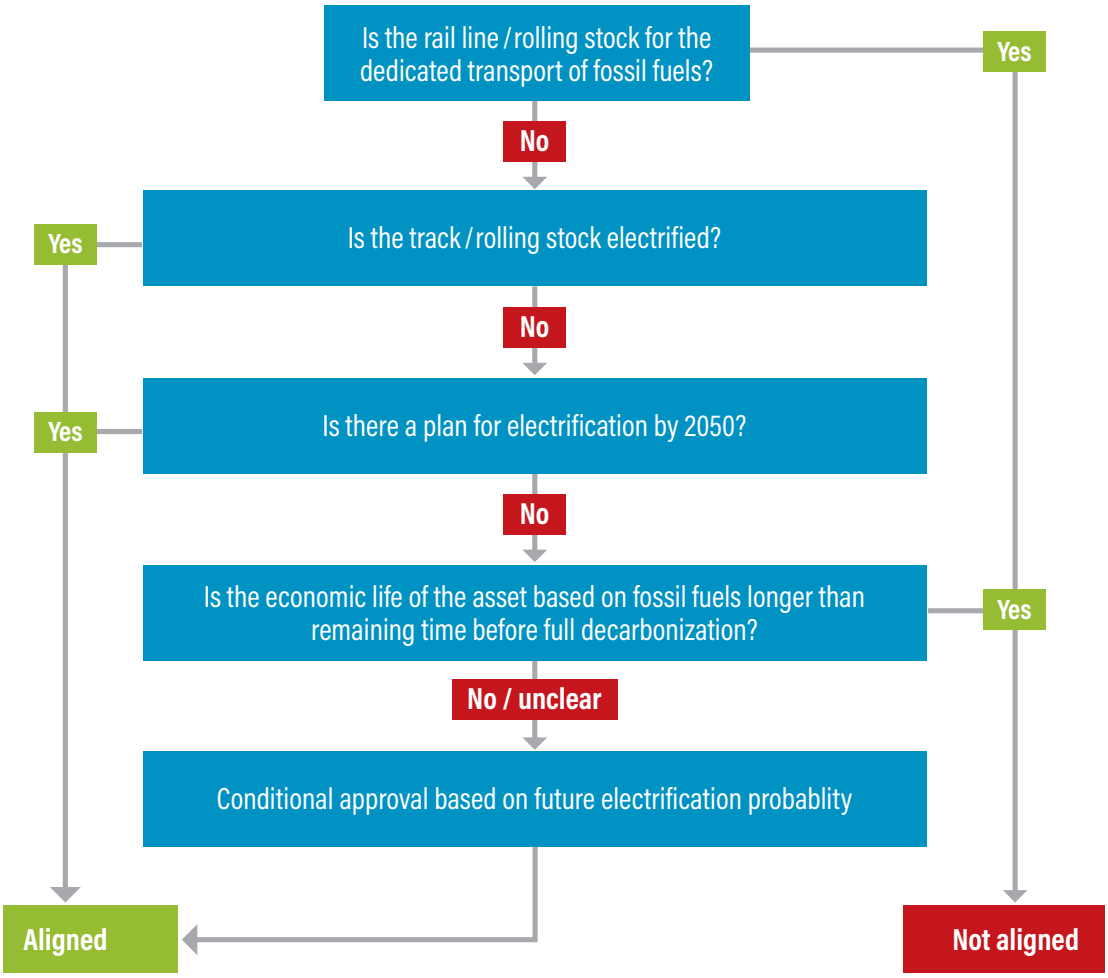
## Make use of additional tools for conditionally aligned investments in the transportation sector

Like energy, some transportation infrastructure cannot easily be categorized as aligned or misaligned with the temperature goal, so further analysis is necessary. This is particularly true for roads, non-electrified rail, and ports. MDBs tend to invest heavily in these sectors, but given the long lifetime of transportation infrastructure assets and their impact on land-use patterns, these investments represent a large risk of locking in high-emission pathways.

There are three factors that determine transportation emissions: activity levels, energy intensity, and emissions intensity. Activity level refers to the number of people or cargo transported by distance. Energy intensity refers to how much energy the activity uses, as measured by energy intensities per person or ton per kilometer. Emissions intensity covers the emissions factor of the energy used or how many tons of GHGs are emitted per unit of energy. To reach the global temperature goal, a maximum number of passenger kilometers must be avoided, a large-scale shift must occur to more efficient modes of transportation, and each mode of transportation must decarbonize to the fullest extent possible.

Implementation of these factors depends on the type of transportation in question. As a guide, the MDBs should emphasize electrification of the transportation sector wherever possible, and complement this by emphasizing rapid decarbonization of the electricity sector. In the case of rail, such investments can be considered aligned with the temperature goal if there are plans to electrify the railway by no later than 2050 and the rail is meant to replace transportation by road (see Figure 10). For road infrastructure, the MDBs should support infrastructure for electric vehicle charging, alongside other policies to reduce road usage by personal vehicles, including fees, tolls, or taxation to make personal vehicle use less financially viable. In the longer term,

Figure 10 | Assessing Paris Alignment of Rail Investment




*Source:* Authors

## BOX 5 | THE SCIENCE-BASED TARGETS INITIATIVE

The Science Based Targets initiative (SBTi) enables entities to announce GHG emissions reduction targets based on the institution's science-based share of global emissions. As of October 2018, a total of 492 companies had committed to setting targets, and 141 had targets approved. Thirty-five financial institutions had committed to creating targets.

While the initiative has so far focused primarily on developing target-setting methodologies for private companies, work is under way to create a framework that will enable the financial sector to set targets. The framework will consist of methods and guidance to support financial institutions interested in setting science-based targets and having them validated by the SBTi. The framework will focus initially on five asset classes: mortgages, real estate, listed equity, corporate debt, and project finance. The SBTi is managed through a partnership among the UN Global Compact, the Climate Disclosure Project, World Wildlife Fund, and the World Resources Institute. It is implemented in partnership with We Mean Business. MDBs could benefit from setting similar targets based on a scientific analysis of their role in domestic and global economies.

Source: SBTi., https://sciencebasedtargets.org.

alternative fuels may play a larger role in climate efforts for international shipping and aviation but are less likely to be competitive for road and rail decarbonization.

### Factor in other risks to social and environmental sustainability

Finally, certain mitigation activities are aligned with the Paris temperature goal but bring other social, environmental, and/or economic risks that can make investments ill-advised. This can include, for example, new large-scale hydropower plants, certain types of biofuels, or nuclear electricity generation facilities. In terms of large hydro, Greenpeace assumes a limited contribution of hydro in the future energy mix due to the ecological and social impact of large projects (Teske et al. 2015). On the other hand, the IEA Beyond 2°C scenario states that hydro electricity generation is projected to double between 2014 and 2050. Nuclear electricity generation, in turn, is similarly part of some projections of the future energy mix but not others (Rogelj et al. 2018). Greenpeace phases out nuclear energy even faster than coal or gas. The IEA's Beyond 2°C scenario meanwhile assumes that power generation from nuclear will almost triple between 2014 and 2050 (IEA 2017c).

An emphasis on climate change mitigation should not overshadow the serious consequences that can arise from these activities. Even GHG reduction initiatives will suffer if the actions implemented result in negative social or environmental consequences. Sound decision-making processes based on strong data and effective stakeholder engagement will help ensure that no investments that carry undue social or environmental risks go forward.

### Make use of sector-specific emissions targets

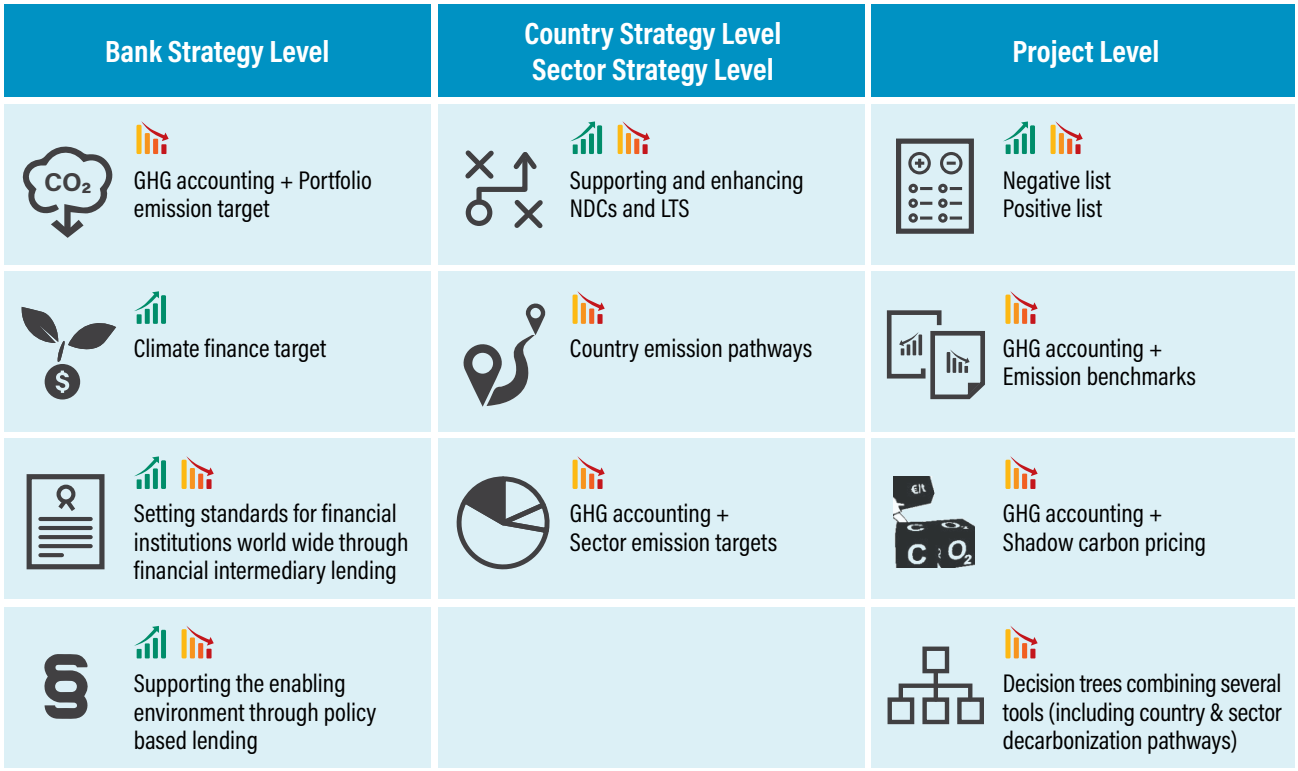
No MDB has emissions targets in place that consider both the emissions created and reduced from the projects in which the MDB invests. A set of sector-specific emissions targets could help the MDBs move away from investments that cause GHG emissions. For example, the MDBs could set emissions targets in the energy sector that become more stringent over time until they equal zero gross emissions by 2050. This approach would allow flexibility for the MDBs to invest in emitting projects where these are considered the best option for the country, if these investments are balanced by emission-reducing activities elsewhere. Emissions targets should include funding through financial intermediaries and policy-based loans. A challenge with the introduction of sector-specific emissions targets is that MDBs finance different kinds of projects each year. Multi-year targets are one potential solution to the ups and downs in gross financed emissions per year. An additional challenge is to define an appropriate target for the relevant sectors in the MDB portfolios. Such targets could be developed in various ways. They could, for example, be developed through a more top-down analysis based on global emissions targets, the relative MDB share of global GDP, and emissions pathways for each sector as identified by science-based modeling. (See Box 5 for information on the Science-Based Targets initiative.)

## Choose tools appropriate for MDB and client countries' circumstances

The previously mentioned recommendations show a variety of tools that can be used to ensure alignment with the Paris temperature goal (see Figure 11). Not all tools from this toolbox must be used simultaneously to ensure Paris alignment, but all banks will need some tools to incentivize more ambitious climate action and other tools to ensure that the remainder of investments do not go against countries' long-term climate ambitions.

