



Scaling Finance for Transformational Climate Projects

The Challenge

Impactful climate action will require immense resources to fund the transformational projects that reduce greenhouse gas (GHG) emissions and help societies adapt. It requires bold action and political will, especially from the biggest emitters, including shifting incentives away from fossil fuels, eliminating subsidies and pricing carbon appropriately through carbon taxes and regulations, and mainstreaming climate and disaster risks. Public and private sectors will need to invest heavily in a new low-carbon and climate resilient manner.

What Is Needed?

Governments, donors, multilateral development banks (MDBs), private foundations, and the private sector have all been responding to calls for climate action. They are setting ambitious spending targets and making net-zero commitments, to be achieved through emission reductions supplemented by the purchase or creation of carbon offsets. Work is also in progress to provide project developers and decision-makers with the climate data and information they need to improve the disclosure of disaster and climate risks and ensure that development and economic policies—from land use planning and infrastructure standards, to procurement and budgetary processes—take climate risks into account. Delivering on climate and development goals and the required sector transitions will require the creation of robust pipelines of high-impact climate projects. Technological breakthroughs will also be needed to meaningfully reduce GHG emissions and support climate resilience.

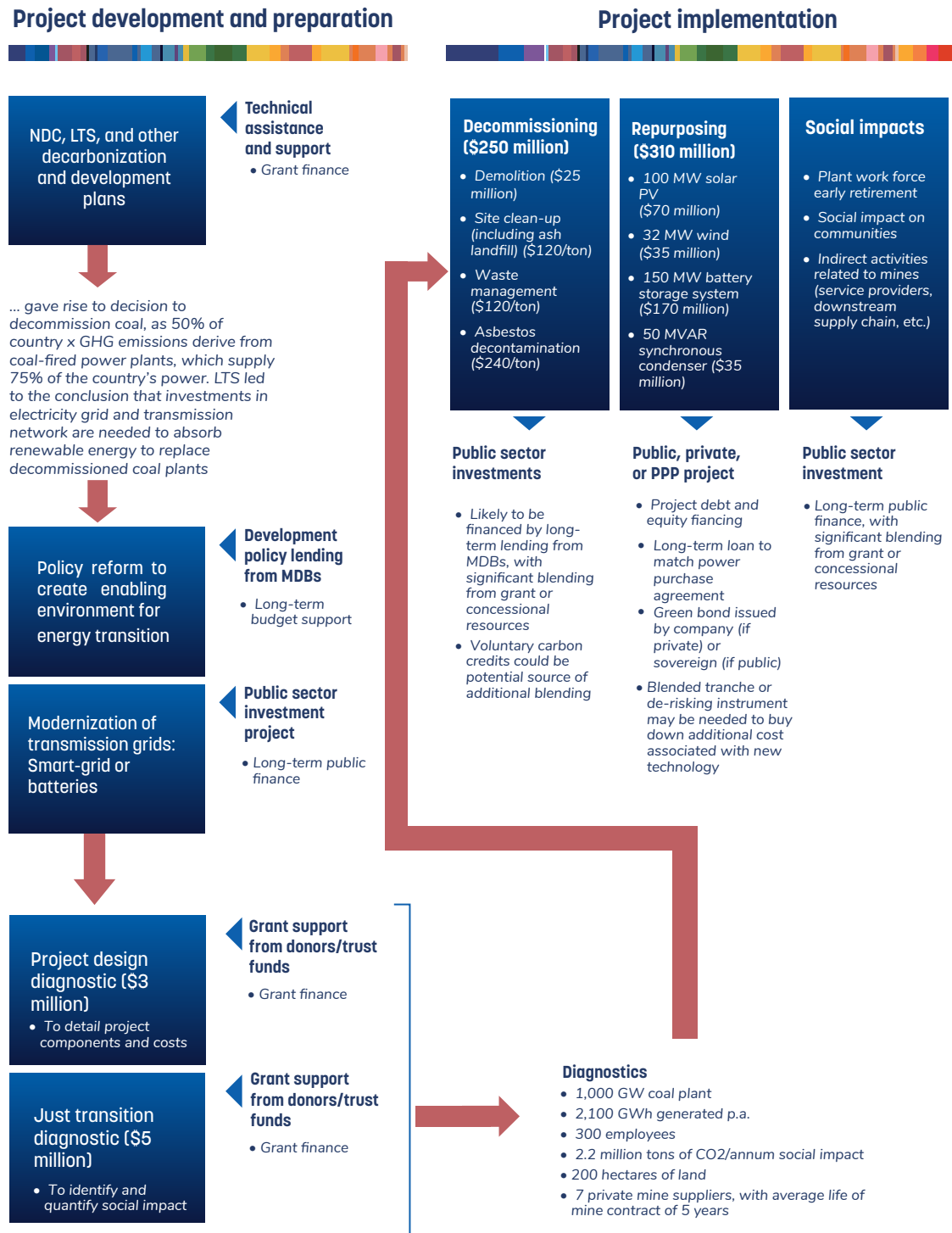
Such projects can be complex and expensive and take many years to deliver on social, resilience, and GHG reduction goals. For developing countries, the funding costs are daunting. Successful, transformational projects will require different sources of capital, different structures and maturities, and different returns of capital to reflect their risk. Importantly, there will need to be coordination among multiple parties—the public and private sectors, communities, and civil society:

- » Governments will need to provide enabling policies to unlock new investment and commit to sustained climate actions over a period of years.
- » Grant resources will play an important role in financing upstream work and project preparation to get projects—public and private—off the ground.
- » Grant and concessional financing and guarantees may be needed, to de-risk new or expensive technologies for which cost curves have yet to drop, and for projects in challenging low-income countries (LICs). Grant and concessional financing may also be needed to provide blended tranches

that enable high-impact climate projects that face specific barriers (such as decommissioning a coal plant and mitigating the cost of the energy transition for the affected communities).

» For the profitable portions of projects, private sector investments will need to be identified and attracted.

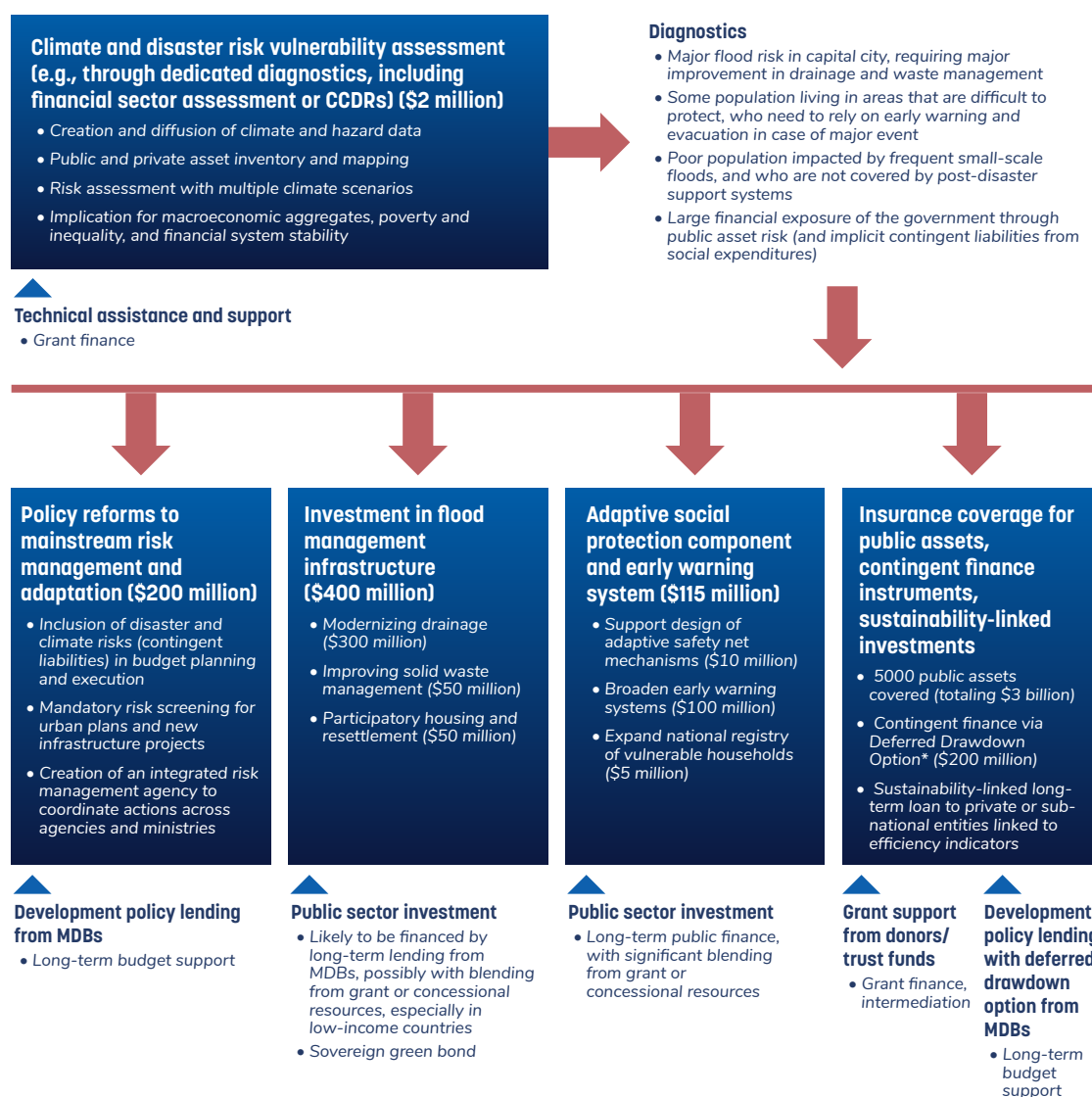
FIGURE 1: Illustrative Example—Coal Power Decommissioning



Note: Cost estimates are provided for illustrative purposes only, to provide a sense of order of magnitude. For social impacts, for example, the cost range will vary significantly, depending on the impact on communities and the environment.

MDBs such as the World Bank Group can usefully engage in each phase. Figure 1 presents an illustrative example of what a typical operation to decommission a coal-fired electricity generator and achieve a just transition away from coal could look like. Figure 2 presents a similar case for an illustrative adaptation operation. Both examples are important commitments in our Climate Change Action Plan 2021–2025,¹ illustrating the whole-of-economy approach needed to address climate vulnerabilities.

FIGURE 2: Illustrative Example—Adaptation and Resilience



*Catastrophe Deferred Drawdown Option (Cat DDO) is a contingent financing line that provides immediate liquidity to client countries to address shocks related to natural disasters and/or health-related events

How is the WBG Contributing to Solutions?

The World Bank Group (WBG) is an effective platform to channel finance to climate action. Through the World Bank, International Finance Corporation (IFC) and Multilateral Investment Guarantee (MIGA), we channel and catalyze finance toward a wide range of public and private sector interventions. This ranges from support to governments for regulatory reforms, through our policy

lending and technical assistance, to direct financing for both public and private sector investments. For the poorest countries served by International Development Association (IDA),² our development financing is already concessional. Private sector operations of IFC and MIGA in the poorest countries are eligible to receive concessional support from the IDA Private Sector Window. For climate finance, where appropriate, we channel further donor grant and concessional resources from Trust Funds or Financial Intermediary Funds, or from the International Bank for Reconstruction and Development (IBRD) Global Public Goods fund, for project preparation, blending, and de-risking. We also support clients with their capital markets development in areas such as green, blue, sustainability-linked and environmental, social, and governance (ESG)-linked bonds.