There is flexibility in how to use available tools, provided they are used in a manner and at a level of ambition that supports decarbonization across the investment portfolio. For example, to support the necessary shift away from misaligned activities MDBs should use exclusion lists, emissions standards, or emissions targets that ultimately lead to zero emissions from the energy sector by year 2050. The pathway to this goal would ideally be laid out in clear milestones that increase in ambition and are communicated in advance.

Figure 11 | Toolbox for Alignment with the Paris Temperature Goal




*Note:* Tools with a green symbol help to incentivize investments that actively support the achievement of the Paris temperature goal. Tools with a red symbol help ensure that investments that risk undermining the achievement of the Paris temperature goal are excluded.

*Source:* Germanwatch et al. (2018).

CHAPTER 3

# HOW ARE THE MDBS MAINSTREAMING CLIMATE ADAPTATION AND RESILIENCE ACROSS THEIR INVESTMENTS?

Adaptation is a fundamental element of the Paris Agreement. For MDBs, aligning with the Paris Agreement on adaptation means helping to strengthen their clients' abilities "to adapt to the adverse impacts of climate change and foster climate resilience" (UNFCCC 2015, Articles 2.1b, 7) and ensure that their "finance flows are consistent with a pathway toward low greenhouse gas emissions and climate-resilient development" (UNFCCC 2015, Article 2.1c). This means not only increasing investments in resilience but also ensuring that no investments are at cross purposes with adaptation.

Aligning with the Paris adaptation goal requires MDBs to mainstream adaptation and resilience throughout all decisions and operations, not just those initiatives specifically focused on improving resilience.

This section seeks to answer three questions: How are the MDBs integrating climate change resilience into their decision-making processes? What challenges remain in ensuring that MDBs are fostering climate-resilience development? What actions can MDBs take to further support implementation of the Paris adaptation and resilience goals?

To answer these questions, we reviewed MDB climate change and sectoral action plans, social and environmental risk-management policies, climate-risk screening tools, and other documentation. We also interviewed MDB staff in climate, environment, and safeguards units, sector and country representatives, and government and nongovernmental stakeholders in seven countries.[6]

This section provides a detailed overview of the policies, tools, and processes that MDBs currently use to identify physical climate risks and opportunities, and to integrate resilience into investments. It highlights challenges faced by MDBs and their clients in mainstreaming adaptation and recommends actions based on emerging best practice.

## How the MDBs Are Mainstreaming Climate Change Adaptation

### Aligning investments with the Paris Agreement adaptation goal

In our interpretation of the relevant provisions, aligning with the Paris Agreement's goals on adaptation, particularly Articles 2.1 and 7, means ensuring that all MDB investments consider potential climate impacts (UNFCCC 2015). This section of the report therefore focuses on how MDBs can help ensure that all investments are made with consideration of relevant climate hazards and vulnerabilities, including both risks to the investment and the effect the investment may have on the adaptive capacity of people and ecosystems.

The MDBs have begun to fund adaptation-focused initiatives. This includes programs aimed at improving access to climate-related information (e.g., the Climate Risk and Early Warning Systems project (CREWS 2017), enhancing the resilience of cities (e.g., the World Bank's Cities Resilience Program (WB 2018d), or improving coastal resilience (e.g., the IDB's Blue Urban Agenda (Mycoo and Donovan 2017). Although these initiatives are valuable, this section focuses on the processes in place to ensure that adaptation and resilience are mainstreamed throughout investment decisions, not just those initiatives specifically focused on climate vulnerability. This section looks less at specific adaptation solutions and more at how the MDBs can ensure that all their investments are aligned with the Paris Agreement adaptation goals.

### MDBs have made high-level commitments to adaptation

All the MDBs studied have made some form of high-level political and/or policy commitments to support climate change adaptation:

- In 2015, ADB committed to doubling its annual climate financing to $6 billion by 2020, of which $2 billion is targeted for adaptation (ADB 2015). In its Climate Change Operational Framework, the bank also committed to enhance its effort to integrate climate risk into project design (ADB 2017d).

- In 2015, EBRD adopted its Green Economy Transition (GET) approach, which includes climate change adaptation as one of its three pillars (alongside climate change mitigation and wider environmental benefits). EBRD has committed to implementing the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations on physical climate risk (EBRD 2018d).

- EIB's 2015 Climate Strategy outlines its "commitments to best practices in adaptation, including risk screening to enhance resilience of its projects" (EIB 2015).

- IDB's Board of Governors endorsed the Bahamas Resolution in 2016, committing the bank "to improve the evaluation of climate risks and to identify opportunities for resilience and adaptation measures at the project concept stage" (IDB 2016c).

- WBG's Climate Change Action Plan, launched in 2016, has as one of its five "underpinning strategic shifts" a commitment that the Group's "climate portfolio will be rebalanced—putting a greater focus on adaptation and resilience." The WBG expects to launch a new adaptation and resilience strategy that focuses on further mainstreaming of climate risk considerations and increasing private-sector action in late 2018 or early 2019.

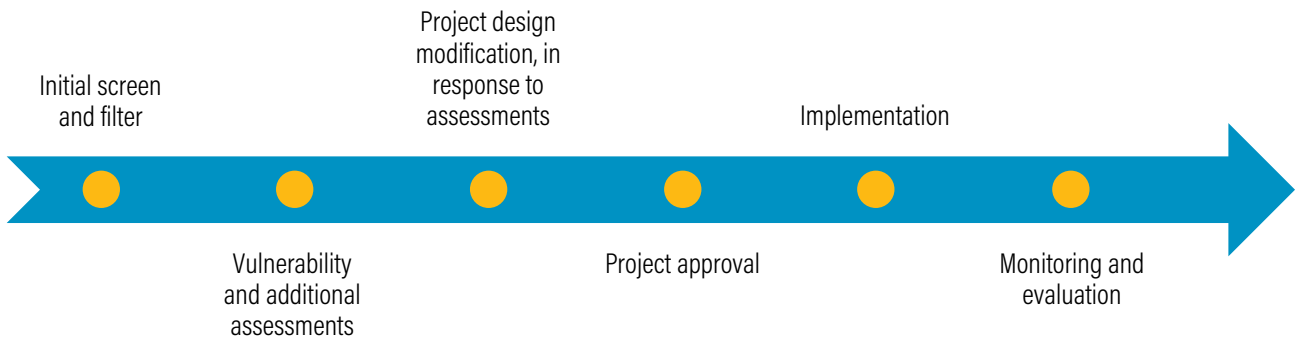
- AfDB's Second Climate Change Action Plan (2016–2020) has as the first of its four pillars of action to "boost adaptation and climate-resilient development in Africa" (AfDB 2016). The bank also committed to dedicating 15 percent of its planned climate finance investments to adaptation activities.

- AIIB does not yet have a specific climate strategy, but the bank's Environmental and Social Framework "supports the global adaptation goal of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change" (AIIB 2016).

## A standard system is emerging among MDBs to identify and manage climate risk

To implement their high-level commitments on climate resilience, the MDBs have begun to develop climate risk-management systems. The exact approaches vary somewhat, due in part to different operational structures. For example, some MDBs (e.g., the ADB, AfDB, EBRD, IDB, WB) tend to enter the project preparation cycle earlier than others (e.g., the IFC or EIB) and can therefore more easily assess climate risks early in the project cycle. Nonetheless, across the MDBs a relatively standard process is emerging, consisting of six main steps: initial screening, additional assessments, project design modification, project approval, implementation, and monitoring of results (see Figure 12).

Figure 12 | Stages of Climate Risk Identification and Management




*Source:* Authors

As of August 2018, the AIIB, EIB, and IFC had not yet systematically screened potential investments for climate risk, although all three are currently looking at options for doing so. The EIB, in particular, is about to launch a new comprehensive climate risk-management system that will be integrated into existing due diligence processes. The AIIB is currently experimenting with different options based on other MDBs' approaches and experiences, while the IFC is in the middle of developing a screening process.

At the MDBs that use climate risk-screening processes, an initial risk screening step filters projects into low-, medium-, or high-risk categories (see Table 9). This triage happens early in the project cycle, typically in the project identification or concept note stage. These early screenings are typically based on the geographic location and sector of the investment. At AfDB, EIB, IDB, and WBG, the initial risk screens include considerations of future climate risks. For example, the screening process may flag as high risk an agriculture project in a drought-prone area because of likely decreases in rainfall. Meanwhile, a project to improve education or financial services would be tagged as low risk, because of low climate-related exposure.

The AfDB and World Bank include the adaptive capacity of the client or the country's development context in their initial screening. EIB plans to do so as well, using the ND-Gain index (Notre Dame Global Adaptation Institute n.d.) to estimate adaptive capacity.

AfDB, ADB, WB, and soon EIB have online systems to help with this early triage process. These systems allow users to input information (such as investment location and sector) into a platform that then helps to flag potential risks. The systems vary in their degree of complexity. EBRD initially developed a complex and multi-layered screening tool but subsequently adapted this tool to make it more streamlined and less resource-intensive to apply.

Different teams are responsible for the screening at the MDBs. At AfDB, ADB, EIB, and WB, the project development team does the initial screening. IDB's project team does screens in cases where projects are rated as having low environmental and social risks. Otherwise, this is done by IDB's environment and social specialists. At EBRD, the climate team does the initial screening. At all institutions, the climate teams support the screening process.


Table 9 | Overview of MDB Climate Screening Platforms

| NAME | DATA USED | DATA SOURCES | RESPONSIBLE PARTY | RESULTS | NEXT STAGE |
|---|---|---|---|---|---|
| AfDB Climate Safeguards System | Location, sector, institutional, and country context | University of Cape Town, World Bank's Climate Change Knowledge Portal | Project team, which can delegate to climate expert or consultant | vulnerable (Cat. 1), maybe vulnerable (Cat. 2), not vulnerable (Cat. 3) | Results included in project concept note. High-risk projects trigger additional assessments. Adaptation review and evaluation procedures submitted with project documents. |
| ADB AWARE | Location, sector | Project team; 16 general circulation models, databases on climate indicators (e.g., temperature, wildfire, etc.) | Project team, which can delegate to climate expert or consultant | High, low, or medium risk | High-risk projects (and sometimes medium) tend to lead to vulnerability assessments. Climate risk assessment management report submitted with project documentation. |
| AIIB | TBD | | | | |
| EIB* | Location, sector, national climate readiness | ND-Gain; project promoter; climate sensitives are pre-populated, based on sector | Project team, checked by climate team | High, low, or medium risk, or insufficient information | Results included in project document. Medium or high risk lead to vulnerability assessments during appraisal. |
| EBRD Screening Matrix | Location, sector, country (for capacity) | Project promoter and range of external information sources (e.g., national physical climate impact assessments, etc.) as appropriate | Climate team | Sector, country, geographic location | If high risk, automatic resources for additional assessments. |
| IDB Disaster and Climate Risk (in Safeguard Toolkit) | Location, sector | UNISDR, NASA, Inter-Sectoral Impact Model Intercomparison Project; mapping tool that provides support to the toolkit | Cat. A or B, environment and social team; Cat. C project team | High, low, or medium risk | If high risk, additional assessments are required. If moderate risk, project team can conduct optional assessment. For both, a qualitative disaster and climate assessment is done prior to a quantitative assessment. |
| IFC | TBD | | | | |
| WB Climate and Disaster Risk Screening Tools | Location, sector, development context | Project promoter; climate change knowledge portal; ThinkHazard! | Project team (task team) | No, low, moderate, or high risk, or insufficient understanding | Screening results are incorporated in the project concept note and project appraisal document. |

*Note:* * Information based on EIB's new system under development.

*Sources:* AfDB (n.d.); WB (n.d.); interviews with MDB staff.

The MDBs have slightly different requirements for what happens after the initial risk screening. The ADB generally conducts vulnerability studies for any projects that fall in the high-risk category and may also do so for medium-risk investments. EBRD follows a similar process, and EIB aims to do so as well. IDB, meanwhile, is piloting a system aimed at further narrowing the category of projects flagged as high risk (and medium risk if project team elects to do so) by conducting additional project-specific research to determine the scope of the risk, prior to launching a full risk assessment. AfDB requires adaptation review and evaluation procedures (AREP) to be submitted for all investments to encourage identification of adaptation options (AfDB 2012b). The World Bank leaves it up to the project team to decide whether to conduct additional climate-related assessments, although sector-level guidance is available to support this process.

## The MDBs are integrating climate change into other due diligence processes, but not yet systematically

In addition to creating climate risk-management systems, all the MDBs have preexisting due diligence processes to assess investments prior to their approval. This generally includes environmental and social, technical, and economic assessments. The MDBs have integrated climate change adaptation into these processes to various degrees.

### Environmental and Social Safeguards

All MDBs have environmental and social policies (so-called safeguard policies) that require the banks and their clients to consider the environmental and social impacts of investments. The safeguard policies provide a mandatory minimum benchmark that clients must meet to receive finance. These policies tend to encourage an assessment of the project's impact on the resilience of project-affected people (ADB 2009b, 16; AfDB 2013b, 10; AIIB 2016, 27–28; EIB 2013a, 17; EBRD 2014b; WBG 2017c). At the IFC, AIIB, and EIB, where separate climate risk-management systems are not yet in place, the environmental and social policies have, to date, acted as the main instrument for ensuring that climate-related risks are considered in project design and impact assessments (AIIB 2016; EIB 2013a; IFC 2012).

At IDB, climate risk management is based on the disaster risk-management policy, rather than on the safeguard policy. The guidelines require teams to identify whether projects have high exposure to natural hazards or show high potential to exacerbate risk (IDB 2007).

### Economic Analysis

All MDBs conduct some form of economic assessment of their potential investments to determine whether the benefits of the investment are worth the costs. Although many MDBs have begun to integrate shadow carbon prices into these assessments (see Section 3), most do not yet systematically include consideration of climate change risks. One exception is the ADB, whose economic assessment guidance includes reference to climate risks; ADB staff have begun to integrate such risks into their calculations of economic viability (ADB 2017b). To improve the quality of these assessments, the bank's climate unit has embedded consultants in project teams to assess challenges and devise improved guidance. These consultants are working alongside engineers, technical specialists, and government counterparts to understand the broader climate implications for project activities and thus devise more appropriate assessment methodologies.

Other MDBs integrate climate risks into economic assessments on an ad hoc basis, based largely on the interests of the relevant staff and clients. EBRD, for example, included climate-risk considerations in the economic and net present value analyses of the Qairokkum hydropower project in Tajikistan. This included the development of several hydro-climatic scenarios and technology options (EBRD 2016b). Similarly, EIB's Irish Flood Prevention Programme used a multi-criteria analysis approach that considered technical, economic, social, and environmental criteria to value and choose the most robust adaptation options. The bank's approach used two future scenarios (a mid and high range) for flood risk, alongside considerations of land-use and urbanization pathways (EIB 2016).

### Technical Studies

MDBs and clients also conduct other studies to determine whether a proposed investment is feasible from a financial or technical perspective.

Such studies are meant to, among other things, identify potential short- and long-term problems and the likelihood of their occurrence. They therefore present another tool sometimes used to consider the potential impacts of climate change on the planned investment.

Technical studies can come in different lengths and forms, depending on the time of investment and the relevant investor. For example, IDB's climate team facilitated the integration of climate risk considerations into a hydrology study for a transportation project (IDB 2018b). This included modeling climate change projections for Latin America, with a special focus on Haiti's expected conditions (Stratus Consulting, Inc. 2017).

Similarly, ADB integrated climate considerations into a road network's hydrology and due diligence studies to identify portions of the road that would be at risk, necessary changes, and the cost implications of those changes (ADB 2014). EIB embedded climate-risk considerations into feasibility studies for several water supply and waste water management initiatives in Croatia (EIB 2017b). EBRD, in turn, has integrated climate considerations into its feasibility studies, particularly in the hydropower sector. For a dam upgrade project in Albania, for example, EBRD commissioned a study that looked at the potential impacts of changing hydrological conditions (EBRD 2016a).

## MDBs have tools to identify and encourage investment in adaptation solutions

After identifying climate risks, the task remains to develop actions that enhance climate resilience. At most MDBs, project teams and their clients are primarily responsible for integrating adaptation into project design, although climate units typically provide support. At IDB, for example, the climate change team scans the pipeline of sovereign-guaranteed projects annually to identify projects where opportunities exist to integrate improvements in climate resilience. Similarly, EBRD's Climate Resilience Investments Unit (under the Energy Efficiency and Climate Change team) analyzes all new or exploratory concept review memorandums on a weekly basis to identify climate-sensitive projects. The World Bank has an advisory unit in its Climate Change Group to help projects and countries mainstream climate considerations in their investments and policies.

Others, like the IFC and EIB, have climate anchors based in sector teams or country offices. These individuals have the responsibility to help project teams actively identify climate-related opportunities. For example, in India the IFC climate anchor has worked with investment officers to identify opportunities, which has resulted in climate resilience–related agribusiness investments. EIB is using its mid-term climate strategy review process to identify additional opportunities.

### BOX 6 | MDB EXAMPLES OF INTEGRATING ADAPTATION INTO PROJECT DESIGN

*Support to Municipality Infrastructure Development Program, Uganda*

The Municipality Infrastructure Development Program aims to enhance the targeted municipalities' capacities to improve urban service delivery in the context of a rapidly urbanizing society in Uganda. The program has several aspects, one of which is to provide support to the City of Kampala and 14 secondary cities for improving their drainage systems. Based on local knowledge, the task team commissioned additional studies to review current drainage system capacity and map for blockages. The team combined this assessment with projected changes in rainfall variability, intensity, and population to better understand future drainage system needs and thus design options for this project aspect (WB 2018c).

*Improving the resilience of Bosnia-Herzegovina's roads*

In 2014, the Bosnian government requested assistance with rehabilitating the country's road network after severe flooding. The EBRD climate team conducted a major study on the road network that identified where rehabilitation and protection work was needed. The team explored ways to design the network differently, including changes to materials and siting, and used this to design an investment plan. The unit realized that the vulnerabilities were likely present for most of the Balkan region and actively studied the same issue, using the results as a basis to sensitize government counterparts to the need for additional resilience investments (EBRD 2016c, 2017d).

### Incentivizing the Mainstreaming of Adaptation

At some of the MDBs, internal and external structures help incentivize staff to consider climate change. The climate finance targets implemented by the MDBs have helped motivate not only investments in mitigation but also action on adaptation (although at a slower rate). Staff at all the MDBs with such targets emphasize the important role they play in incentivizing identification of, and investment in, adaptation solutions.

In addition to climate finance targets, some of the MDBs are implementing other evaluation metrics to encourage integration of climate resilience into project design. Since 2015, EBRD has included climate resilience in its transition quality rating. Projects up for board approval are assessed along seven dimensions, including how green the project is. Actions to enhance climate change adaptation (such as water efficiency, improved land management, or reduced infrastructure vulnerability) can improve the project's quality rating, which provides an incentive to project teams to consider climate resilience and other opportunities (EBRD 2016e).

### Internal Guidance on Adaptation Solutions

MDBs have also created informational materials on adaptation options. Much of this guidance is institution-specific and is aimed at building internal staff capacity. ADB, for example, has published a series of guidelines (e.g., for energy, water, agriculture) focused on how to increase climate resilience of investments in key sectors. EBRD also has documented various sector-based adaptation solutions (EBRD 2016a). For example, EBRD's climate unit has created guidance material on how to increase the climate resilience of ports, in partnership with the World Association for Waterborne Transportation Infrastructure. IDB, in turn, has documented coastal vulnerabilities and adaptation options for small island states (Mycoo and Donovan 2017) and expects to publish guidance this year on how to conduct climate and disaster risk analysis at the project level, while EIB has established an internal capacity-building program that has disseminated sector-specific guidance. MDB sector teams are also building their own climate-related expertise. The ADB urban and water sector team, for example, developed its own roster of technical consultants to tap for additional help when needed. As an example, the team embedded a climate change and disaster risk-management consultant in the design phase of the Greater Malé Environmental Improvement and Waste Management Project in the Maldives (ADB 2018b). The World Bank's agriculture team in India, in turn, has built up its internal capacity to conduct climate assessments and address identified risks and built formal external relationships with organizations like the Food and Agriculture Organization of the United Nations (FAO) to ensure access to climate-related expertise. EBRD has encouraged contracted engineers to increase their understanding of climate risks while designing and implementing EBRD-supported projects.

### Building Client Capacity

Several MDBs have begun to provide technical assistance to clients specifically aimed at increasing their ability to identify and manage climate impacts and investment needs. In Uganda, for example, the World Bank's water team, with the support of the United Kingdom Department for International Development, conducted a series of dialogues and case studies to help raise the Ministry of Water and Environment's awareness of climate-related risks to the water sector (WB 2011, 2015b). This laid the foundation for subsequent collaboration on climate-related projects, like the Uganda Irrigation Development and Climate Resilience Project and Integrated Water Management and Development Project.

In India, the World Bank's Agriculture team has worked with several states, including Jharkhand, Bihar, and Rajasthan, to improve their ability to understand and integrate climate-related risks. The team also relies on relationships with the Consultative Group on International Agriculture Research and FAO to sensitize and train government counterparts and facilitates study tours among different countries. EBRD, in turn, is assisting Georgian and Tajik hydropower companies and government counterparts in

building their capacities to identify and integrate climate risks into their operations. EBRD and the World Bank are working together to help ensure that the International Hydropower Association's best practice guidance, which encourages awareness of climate impacts, becomes a globally accepted benchmark for hydropower investments.

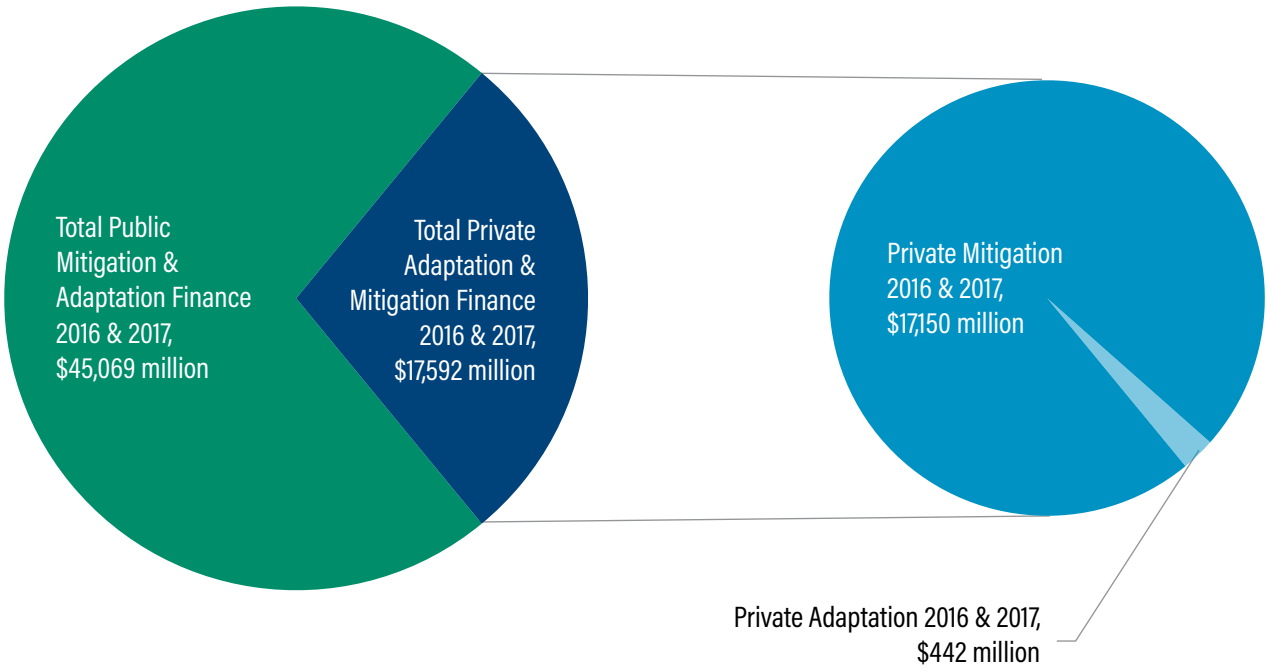
## The private sector and adaptation

MDB resources are small relative to the global need for climate-resilience finance. The MDBs therefore face pressure to use their investments to shift additional adaptation finance, including private finance. In 2017, the MDBs provided $10.4 billion in climate finance directly to private-sector recipients, of which $245 million was for adaptation purposes (see Figure 13) (AfDB et al. 2018). EBRD provided $99 million, or 40 percent, of all private-sector adaptation finance in 2017 (AfDB et al. 2018).