As we describe in our other [COP26 Climate Briefs](#), we support governments to update and implement their Nationally Determined Contributions (NDCs) and Long-Term Strategies (LTSs)³, and our newly launched Country Climate Development Report (CCDR)⁴ will provide important diagnostics to help identify and prioritize areas where climate action will have the most impact.

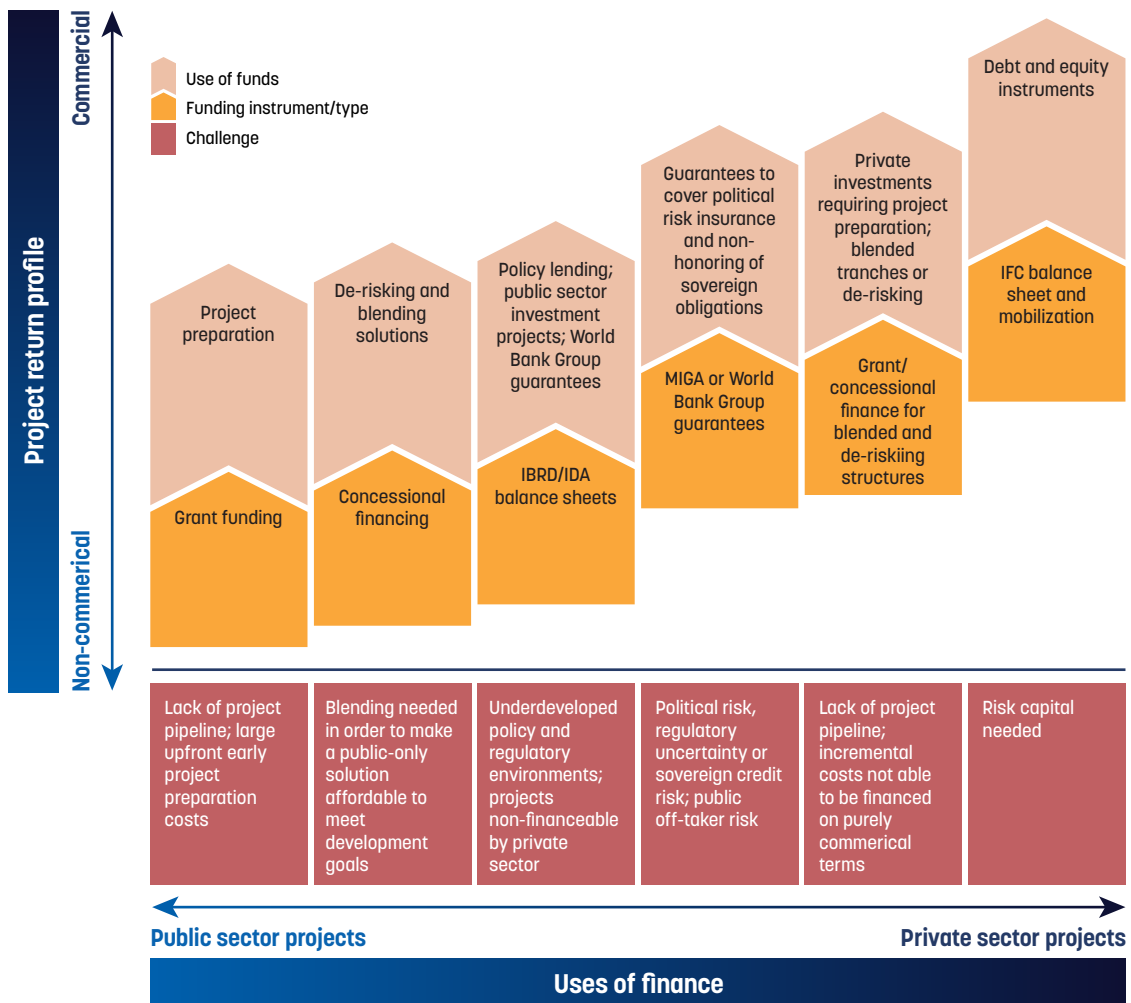
Climate is one of five special themes in the IDA20 replenishment. We will incorporate a range of climate-focused policy commitments that will underpin our financing to the poorest countries, including 35 percent of IDA financing commitments to deliver climate co-benefits and 50 percent of IDA climate co-benefits for adaptation. IDA's ability to leverage funding from capital markets makes it one of the most effective platforms for grant and concessional financing, including for climate, with every US\$1 of donor contribution delivering almost US\$4 of concessional loans and grants to the poorest countries.