Most of the MDB adaptation financing that flows to the private sector is aimed at helping private actors ensure that their own operations are less vulnerable to climate change. This includes, for example, investments in hydropower, transportation (including roads and ports), and energy resilience.

Reducing climate risks also includes risks to supply chains, particularly in the agricultural sector.

Figure 13 | MDB Private Adaptation Finance within Context, 2016 and 2017




*Source:* AfDB et al. (2017, 2018).

For example, IFC has partnered with the WBG's Biocarbon Fund Initiative for Sustainable Forest Landscapes and the Nespresso Sustainability Innovation Fund to offer technical and financial support to smallholder coffee farmers in Kenya and Ethiopia. This $6 million project aims to improve farmers' resilience to climate change and, in turn, the resilience of Nespresso's coffee supply (IFC 2016c). Many of the investments in resilience are supported by the MDBs in partnership with one of the dedicated sources of concessional climate finance, such as the Green Climate Fund (GCF) or Biocarbon Fund.

Although most private investments in adaptation have come in the form of traditional investment loans, MDBs have also used other financial arrangements to encourage private investments in adaptation. IFC and Indonesia's PT Reasuransi MAIPARK, for example, are jointly developing index-based insurance products for agribusinesses, bank agriculture-loan portfolios, and farmer groups (IFC 2017c). As part of its Sri Lanka Agriculture Financing Program, IFC is supporting the country's National Development Bank (IFC 2018c) and the Alliance Finance Company PLC (IFC 2018b). Through local currency loans and technical support, the IFC aims to help strengthen the ability of these institutions to invest in climate-smart agriculture and women-owned enterprises in Sri Lanka. EBRD's Green Economy Financing Facility provides credit lines and access to advisory services for green investments to local financial institutions. EBRD's Green Economy Financing Facilities provide credit lines and access to advisory services for green investments to local financial institutions, and now routinely include climate-resilience services following a pilot in Tajikistan (EBRD 2018b).

To support the preparation of projects that bring together the private sector and adaptation, ADB has recently created the Asia-Pacific Climate Finance Fund, a multi-donor trust fund aimed at supporting the development and implementation of financial risk-management products that can help unlock capital for climate investments (ADB 2017c).

### Information for Private Actors

For MDBs, engaging with the private sector is in many ways the same as engaging with public actors: Both need accurate information on climate risks and opportunities and technical and financial resources to integrate this information into their operations. The actions outlined above, including risk identification processes and information resources, therefore apply to the private sector just as they do to public actors. Nevertheless, there are also key differences between public and private actors. Most notably, private actors typically require financial return on commercial terms. Depending on their business model, their risk appetites can also vary widely.

To help provide for the unique information needs of private actors, several of the MDBs have released research outlining the benefits of investing in resilience. IFC's report "Creating Markets for Climate Business," for example, includes an analysis of investment opportunities in climate-smart agriculture and water infrastructure (IFC 2017a). ADB has documented its climate investment fund's private-sector portfolio experiences (ADB 2016c). EBRD, in turn, has conducted audits to help companies understand their vulnerability to climate impacts, such as reduced water availability or increased energy insecurity, and identify potential investments the company could make to increase its resilience (EBRD 2016a).

EIB has provided technical assistance on climate-related issues to project promoters in the Eastern Europe region through Joint Assistance to Support Program in European Regions (JASPERS), which provides basic trainings and project preparation support (JASPERS 2018). On a smaller scale, the World Bank agriculture team in India is facilitating dialogues among state ministries of agriculture, information and communications technology experts, and smallholder farmers to discuss the role of technology in improving agricultural practices and yields (Kumar 2017).

### Supporting the Enabling Environment

In addition to providing funding directly to private entities, MDBs also help public actors put in place policies that encourage private investment in climate resilience. This can be done through technical assistance, project finance, or policy loans. Examples include activities like the World Bank's policy-based loan to Fiji, which, among other things, supports the government in adopting more

stringent building standards and regulations to help ensure that project developers invest in resilient construction (WBG 2018e). IFC, in turn, designed an index assessment framework that aims to help the public sector identify data and information, institutional arrangements, and policies that can help attract private investment in resilience (Stenek et al. 2013).

## Challenges in Identifying and Dealing with Climate Risk

Despite strides forward, the MDBs still have significant room to expand their efforts to align their investments with Paris Agreement resilience goals. MDB investments are ultimately proposed, developed, and brought forward for approval by sector practitioners or investment officers and their clients. Mainstreaming resilience effectively requires a cross-sectoral and cross-institutional approach. It is hindered by, among other things, a lack of data and technical expertise, resource constraints, time pressure, uncertainty in climate predictions, and inertia.

### A Lack of Widespread Expertise on Adaptation Solutions Undermines Mainstreaming

While the MDBs have made strides to flag investments that may be subject to high levels of climate risk, much still needs to be done to turn screening and assessment results into actionable adaptation solutions. A lack of downscaled and applicable data, coupled with limited technical expertise on how to use such information to appropriately design adaptation options, helps to limit investments in resilience.

While there is growing understanding of the potential impacts of climate change, knowledge of how to best design initiatives to support climate resilience is not yet widespread among project developers. Adaptation solutions can come in many forms, from the redesign of an infrastructure investment to relocating populations that will suffer from sea level rise.

Meanwhile, although there is a growing plethora of climate-related data sources, including MDB-supported platforms (e.g., WB's Climate Change Knowledge Portal, AfDB's CSS Information Base), these data are not always available at the right scale or time frame for use in project development. This is particularly relevant to smaller and/or poorer countries, where available data are too coarse for use in decision-making.

Finally, most project-focused analysis looks primarily at short- to medium-term climate impacts. However, longer-term impacts will likely fundamentally affect sectors and economic development through shifting agricultural zones, changing hydrology patterns, or similar large-scale changes. Governments and private institutions do not currently have the necessary data, expertise, or planning frameworks on a consistent basis to help identify and assess these longer-term climate impacts and begin to plan for and understand how incremental adaptation actions can, over the short, medium, and long term, build transformative pathways.

### Dealing with Uncertainty Remains Difficult

MDBs and their clients must grapple with uncertainty when making investment decisions, and climate change is exacerbating that uncertainty. Compounding uncertainty is the fact that historical data are increasingly less helpful as a guide to future conditions with a changing climate. Climate models often provide a range of possible future impacts for any one location, based on different assumptions about the Earth's climate system and future emissions, making the task of deciding upon an appropriate level of action to take additionally challenging. Adaptation costs vary widely, depending on whether one is designing and building for a two-, three- or four-degree world. Helpful approaches have been developed and often pioneered at the MDBs, including "no- or low-regret" adaptation and decision-making under deep uncertainty (DMDU). However, managing uncertainty remains a challenge for many countries, especially those without the resources to engage in sophisticated computer modeling required by approaches like DMDU.

Facing such high levels of uncertainty can make it difficult for clients and banks to know when to go forward with an activity as planned, how much to invest in increased resilience, and when to abandon plans altogether.

### Who Pays for Climate Resilience Remains a Central Question

Although initial climate risk screening processes are generally not resource-intensive, more thorough assessments of climate risks and adaptation options can be costly. So too can reshaping a project to reduce its climate vulnerability. For example, the World Bank cites climate informed decision-making analysis aimed at assisting clients with making decisions under uncertainty as costing between $100,000 and $200,000 and taking from several months to two years (Hallegatte et al. 2012, 25, 27).

Clients, in turn, can be reluctant to pay for assessments and additional project development costs. For public clients, this is sometimes due to the notion that developing countries should receive financial assistance to help pay for the cost of adapting to climate change due to their "common but differentiated responsibilities" (UNFCCC 2015). For private clients, a reluctance to pay is more likely the result of not viewing the financial benefit as worth the cost. IDB Invest reports, for example, that many of the companies it works with are resistant to investing up front to increase resilience to climate impacts that may (or may not) happen in the future (Trabacchi and Mazza 2015; Climate Action in Financial Institutions 2018).

The MDBs typically pay for vulnerability assessments out of their administrative budgets or through multi-donor trust funds. For example, the World Bank and ADB use internal trust funds to pay for assessments. In certain cases, the World Bank project teams can access specialized trust funds like the Global Facility for Disaster Reduction and Recovery or the Africa Fund for Climate Resilient Investment. EBRD, in turn, tends to pay for assessments for public clients but not for private actors. IDB is trying lower-cost methods to further triage projects out of a recognition that not all projects require detailed and expensive modeling-based assessments.

But these internal MDB resources are limited and cannot pay for all additional costs associated with increasing resilience. To access grant resources to, for example, improve the resilience of infrastructure investments, the client will typically need to turn to other sources of concessional finance, like the multilateral climate funds or bilateral donor funds. These resources are also limited and can be difficult to access. They must be used prudently and be distributed to a variety of actors. The allocation available to any one MDB is finite. The MDBs are therefore faced with decisions as to when they will seek access to such finance, in partnership with their clients.

### Getting the Timing Right for Risk-Management Processes Can Be Difficult

It is important for MDBs and clients to gain information on potential climate risks early in the project design process when changes can still be made to project plans. However, some MDBs tend to initiate contact with clients when projects are already in a relatively late stage of project development. IFC, for example, tends to be approached by clients for funding once they

have already established most of the project's parameters. The EIB, meanwhile, operating as part of the European Union, similarly tends to enter the conversations with clients relatively late in the project cycle. This is not always true for either of these institutions; they both also at times engage in more upstream project development. But this tendency presents a challenge for the institutions as they seek to ensure that investments are climate resilient because, once clients have already invested in project development, they are generally reluctant to significantly alter their plans.

Even when MDBs can assess climate risks early in the project cycle, they sometimes face another challenge in the lack of information available about the project. The precise location of an activity, for example, can be very important from a climate change adaptation perspective but may not be known until after the investment is approved. This is particularly true where the MDBs are providing finance to other financial institutions for them to disburse at a later date.

MDBs also face time-related challenges when it comes to completing activities within the required timeline. At several of the institutions, there is increasing pressure from both MDB management and clients to shorten the time it takes for projects to be approved. At the ADB and World Bank, for example, project preparation timelines have shrunk, leaving less time for in-depth analysis and assessments. Since the task of completing such assessments usually falls on the same team developing the project, it can leave them over-stretched. Short time frames for project development also limits opportunity for real capacity building of clients. World Bank staff in India, for example, report finding it more difficult to ask client counterparts to help in assessments or to train them on such analysis since timelines are too quick. Instead the bank relies on external technical experts when necessary.

### Private-Sector Involvement in Resilience Remains Limited

Private-sector interest in understanding and preparing for climate risks is growing, particularly for those companies that operate in regions and/or sectors that are clearly vulnerable to near-term climate impacts. That said, there is still a long way to go in ensuring that the private sector adequately supports climate change adaptation. Several studies have been conducted on barriers to private-sector investment in adaptation (Trabacchi and Mazza 2015; Whitley et al. 2016; Lee 2017). A combination of factors limits such investment.

Some of these factors are specific to the challenges associated with adaptation. Many private actors still lack access to easily digested data and information on how climate risks may affect their operations. Simultaneously, there is inadequate demand from regulators for the private sector to adhere to resilience standards. Adaptation actions often do not result in direct financial return or provide predictable cash flows or do not provide enough benefit for an individual company to justify the cost (Frankfurt School-UNEP Collaborating Centre for Climate and Sustainability Energy Finance et al. 2016; Bisaro and Hinkel 2018). For example, rehabilitating a wetland may reduce flooding to the benefit of a number of private companies, but no one company may think that the cost is worth the benefit.

Private adaptation investments are also limited by factors that are not unique to adaptation. Many investments in climate resilience will need to take place in developing countries. They therefore face the same barriers to private investment as other non-adaptation investments. This includes various risks to profitability such as currency risk (a risk that currency exchange rates shift to make investments less profitable), construction risk (a risk that construction will not run on schedule or budget), or political and regulatory risk (a risk that changes in the political and/or regulatory environment will result in project delays or cancellation). While there is growing availability of financial support in the form of concessional funding from donors and financial institutions to help encourage investments, private actors often find the cost of learning and navigating this landscape not worth the benefit (WEF 2016; G20-International Financial Architecture Working Group 2017).

Although MDBs are engaged in trying to reduce the risks associated with adaptation investments, barriers remain even within the banks. For example, when it comes to the use of risk-mitigation tools like loan guarantees, restrictive

While the MDBs have made strides to flag investments that may be subject to high levels of climate risk, much still needs to be done to turn screening and assessment results into actionable adaptation solutions.

accounting rules, the added complexity of the financing structure, and a lack of in-house expertise further limited the use of such instruments (Gohdes and Christianson 2017).

Finally, MDBs face the challenge of providing subsidies to private entities without wasting public funds. In the case of adaptation, this means not offsetting the cost for making private investments more resilient when this should be the responsibility of the private actor. Finding the balance between supporting private actors and encouraging them to act on their own can still be a challenge.

## Recommendations

There are several actions that MDBs can take to move past the challenges just mentioned and help ensure that MDB investments support the Paris adaptation goals (see Figure 14). The MDBs are a heterogeneous group. Many already implement some of the below, but all have room to improve.

### Integrate climate change into other investment development and due diligence processes

While dedicated climate risk-management systems are valuable, climate data and information are ideally incorporated into other assessments and plans as well. This includes economic evaluations, technical studies, impact assessments, and other documents created as part of project development and appraisal. In each of these assessments, MDBs and clients should look at what impacts may occur at 3°C or 4°C of warming, not just 1.5°C or 2°C.

#### Impact Assessments

Environmental and social impact assessments should be used to ensure that the resilience of vulnerable people or ecosystems is not negatively affected by proposed investments. While such integration of climate impacts occurs today in individual cases, it does not happen universally and will require closer collaboration between the environmental and social specialists and climate specialists than often occurs currently.

#### Economic Assessments

Integrating climate change into economic assessments of projects should go beyond inclusion of a shadow carbon price to also look at issues of adaptation, including the potential economic impact of climate change on the project and the economic value of relevant adaptation options. Valuations of investment benefits need to reflect not just economic losses or benefits but also who stands to be most affected by negative (or positive) impacts (Hallegatte et al. 2017).

Analytical tools aimed at helping decision-makers act in the face of uncertainty can be valuable in this context. Various tools have been developed for making decisions under climate uncertainty (Hallegatte et al. 2012). Multi-criteria analysis brings together stakeholders to help assess the benefits and drawbacks of project options using a set of predetermined criteria. Vulnerability and risk assessments can act as critical inputs to this process to identify the range of options, shape the preferences of the stakeholders, and determine final outcomes. Real option analysis, in turn, can be used in situations where future flexibility to adapt is valuable and to determine how interventions could be timed. This is pertinent where uncertainty is particularly high and investments are irreversible and where waiting would provide necessary additional information. While real option analysis typically requires substantial

amounts of data and resources, decision trees and more qualitative approaches can also be used (Econadapt n.d.). A more systemic uptake of available methods for including climate into economic assessments is necessary.

### Technical Studies

More should be done to ensure that climate risks are systematically integrated into feasibility studies and project design documents. Ensuring that guidance documents and terms of references for such studies include climate change is one way to encourage such integration. Project preparers should also have access to the necessary training to conduct these climate-aware technical studies.

## Invest in identifying strategic short- and long-term adaptation opportunities

MDBs should focus on assisting clients and staff with translating results of assessments into appropriate actions. Climate teams have a particularly valuable role to play in supporting the process of identifying adaptation opportunities by providing specialized expertise. Currently though, all the MDBs suffer to a degree from a low number of in-house climate experts, given the scale of their operations. The availability of expertise (in-house or external) at low or no cost to the project can help ensure that project teams and clients can effectively consider climate risk in project design. While general guidance can be useful to inspire interest, tailored technical assistance will often be required to help clients identify options that meet specific geographic and demographic needs.

In scaling up efforts to assist clients in identifying solutions to improve resilience MDBs should emphasize the following factors:

- Systemic change—the development of systems, skills, and data in client countries to help ensure that client institutions have the resources necessary to support integration of climate adaptation across their activities. This is particularly important for developing country government clients in highly vulnerable countries.

Figure 14 | Recommendations for Aligning with Paris Adaptation Goals

| Bank Strategy Level | Country and Sector Level | Project Level |
|---|---|---|
| Incentivize integration of climate risks through targets and performance metrics | Identify strategic short- and long-term adaptation opportunities | Integrate climate risk considerations into other due diligence process |
| Devise strategy/criteria for use of climate finance | Integrate climate risk considerations into country and sector strategies | Help pay for resilience assessments, project design improvements, and investments in resilience |
| Focus private sector engagement efforts in key adaptation sectors and support industry standards | Invest in client technical capacity | Integrate climate resilience into monitoring and evaluation |

*Source:* Authors

- Long-term planning—planning processes that assist clients in identifying options for tackling both short- and long-term climate risks and that factor in both incremental and transformative adaptation solutions that consider different climate scenarios (e.g., 1.5°C versus 4°C of warming). Identification of no- (or low) regret options is valuable where possible.

- The benefits of adaptation—identification and highlighting of the economic benefits associated with adaptation options, particularly for private-sector clients.

### Incentivize integration of climate risks through targets and performance metrics

MDBs should have an effective system of internal incentives across the organization (not just in the climate team) to motivate employees to seriously consider climate risks. Such incentives can include, for example, mandating the incorporation of climate-related information in project approval processes. EBRD's transition impact rating system, which requires project proposals to be given scores on sustainability, including climate-resilience factors (where appropriate), is an example of such a process. Another option is to incorporate climate change or sustainability into staff performance evaluations.

Finally, climate finance targets have proved useful for incentivizing employees to incorporate climate change into investments. The MDBs should identify adaptation finance targets to further encourage a focus on adaptation investments, not just mitigation.

### Help pay for the cost of resilience assessments, project design improvements, and investments in resilience

MDBs should carve out adequate resources to ensure that funding is consistently available for staffing, external consultants, and sustained training focused on climate adaptation. Dedicated donor trust funds also provide important resources for technical support. These trust funds can be unsustainable in the longer run however and reinforce the notion that climate considerations are a parallel process, rather than being integral to MDB efforts. The funds should thus be used with caution. For private clients, MDBs should encourage internalization of the costs of climate-proofing investments, which should become the new business-as-usual.

Other sources of concessional climate finance can in turn be key to enabling clients to access more significant adaptation finance. Sources of such funds include the multilateral climate funds, bilateral donors, or private donor institutions. Grant finance for adaptation is ideally used where the need for such finance is greatest. But need can be defined in various ways. Is it important to have an impact on as many people as possible? Or should we prioritize the poorest populations? Is increasing the resilience of hard infrastructure most vital? Or should investments in softer resilience actions like effective government institutions be more important? There is no single right or wrong answer to these questions. The breadth and depth of MDBs' operations and the varied and changing needs of their clients make a strict formula or answer infeasible and hinder the responsiveness of MDBs. Nevertheless, MDBs and clients will benefit from clear criteria for deciding how limited grant financing for adaptation are used. Such criteria should look at degree of vulnerability, availability of other sources of finance, and potential long-term impact of the investment. The World Bank's recently released "Strategic Use of Climate Finance to Maximize Climate Action: A Guiding Framework" is a positive step toward a more clear and predictable approach to concessional climate finance (WBG 2018f).

### Integrate climate resilience into monitoring and evaluation

Climate impacts and risks should be continually monitored throughout the investment cycle. Projects are often altered over time as conditions change, and climate change is likely to affect activities in unanticipated ways. Integrating climate risk screening into ongoing project monitoring will help the MDBs and their clients better anticipate and respond to evolving climate change impacts.

Continuous monitoring of climate change impacts on investments will also help MDBs understand more accurately how climate adaptation finance is ultimately spent. Climate finance is calculated at project design, but project changes post approval can affect how much of the planned investment is ultimately spent on adaptation. (See Section 5 for more on adaptation finance tracking.)

### Focus on engaging with private actors in key adaptation sectors

MDBs should continue to help incentivize private-sector action on climate adaptation risks and opportunities, with an emphasis on sectors where there is overlap between public good and private benefit. Examples of this include either protecting and improving the resilience of agricultural supply chains, to the benefit of both vulnerable people and private companies, or ensuring that infrastructure is built to meet the needs of the climate-vulnerable public.

MDB should require private clients to implement climate risk-management systems, and MDBs should support their clients' capacity to do so effectively. MDBs should also continue to create and support climate-resilience certification processes and standards. This could include, for example, national regulations for resilient transportation infrastructure or global standards for water-intensive industries.

Finally, MDBs should continue to encourage and explore the use of different financial arrangements to encourage private investment in climate resilience. This includes the use of various financial instruments. Examples of the successful use of different financial arrangements are emerging. Box 7 provides a brief overview of some of the promising examples.

## BOX 7 | EXAMPLES OF PRIVATE-SECTOR INVESTMENTS IN ADAPTATION

The following are examples of recent private-sector initiatives that support adaptation. The first four were endorsed by the Global Innovation Lab, and the fifth was approved for financing by the GCF.