The International Bank for Reconstruction and Development (IBRD) will continue to play a critical role in mobilizing finance at scale for climate action. Since inception, IBRD has directly mobilized capital market resources to provide development financing volumes that are 40 times the amount of capital provided by shareholders. Looking ahead, each US\$1 billion increase in IBRD's paid-in capital can support an estimated US\$10 billion additional financing over 10 years by leveraging commercial credit from the debt markets via sustainable development/green bonds.

IFC will continue to create and develop private sector climate projects across emerging markets. In addition to helping private sector clients in the manufacturing, transport, energy, and agriculture sectors find ways to reduce their GHG emissions, IFC is working with its financial institution clients to help them green their financing. IFC is also scaling its mobilization platforms, including the Managed Co-lending Portfolio Program (MCP), to drive additional financing towards climate action. MIGA, through its political risk insurance and credit enhancement guarantees, de-risks and mobilizes cross-border private capital to invest into developing countries for climate mitigation and adaptation finance. MIGA's ability to reinsure over 60% of its insurance portfolio provides another vehicle for catalyzing global risk capital in support of climate projects in developing countries.

Figure 3 depicts the spectrum of the WBG toolkit for public and private sector support.

FIGURE 3: WBG Toolkit to Enable Transformative Climate Projects



Note: Grant and concessional lending can also be provided via World Bank Balance sheet, especially through IDA

The project and country cases below showcase a range of examples of our climate action work, demonstrating use of the different instruments above.

What Will Success Look Like?

The scale of climate finance needed to fund projects is immense. We estimate that, with the appropriate policy environment, total needs for low-carbon, climate-resilient infrastructure, including energy, transport, water, and flood management, would reach at least 4.5 percent of the GDP of low- and middle-income countries (LMICs), or US\$1.55 trillion per year between now and 2030.⁵ These investment needs could even be larger if the right policies are not implemented, reaching up to 8 percent of LMICs' GDP by 2030.⁶ Beyond LMICs, the International Energy Agency estimates the global needs to meet new energy demand, invest in energy efficiency, and replace fossil fuel generation will double to reach at least US\$2.7 trillion per year in 2030. Estimates increase further if we consider the

spending needed on hard-to-abate sectors beyond infrastructure, such as heavy industries, as well as adaptation costs and maintenance expenditures. This comes at a time when many low-income countries face debt distress and investment needs are on the rise globally, not only in LMICs.

To succeed in climate action in our client countries, it will be critical to use existing resources as efficiently and as strategically as possible, and to create, prepare and finance operations that will have the most results in terms of changing the trajectory of GHG emissions and saving lives and livelihoods impacted by climate change.

<p>To identify more projects at scale...</p>	<ul style="list-style-type: none"> » Diagnostics to identify and prioritize the most impactful climate action as well as the policies and enabling environment required to unlock climate action and investment; » Leverage country platforms to improve coordination among governments, donors, MDBs, and the private sector around identifying policy bottlenecks; » Work upstream with both the public and the private sector to develop and design projects; » Efficiently deploy grant and concessional finance from donors and private foundations for project preparation as well as blending and de-risking for both public and private sector projects.
<p>To mobilize climate finance at scale to finance high impact projects...</p>	<ul style="list-style-type: none"> » Tap into new sources, such as philanthropic capital, which has historically underinvested in climate » Create efficient platforms for both private and public sector co-financing » Find opportunities to monetize private companies' net zero commitments—for instance, by creating a high-integrity and robust voluntary carbon market and pool amounts set aside by private companies to meet net-zero commitments, and channel them towards high-impact climate projects in developing countries in return for carbon credits; » Raise funds strategically for additional concessional and grant resources to provide blended and de-risking tranches; » Catalyze additional finance by supporting the development of countries' capital markets, including through standardized taxonomies and disclosures.