- *Dutch Water Financing Facility:* This facility mobilizes domestic private investment from institutional investors (e.g., pension funds and insurance companies) through the local bond market to support countries' priority actions in the water sector. The facility is funded by donors and impact investors and aims to replicate and scale eight national-level facilities in developing countries (The Lab 2017a).
- *Cloud Forest Blue Energy Mechanism:* Proposed by Conservation International and The Nature Conservancy, this mechanism brings environmental valuation methods and pay-for-success financing to support ecosystems. Local investors pay for up-front landscape restoration and conservation activities, which generate economic benefits for water utilities. In turn, utilities pay for a portion of the benefits they receive, creating reflows back to investors (The Lab 2017b).
- *Climate Smart Lending Platform:* F3 Life proposed this platform to help local lenders incorporate climate risk into their portfolios and promote climate-friendly farming methods. Grant capital is used to develop climate-smart agricultural tools and a credit rating system. These are made available to local banks, which then lend to farmers wishing to use the relevant agricultural tools in their farming practices (The Lab 2016).
- *Climate Resilient and Adaptation Finance and Technology Transfer Facility:* This is a growth equity fund proposed by the Lightsmith Group, designed to invest concessional and commercial capital in companies in developed and developing countries providing adaptation technologies and services. The fund will start by investing in 10 to 20 companies (e.g., weather analytics, drought-resistant seed companies) and help them expand into new sectors and markets (The Lab 2017c).
- *Acumen Resilient Agriculture Fund (ARAF):* This is a private equity fund proposed by Acumen Fund that supports private entrepreneurs in micro, small, and medium-sized enterprises to enhance the resilience of smallholder farmers. ARAF would provide aggregator and financial services to smallholder farmers. It expects to shift investment in agriculture from grants to a long-term capital approach (The Green Climate Fund 2018).
- *Disaster risk insurance facilities:* Over the last decade, several facilities have been launched to provide developing countries with options to transfer natural-disaster risk to international reinsurance markets. These include facilities serving Africa (Africa Risk Capacity), the Pacific (Pacific Catastrophe Risk and Financing Initiative), and the Caribbean (Caribbean Catastrophe Risk Insurance Facility) (ARC 2018; PCRAFI 2017; CCRIF 2018). Under the recently launched InsuResilience Partnership, efforts are ongoing to strengthen these facilities and launch new insurance-related initiatives, drawing on the lessons learned from the existing risk pools (IGP 2017).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CHAPTER 4

# HOW TRANSPARENT ARE THE MDBS ON CLIMATE-RELATED ACTIVITIES AND INVESTMENTS?

As public financial institutions, MDBs have a responsibility to be open about where they invest and the impacts of those investments. It is thus essential that MDBs adhere to high standards of transparency regarding their funding flows, the climate impacts of their activities, and the potential risks that climate change might pose to their investments. This is not only an important aspect of basic fiduciary responsibility to shareholders and stakeholders affected by MDB investments, but it also allows for more effective management of climate-related risks and opportunities.

Over the past decade, the MDBs have made significant strides to improve transparency around climate finance. This section explores how the MDBs currently report on climate finance and other types of finance, and potential solutions to build on experiences to date to further improve the availability of quality information.

## The MDBs Currently Track Their Mitigation and Adaptation Finance Based on a Common Methodology

To respond to demand for information on how the MDBs are supporting the global effort to mobilize climate finance, the MDBs have reported jointly on climate finance since 2012 (with the first edition reporting figures for 2011). This is a positive process that provides an example for other financial institutions.

### Current mitigation and adaptation finance tracking

For mitigation finance, the MDBs' reporting is based on the Common Principles for Climate Change Mitigation Finance Tracking. These principles include nine core elements: additionality, timeline, conservativeness, granularity, scope, results, eligibility, exclusions, and avoidance of double counting. Mitigation finance is based on a list of activities that are compatible with low-emission pathways. Not all activities that reduce GHGs in the short term are eligible to be counted toward MDB mitigation finance (MDBs and IDFC 2015a, 2015b).

Unlike mitigation finance tracking, which relies on a positive set of activities, the Common Principles for Climate Change Adaptation Finance Tracking rely on a three-step process for classifying adaptation finance (MDBs and IDFC 2015a, 2015b). This process-based approach reflects the location- and context-specific nature of adaptation, which requires project-specific analyses to determine the appropriate adaptation response to climate change. Adaptation finance must set out the context of risks, vulnerabilities, and impacts; the intent to address the identified risks, vulnerabilities, and impacts; and the link among identified risks, vulnerabilities, and impacts and the financed activities (MDBs and IDFC 2015a, 2015b).

The common principles further state that adaptation finance tracking should disaggregate adaptation activities from non-adaptation activities in projects. If this is not possible, "a more qualitative or experience-based assessment can be used to identify the proportion of the project that covers climate change adaptation activities" (MDBs and IDFC 2015b). All of the MDBs have chosen to adopt a granular approach and attempt to calculate the incremental cost of adaptation wherever possible.

The MDB climate finance tracking approach has several strengths. First, all MDBs now report on mitigation and adaptation finance using the same harmonized terms and standardized mitigation categories. Second, the MDB climate finance tracking system is unlike the Rio marker system whereby OECD Development Assistance Committee countries report on whether an entire overseas development assistance project is marked as principally or significantly targeting mitigation or adaptation. The MDB methodology explicitly only counts components or subcomponents of projects as climate finance (Weikmans and Roberts 2017).

Lastly, the common reporting and internal climate finance targets have helped to catalyze climate ambition by inducing climate finance-related competition among the banks. In recent years, climate finance has scaled up: From 2016 to 2017, the MDBs increased their climate finance from $27.4 billion to $35.2 billion (AfDB et al. 2018).

## Some Challenges Remain in Climate Finance Tracking

Although the MDBs' joint climate finance tracking is a strong example of effective collaboration between the MDBs, certain challenges remain in ensuring that the tracking and reporting process is robust.

Climate finance tracking is vital in the context of the UNFCCC negotiations as it helps indicate how much finance is going to developing countries to help them tackle climate-related challenges. As mentioned, tracking and targets have also helped encourage identification of additional climate-related investment opportunities. However, differentiating climate finance from development finance can be somewhat artificial, particularly when all finance

should be moving toward alignment with the Paris Agreement. Distinguishing between climate and development finance can be particularly difficult in the adaptation context since economic development and empowerment often increases the resilience of people (MDBs and IDFC 2018).

Although the mitigation finance tracking methodology is informed by an understanding of what activities are compatible with low-emission pathways, the Common Principles for Climate Mitigation Finance Tracking were developed in 2012 and are not explicitly aligned with the Paris Agreement. While the methodology excludes certain activities—switching to more efficient thermal coal power plants, hydropower plants with high methane emissions, geothermal power plants with high $CO_2$ emissions, and biofuel projects with high net emissions—other activities that reduce GHGs are counted toward mitigation finance, regardless of whether they are congruent with 1.5°or <2°C pathways. For example, the methodology allows for the tracking of investments to improve the efficiency of existing thermal power plants or to retrofit a plant to allow for the use of a less GHG-intensive fuel type (e.g., natural gas). The methodology does not though explicitly require that the plant be aligned with the Paris temperature goal.

Finally, unlike the OECD Rio marker system, joint reporting has to date not consistently included project-level data. Four of the MDBs currently report such data, to varying degrees. The ADB discloses the amount of mitigation and adaptation finance that can be attributed to any project (ADB 2018a). The World Bank has begun to list climate finance projects, but does not provide information on what proportion of finance is counted toward climate finance (WBG n.d.-a). In its 2017 Sustainability Report (as part of its annual reporting process), the EBRD disclosed project-level data on climate finance or Green Economy Transition (GET) finance (EBRD 2018e).[7] However, it is not explicitly stated whether these projects received mitigation or adaptation finance (or both). The MDBs report project-level data in the OECD Development Assistance Committee system, but reported projects are not consistently marked for adaptation or mitigation finance; and, even if they are, it is not currently clear how the OECD Rio marker system does or does not overlap with the MDB-IDFC joint methodology.

## Reporting on the rest of the portfolio is less robust than reporting of climate finance

### No Standard Format for Reporting on the Rest of the Investment Portfolio

While the MDBs have made climate finance commitments and scaled up their climate finance, this is only part of the equation of Paris alignment. To get the full picture one must consider other MDB finance as well, including finance for activities that could counteract climate change mitigation or adaptation efforts.

The MDBs in this study publicly disclose projects approved or under development, although the level of project detail varies somewhat. Unlike in the case of climate finance, the MDBs do not have a joint methodology for reporting investments that are not specifically tagged as climate finance. As a result, a comparison of investment levels in different sectors can be difficult. For example, only the World Bank tags investments related to forests. EIB has a tag for projects covering "agriculture, fisheries, forestry," while the other banks do not specify what sector tags apply to forest projects. Similarly, all the banks tag investments in the transportation and energy sectors. However, only the World Bank provides additional detail on what type of energy or transportation is covered by the project. For the other institutions, determining this information requires reading through individual project documents. For some institutions these documents are limited, making a more granular comparison of investments in fossil fuels, for example, quite difficult.

## Reporting on climate-related financial risks

In December 2015, the Financial Stability Board (FSB) created the industry-led Task Force on Climate-related Financial Disclosures (TCFD) to develop recommendations on climate-related disclosures that could promote more informed investment, credit, and insurance underwriting decisions. The aim was to help identify the information needed by stakeholders to appropriately assess climate-related risks and opportunities. A key element of the expected outcomes of TCFD for the financial sector is to enable stakeholders to understand the concentrations of carbon-related assets and the exposures to climate-related risks. TCFD divided climate-related risks into two major categories: transition risk (the financial risks that could result from the process of adjustment toward a lower-carbon economy; that is, policy risks, legal risks, technology risks, market risks, and reputation risks) and physical risk (the impacts on insurance liabilities and the value of financial assets that may arise from climate- and weather-related events, differentiated by acute risks and chronic risks) (FSB 2015).

TCFD developed its recommendations around four thematic areas that are applicable to organizations across sectors and provided supplemental guidance for the financial sector. The four thematic areas are governance, strategy, risk management, and metrics and targets (TCFD 2017). TCFD provided supplemental guidance for each of the four major industries in the financial sector, including banks, insurance companies, asset managers, and asset owners. For banks, the TCFD has provided supplemental guidance in three areas: strategy, risk management, and metrics and targets (TCFD 2017).

The TCFD recommendations on the disclosure of portfolio risks introduce a new global emphasis on reporting not only positive investments in climate-related activities, but also the risks that investments face from the changing climate. For the MDBs this could mean, for example, publicly reporting not only on climate finance but also on how investments in vulnerable geographies and sectors like hydropower or agriculture may be affected by the changing climate. In March 2018, EBRD became the first MDB to commit to the TCFD recommendations and agreed to launch climate-related financial disclosure during 2018 (EBRD 2018d). To date, EBRD focuses on disclosure of climate-related finance (e.g., its portfolio's share of renewable energy assets) and on the physical risks climate change poses for assets. While this is an important first step, it does not yet cover the full set of risks identified by the TCFD, namely transition risk. IFC is the first MDB to report on TCFD recommendations in its 2018 annual report (IFC 2018a).

TCFD recommendations require institutions to adopt a forward-looking climate-related scenario analysis to better understand the potential implications of climate change on an organization. TCFD recommends including a 2°C or lower scenario. A group of 16 global banks collaborated under the UN Environment Finance Initiative to develop and test scenario analysis for assessing the potential impact of climate change on their lending portfolios, specifically on the credit risk and commercial strategy. The group tested the impacts of transition risk under three scenarios, representing a 1.5°C, 2°C, and 4°C global average

temperature increase by the end of this century. The exercise underscored the need for banks to identify their own vulnerabilities, ensuring that the assessment methodology is flexible enough to accommodate different scenarios and bank exposures to risk and that both quantitative and qualitative elements are taken into account when assessing future markets and the competitive landscape (UNEP Financial Inquiry 2018a, 2018b).

The TCFD recommendations promote a very important shift from GHG accounting and disclosure to forward-looking assessments of how future physical and transition risks and opportunities might impact actors' financial and business performance. Notably though, unlike France's Article 173, which asks investors and companies to explain how they are supporting a transition to a 2°C target, the TCFD does not explicitly require an assessment of whether investment portfolios are in line with global temperature goals.

### Reporting on finance-related climate risks

MDBs are not only financial institutions, they are also public institutions set up to further global policy goals. While the TCFD recommendations focus on material financial risks posed by climate change for a given institution and its investments, MDBs can be expected to also report on the risks that their investments might pose for the achievability of global or client-country climate objectives. Disclosure of finance-related climate risk and the forward-looking strategies to minimize such risk, or put differently, reporting on the efforts toward alignment with global climate goals, would be beneficial. Most MDBs have published climate change strategies, which increasingly include commitments to overall portfolio alignment, investment and/or investment targets, and similar elements. These strategies could be the first steps toward comprehensive reporting on alignment.

## Recommendations

It is key that MDBs move from reporting only on climate finance toward comprehensive climate-related disclosures of all their investments. The following recommendations outline how to improve current reporting on MDB finance.

Climate finance is only part of the Paris alignment equation. Comparable data on MDBs' remaining portfolio of investments is necessary to get a fuller picture.

### Continue to improve reporting on climate finance

Although the climate finance tracking methodology is relatively strong, there is still room for continued improvement. The MDBs should look at updating the mitigation tracking methodology to reflect the temperature goals in the Paris Agreement. To do so, the MDBs could make the mitigation categories more restrictive. For example, this could include the exclusion of all fossil fuel thermal power from climate finance reporting, including natural gas.

MDBs should begin to report more systematically on the impacts of their climate finance (differentiated by own financial means, financial means that went through financial intermediaries, and further climate finance mobilized). This should include data on emission reductions ($tCO_2e$) associated with the mitigation finance, per project and aggregated at a country and/or sectoral basis (and for the power sector GHG reductions per installed capacity or generation). For most explicitly climate-related projects (e.g., renewable energy or energy-efficiency investments), the MDBs already disclose how the specific project will reduce GHG emissions compared to the baseline. Based on these data, aggregated information on GHG emission reductions associated with the climate finance can be provided. Avoided tons is an imperfect measure of results, as the costs of implementing mitigation actions vary across geographies, and some critical

sectors (e.g., industry) are harder to abate than the power sector. The data should therefore be reported on a disaggregated basis to reflect emissions reductions from different sectors and geographies.

Relatedly, reporting on results from adaptation finance could be a valuable exercise in identifying where such finance is having the greatest impact. Indeed, the MDB Working Group on Climate Finance Tracking has recognized the need to develop metrics to demonstrate how MDB financing supports the Paris Agreement's adaptation goal (MDBs Working Group on Climate Finance 2018). There are a suite of possible resilience metrics or indicators, all of which have advantages and disadvantages. Perhaps the simplest metrics relate to the number of direct or indirect beneficiaries, for example, the number of people or households (relative to the total population) made more resilient by the project activity. This is the approach taken, for example, by the GCF (GCF 2014). Although these types of metrics are simple, they lack specificity and require detailed guidance for calculation. Additionally, they do not convey the depth of investments' impacts: For example, how are beneficiaries made more resilient? To what possible impacts are they made more resilient?

One could measure the projected change in vulnerability using one of myriad vulnerability indices. These mostly purely economic metrics of reduced vulnerability include avoided damages, the value of assets protected, cost-benefit ratio, and cost effectiveness, but these financial or economic metrics only capture the resilience benefits that can easily be monetized. These vulnerability indices often are snapshots of vulnerability and do not capture vulnerability dynamics well. Additionally, this approach could favor already valuable assets or areas. Michaelowa and Stadelmann (2018) have argued for calculating the saved wealth and saved health of projects. Regardless of the specific metrics that the MDBs devise, they should encompass the manifold dimensions of resilience, including both monetary and nonmonetary aspects.

Finally, providing project-level data on mitigation and adaptation finance, including the amount of finance per project, would provide greater clarity on how the MDBs calculate their climate finance numbers. It would also shed more light on the geographic distribution of MDB climate finance flows. It should be possible to see how much of an MDB's portfolio in each country is counted as climate finance. On the adaptation side, project-level reporting would further help clarify how the MDBs are calculating the incremental cost of climate change, in line with the Common Principles for Adaptation Finance, which state that the incremental cost should be assessed, wherever possible, at the project component level. The ADB's dashboard on climate finance is a positive step in the right direction.

### Unify reporting on overall portfolio

The MDBs should agree to a uniform reporting methodology for their investments that are not categorized as climate finance. This will allow for an easier understanding of and comparison between MDB investments in all sectors, including those that could potentially have a negative impact on climate goals. It will also allow for a more nuanced understanding of the MDB's climate finance targets and the degree to which they represent a true shift toward an emphasis on climate-compatible development.

The reporting methodology need not be overly detailed but should be granular enough to allow for meaningful analysis of the data. The World Bank's current sector-based tagging methodology is a useful model in this regard. This methodology breaks down 11 sectors, including transportation, energy, health, education, and financial, into 65 subsectors, such as energy transmission and distribution, oil and gas, five types of renewable energy, ports, railways, and urban transportation.

### Comply with the TCFD recommendations

We recommend that each MDB comply with the TCFD recommendations. Importantly, this will require reporting on both risk categories—physical risk and transition risk—identified by the TCFD across the entire investment portfolio. Doing so will require the banks to provide greater clarity on the four thematic areas developed by the TCFD and to conduct forward-looking climate-related scenario analyses.

To do so, the MDBs could provide full disclosures on the four thematic areas (governance, strategy, risk management, and metrics and target), as recommended by the TCFD, as well as disclosures based on the TCFD supplemental guidance for banks (related to strategy, risk management, and metrics and targets). MDB concerns will be somewhat different from those of commercial banks, and so a joint MDB methodology with standardized metrics relevant to the MDB would be valuable. The MDBs should also conduct and disclose climate-related scenario analysis based on a common set of scenarios (including a 2°C or lower scenario) and modeling approaches. Using a common set of scenarios and approaches will help enable the MDBs to report on a comparable basis. Finally, the MDBs should develop a joint report and database that combines reporting on transition and physical risks and opportunities on an annual basis.

### Develop comprehensive reporting on progress toward alignment

MDBs should increase transparency on the impacts that their investments might have on the achievability of global and national climate targets and the steps they are taking to minimize these risks. This includes transparency on

- the definition of Paris alignment used by the MDB and the underlying climate scenarios informing this definition;
- risks assessments with regard to the impact that an MDB's investments and other activities have on global and, where applicable, recipient countries' climate targets, informed by scenario analysis;
- overall and sector-specific strategies to align with the Paris goals, including the extent to which different climate tools (see Sections 3 and 4) are used by the MDB to manage climate risks and promote alignment;
- support to develop enhanced, Paris-aligned NDCs and long-term low GHG development strategies to create reliable investment frameworks (which in turn would reduce transition risks for investments in the respective country); and
- alignment of MDBs' respective country strategies with client countries' NDCs and long-term strategies.

Some of this reporting would be similar and potentially overlapping with the disclosures recommended by the TCFD; for example, information on the scenarios and aspects of a climate strategy are likely to be similar. It may therefore be most efficient to report on both climate-related financial risk and efforts to align with the Paris agreement simultaneously.[8] Another option would be to publish a separate statement on progress toward alignment.

CHAPTER 5

# CONCLUSION

The MDBs have an important role to play in helping to implement the Paris Agreement. Through direct finance, technical assistance, and standard setting they can help ensure that development finance responds to global demand for low-carbon and climate-resilient development.

This report has explored four key elements of MDB action on climate change—support to NDCs, ensuring alignment with the Paris temperature goal, supporting resilience to climate change, and reporting on investment flows—and provided recommendations for how the MDBs can enhance their support for the Paris Agreement in these areas.

## Support Implementation and Enhancement of the NDCs

The NDCs are the scaffolding of the Paris Agreement, but difficulties remain in ensuring that all NDCs become actionable and ambitious documents that are implemented around the world. Current NDCs were created through different processes and play various roles at the national level. Actions to support NDC implementation must therefore be tailored to respond to national contexts. MDBs have begun to engage with countries on their NDCs, including through direct NDC-focused technical support and the introduction of NDCs into country strategies. However, NDC-focused initiatives remain small relative to the need, and NDCs are not consistently integrated into MDB investment decisions.

The MDBs should take the following actions to better support NDC implementation and enhancement:

- **Discuss NDCs in country strategy dialogues and include them explicitly in country strategies.** MDB climate experts should be included in the upstream dialogues between the MDBs and clients. By 2020, 100 percent of new MDB country strategies should explain how MDBs' investments and activities link to the country's long-term climate-related planning, including the NDC.

- **Elevate NDCs in MDB communications and high-level discourse.** MDBs should use their communication platforms—including flagship knowledge products, annual reports, high-level dialogues, and speeches and communications by MDB senior management—to elevate the importance of NDCs and long-term climate goals.

- **Help strengthen the next generation of NDCs through technical assistance and analysis.** MDBs should support national authorities by presenting options to make NDC targets more ambitious. Efforts to enhance the NDCs should be coupled with support for long-term low GHG emission development strategies.

- **Do not invest in activities that undermine the NDC.** MDBs should not invest in fossil fuel generation and other high-carbon projects that may undermine the relevant country's NDC. If there is a disconnect between the NDC and other national plans, such as energy or development plans, MDBs should encourage the national authorities to reconcile the various strategies and ensure that the NDC (and long-term strategies, where they exist) are consistent with other national plans.

- **Consider how to scale up and secure long-term funding for NDC support programs.** MDBs should consider how to secure additional funding for these programs, including from the MDBs' own resources, and how to ensure that resources for NDC support will be available even if donors cease to replenish dedicated trust funds for this purpose.

- **Help identify NDC-related opportunities for private actors.** MDBs that focus on engagement with the private sector should seek to identify potential investment opportunities associated with NDCs. They can also collaborate with partner MDBs focused on public institutions to help identify regulatory or fiscal actions that may help encourage private investment in NDC-aligned activities.

- **Train MDB staff and clients on NDCs, with priority for high-emitting countries or sectors.** Since MDB country offices and project teams have primary responsibility for engaging with clients, MDBs should provide information to sector and/or country experts on relevant NDCs and the strengths, weaknesses, and opportunities associated with NDC commitments.

## Help Ensure That the Paris Temperature Goal is Reached

Implementation of the first round of NDCs will not enable countries to reach the global temperature goal laid out in the Paris Agreement. The NDCs also have shorter time horizons than many of the projects supported by MDBs. To ensure

that investments do not go against countries' longer-term climate ambitions, the MDBs should work with governments to develop investment initiatives that support long-term development and climate objectives. There are various tools available to help further this goal. While the MDBs have begun to implement some of these tools, more action is needed.

The MDBs should take the following actions to more effectively play their part in the global effort to mitigate GHG emissions:

- **As a matter of policy, MDBs and their shareholders should embrace the need to reach a zero-emissions energy sector by mid-century and overall net-zero GHG emissions during the second half of the century.** They should work with clients to identify decarbonization pathways and renewable alternatives to emission-intensive activities that are consistent with this goal.

- **MDBs should take steps to ensure alignment with the Paris temperature goal for lending through financial intermediaries.** MDBs should conduct a climate screening for each policy lending operation, including GHG estimates so that they may be included in portfolio-wide GHG emissions accounting and targets. The MDBs should also support improved capacity among financial intermediaries to understand and act on the climate impacts of their investments.

- **MDBs should explicitly incorporate climate considerations into policy-based lending.** Each policy reform linked to financial support should be screened for potential climate impacts. In-depth climate impact analysis should be conducted for policy loans categorized as high risk, including an assessment of the client's capacity to identify and manage the risk. For policy-based operations in sectors where climate change mitigation is highly relevant (such as energy, transportation, infrastructure), at least one prior action should focus on climate change mitigation.

- **Make greater use of exclusion and eligibility lists.** Certain activities should automatically be excluded or encouraged in the energy and transportation sectors according to climate pathways. Exclusion and eligibility policies should be harmonized across all MDBs and updated over time.

- **Increase use of emissions standards.** Sector-specific emissions standards can either exclude misaligned investments that emit above a certain emissions intensity or encourage aligned (low or non-emitting) investments. Emissions standards should be in line with the global temperature goal.

- **Assess the relationship of a project to a national pathway to the decarbonization of the energy sector.** In cases such as natural gas–fired power plants, where Paris alignment depends not on a technology itself but on the context in which it is deployed, MDBs should assess the role of the technology or fuel in national decarbonization plans. If no such plan exists, the MDBs should encourage the country to begin developing such a plan and to connect this plan to the country's other key climate documents, such as the NDC and long-term strategies.

- **Condition project approval on financial viability with a realistic carbon price.** MDBs should commit to not approving projects that are not financially viable with a carbon price applied. The price should be applied to both direct and induced emissions in the energy and transportation sectors, plus other sectors where such emissions are relevant.

- **Make use of additional tools for conditionally aligned investments in the transportation sector.** MDBs should emphasize electrification of the transportation sector wherever possible.

- **Make use of sector-specific emissions targets.** Sector-specific emissions targets could help the MDBs move away from high-carbon investments. Emissions targets in the energy sector could become more stringent over time until they equal zero gross emissions by 2050.

## Supporting Climate Resilience

The MDBs have started to identify climate-related risks associated with potential investments, including through the implementation of risk-screening processes. There is much more work to be done though to ensure that MDB finance flows only to activities that are adequately resilient to potential impacts of climate change and that those most vulnerable to climate impacts receive adequate assistance. In particular, MDBs still struggle to ensure that public and private clients translate high-level data on climate risks into appropriate adaptation actions.

To encourage enhanced action on climate resilience MDBs should take the following actions:

- **Integrate climate change into due diligence processes.** More should be done to ensure that climate risks are systematically integrated into project design documents. Environmental and social impact assessments should integrate analysis of a project's impacts on climate resilience. Also, economic assessments should examine the potential economic impact of climate change on the project and the economic value of relevant adaptation options.

- **Incentivize integration of climate risks through targets and performance metrics.** Climate-related information should be required in project approval processes. The MDBs that do not already have them should identify adaptation finance targets to encourage a focus on adaptation investments, not just on mitigation. Climate change or sustainability should be part of staff performance evaluations.

- **Help pay for the cost of resilience assessments, project design improvements, and investments in resilience.** Identify predictable and long-term financing that reinforces the notion that climate considerations are not a parallel process, but rather integral to MDB efforts. Core MDB resources should be made available to pay for these elements in the case of public projects; in private-sector projects, the costs should be borne by the private-sector partner.

- **Invest in identifying strategic short- and long-term adaptation opportunities.** MDBs should help clients and staff identify where resilience investments are most needed. MDBs should emphasize systemic change, long-term planning, and highlighting of the economic benefits associated with adaptation options, particularly for private-sector clients.

- **Integrate climate resilience into monitoring and evaluation.** Projects are often altered over time as conditions change, and climate change is likely to affect activities in unanticipated ways. Integrating climate risk-screening processes into ongoing project monitoring will help the MDBs and their clients better anticipate and respond to evolving climate impacts.

- **Focus on engaging with private actors in key adaptation sectors.** MDBs should require private clients to implement effective climate risk-management processes. MDBs should continue ongoing efforts to identify market opportunities and showcase effective resilience partnerships. They should also continue to support industry and country standards for resilience and encourage the use of different financial structures and instruments for adaptation purposes.

## Ensuring Transparency in Reporting of Financial Flows

As multilateral public financial institutions, the MDBs have an obligation to be transparent about their investments. Such transparency can also help to ensure that MDBs provide valuable lessons to other financial institutions and relevant stakeholders. The MDBs have increased transparency on their investments in recent years, especially regarding climate finance. It remains challenging, though, to clearly understand and compare MDB investments in activities outside the realm of climate finance—investments that could potentially have negative impacts on a country's climate-mitigation and adaptation goal.

Furthermore, the TCFD presents a new challenge and opportunity to identify processes and metrics for reporting on the transition and physical risks facing MDB investments.

This report suggests that the MDBs undertake the following steps to continue to support transparency on MDB financial flows and their relationship to the Paris Agreement:

- **Continue to improve reporting on climate finance.** The MDBs should update mitigation finance tracking to reflect the temperature goal in the Paris Agreement. To do so, MDBs could make the mitigation categories more restrictive. For example, this could include the exclusion of all fossil-fuel thermal power from climate finance reporting, including natural gas.

- **MDBs should begin to report more systematically on the impacts of their climate finance**. This should include data on gross emissions and emission reductions associated with the mitigation finance, per project, and aggregated at a country and/or sectoral basis (and for the power sector relative emissions per installed capacity or generation). Relatedly, reporting on results from adaptation finance could be a valuable exercise in identifying where such finance is having the greatest impact.

- **MDBs should provide project-level data on mitigation and adaptation finance, including the amount of climate finance per project.** This would shed more light on the geographic distribution of MDB climate finance flows and on how much of an MDB's portfolio in each country is counted as climate finance.

- **Unify reporting on overall portfolio**. The MDBs should agree to a uniform reporting methodology for all their investments (not just those categorized as climate finance). The reporting methodology need not be overly detailed but should be granular enough to allow for meaningful analysis of the data. The World Bank's current sector-based tagging methodology is a useful model.

The MDBs – by integrating decarbonization and climate-resilient strategies into their direct finance, technical assistance, and standards – can play a crucial role in ensuring that development is aligned with the Paris Agreement.

- **Start reporting in a way that is compatible with the TCFD recommendations**. This will require reporting on physical risk and transition risk across the entire investment portfolio. The MDBs should develop a common set of scenarios (including a 2°C or lower scenario) and modeling approaches. The methodology used and results of the scenario analysis should be disclosed.

- **Develop comprehensive reporting on progress toward Paris alignment.** MDBs should increase transparency on the impacts their investments might have on the achievability of global and national climate targets and the steps they are taking to minimize these risks. This could be done in a form similar to TCFD disclosures, including, for example, information on the scenarios used and aspects of a climate strategy.

## ENDNOTES

1. The role and content of a country strategy within each bank reflects that bank's mandate. All banks focus on fostering economic growth by reducing poverty and strengthening institutions, but with a slightly different approach to engaging external partners. The World Bank Group, the only bank reviewed with a global mandate, pursues its twin goals to boost shared poverty and end extreme poverty, through five distinct organizations (IDA, IBRD, IFC, MIGA, and ICSID). These five organizations all contribute to the development of the country strategy for each of the World Bank Group's client countries, even though each organization has a distinctive operational focus. The Asian, African, and Inter-American Development Banks emphasize promoting sustainable economic growth within their region, primarily through sovereign lending but with a distinct department focused on the private sector. As these four primarily engage in sovereign lending, the strategy is the result of negotiations between each MDB and their country contacts. The European Bank of Reconstruction and Development, meanwhile, has a mandate to "foster the transition toward open market-oriented economics and to promote private and entrepreneurial initiative" in its client countries, and about 80 percent of EBRD's loans are to commercial clients. Thus, EBRD's strategies "set out the strategic objectives of EBRD's business orientation in a particular country for the next five years." These objectives are identified through an internal assessment by EBRD staff that evaluates the country's market conditions, incorporates EBRD's six criteria for promoting economic or institutional transition, and analyzes the sectors or market openings where EBRD can add the most value.
2. This is based on author calculations from the World Bank Projects page.
3. We reviewed the strategies of 75 countries but included the NDCs of 74 because Kosovo does not have an NDC as it is not a Party to the UNFCCC.
4. EBRD's target is specific to its Green Economy Transition approach.
5. Further detail on approaches to assessing alignment of T&D investments is available in Westphal et al. (forthcoming) and Bartosch et al. (2018).
6. These are Argentina, Brazil, India, Kazakhstan, Sri Lanka, Tunisia, and Uganda.
7. Only projects receiving €40 million or more are listed currently. From 2018, all GET or climate finance projects will be provided (EBRD 2017 Sustainability Report).
8. "TCFD+ Guidelines" is an approach that combines reporting on climate-related financial risk and finance-related climate risk as proposed in Bartosch et al. (2018). They build explicitly on the TCFD guidance for implementing the recommendations but suggest amendments to reflect additional risk dimensions and make them specific to the MDB context.

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# LIST OF ABBREVIATIONS

| | |
|---|---|
| ADB | Asian Development Bank |
| AfDB | African Development Bank |
| AIIB | Asian Infrastructure Investment Bank |
| ARAF | Acumen Resilient Agriculture Fund |
| BECCS | Bio-energy with carbon capture and storage |
| CCS | Carbon capture and storage |
| COP | Conference of the Parties |
| CPF | Country Partnership Framework |
| DMDU | Decision-making under deep uncertainty |
| EBRD | European Bank for Reconstruction and Development |
| EIB | European Investment Bank |
| EPS | Emissions performance standard |
| EU | European Union |
| FAO | Food and Agriculture Organization of the United Nations |
| FSB | Financial Stability Board |
| GCF | Green Climate Fund |
| GDP | Gross domestic product |
| GET | Green Economy Transition |
| GHG | Greenhouse gases |
| IAMs | Integrated assessment models |
| IDB | Inter-American Development Bank |
| IDFC | International Development Finance Club |
| IEA | International Energy Agency |
| IFC | International Finance Corporation |
| IFI | International financial institution |
| IPCC | Intergovernmental Panel on Climate Change |
| IRENA | International Renewable Energy Agency |
| JASPERS | Joint Assistance to Support Projects in European Regions |
| LTS | Long-term strategies |
| MDB | Multilateral development bank |
| NAPs | National Adaptation Plans |
| NASA | National Aeronautics and Space Administration |
| NDC | Nationally Determined Contributions |
| NDCP | Nationally Determined Contributions Partnership |
| ND-Gain | Notre Dame Global Adaptation Index |
| NGOs | Nongovernmental organizations |
| OECD | Organisation for Economic Co-operation and Development |
| PMR | Partnership for Market Readiness |
| SBTi | Science-Based Targets Initiative |
| SCD | Systematic country diagnostic |
| SDS | Sustainable development scenario |
| TA | Technical assistance |
| TCFD | Task Force on Climate-Related Financial Disclosures |
| UNDP | United Nations Development Programme |
| UNEP | United Nations Environment Programme (now United Nations Environment) |
| UNFCCC | United Nations Framework Convention on Climate Change |
| UNISDR | United Nations International Strategy for Disaster Reduction |
| WBG | World Bank Group |

## ABOUT WRI

World Resources Institute is a global research organization that turns big ideas into action at the nexus of environment, economic opportunity and human well-being.

**Our Challenge**
Natural resources are at the foundation of economic opportunity and human well-being. But today, we are depleting Earth's resources at rates that are not sustainable, endangering economies and people's lives. People depend on clean water, fertile land, healthy forests, and a stable climate. Livable cities and clean energy are essential for a sustainable planet. We must address these urgent, global challenges this decade.

**Our Vision**
We envision an equitable and prosperous planet driven by the wise management of natural resources. We aspire to create a world where the actions of government, business, and communities combine to eliminate poverty and sustain the natural environment for all people.

**Our Approach**

COUNT IT
We start with data. We conduct independent research and draw on the latest technology to develop new insights and recommendations. Our rigorous analysis identifies risks, unveils opportunities, and informs smart strategies. We focus our efforts on influential and emerging economies where the future of sustainability will be determined.

CHANGE IT
We use our research to influence government policies, business strategies, and civil society action. We test projects with communities, companies, and government agencies to build a strong evidence base. Then, we work with partners to deliver change on the ground that alleviates poverty and strengthens society. We hold ourselves accountable to ensure our outcomes will be bold and enduring.

SCALE IT
We don't think small. Once tested, we work with partners to adopt and expand our efforts regionally and globally. We engage with decision-makers to carry out our ideas and elevate our impact. We measure success through government and business actions that improve people's lives and sustain a healthy environment.

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## ABOUT GERMANWATCH

Germanwatch is an independent non-profit organization with offices in Bonn and Berlin. Germanwatch's mission is to actively promote North-South equity and the preservation of livelihoods. Together with its members and supporters as well as with other actors in civil society Germanwatch advocates for sustainable development. Germanwatch focuses in particular on the politics and economics of the Global North with their worldwide consequences.

Germanwatch works for fair trade relations, responsible financial markets, compliance with human rights, and the prevention of dangerous climate change. The organization has teams of experts working on Corporate Accountability, Education for Sustainable Development, Financing for Development, German and EU Low-Carbon Policy, International Climate Policy and World Food, Land Use and Trade. Using science-based analyses, Germanwatch informs the public, educates, advocates with decision-makers and informs consumers how they can support sustainable development through their own actions.

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