The WBG is engaged in all these efforts to support climate action. We are exploring ways to pool additional philanthropic capital to scale up grant and concessional financing, and with the private sector to invest in high impact climate projects in exchange for carbon credits.

Over the last four years, WBG has provided an annual average of over US\$21 billion in climate financing. The WBG is moving further with its 2021-2025 CCAP, which commits us to continue to play a critical role in catalyzing and mobilizing finance for climate action.⁷ The CCAP includes important commitments, such as the new target of an average of 35 percent in climate co-benefits

over the CCAP period, and a target of at least 50 percent of climate co-benefits for adaptation for IBRD and IDA. This is expected to translate to \$25 billion in average annual climate financing over the CCAP periods.

Project Examples:

Philippines: From Diagnostics to Climate-focused Policy Support

The World Bank and the IMF jointly prepared a [Climate Risk and Opportunities](#) Technical Report for the Philippines, using an innovative methodology of climate stress tests. The Philippines' financial sector is highly vulnerable to climate risks, given the country's high exposure to natural hazards, strong dependence on climate-sensitive agricultural sector, and vast coastlines with concentrated population – making the better understanding and managing of these risks critical for the supervisory authorities. The report identified opportunities to deepen financial markets and scale up the private sector's contribution to green, inclusive growth. These included developing a comprehensive green finance strategy, introducing green taxonomy, knowledge-sharing, launching sovereign green bonds and utilizing blended finance, exploring an insurance risk pool, formalizing long-term pathways towards carbon neutrality, and pricing externalities.

The report informed a [US\\$400 million policy support loan from the World Bank](#) to the Philippines to provide inclusive access to catastrophe risk insurance for businesses to adapt to climate-induced disasters, improve financial sector resilience by integrating climate and environmental risks in risk management frameworks, and mobilize finance for environment-friendly projects.

Rwanda: Investing in Energy Access and Quality Improvement—Investment Project Financing

The World Bank is providing, through IDA, a US\$75 million concessional loan and a US\$75 million grant to Rwanda to improve access to modern energy for households, enterprises, and public institutions and to support Rwanda's target of universal access to energy by 2024 and to clean cooking by 2030. The project will fund the expansion of grid connections for residential, commercial, industrial, and public sector consumers and provide grants to reduce the costs of off-grid solar home systems. The project also taps into concessional and grant funds from the [Energy Sector Management Assistance Program \(ESMAP\)](#) with a US\$10 million grant. The project, which is the World Bank's largest clean cooking operation in Africa, is expected to reach 2.15 million people and develop a sustainable market for affordable clean cooking solutions in Rwanda.

Angola: Sustainable Access to Water Access—Luanda Bitá Water Supply

The World Bank provided a guarantee of US\$500 million, supported by US\$351 million second loss insurance by African Trade Insurance Agency, to mobilize US\$910 million from international commercial lenders for the Government of Angola. The Bitá Water Supply Project will improve access to potable service in Luanda, the capital city, which suffers from a high incidence of waterborne diseases due to limited and discontinuous access to piped water service and lack of sanitation. Investments will include water production, transmission, and distribution facilities to improve access for over 2 million people. The project contributes to Angola's adaptation to climate change by reducing water losses and vulnerability to water scarcity, and by making populations less exposed to the diseases that are expected to become more common in a warmer climate.

India: Creating Solar Markets

The [Shared Infrastructure for Solar Parks Project](#) combined a US\$75 million loan from the World Bank, a US\$23 million concessional loan, and a US\$2 million grant from the [Clean Technology Fund](#), which in turn enabled a US\$437 million financing package arranged by IFC to support the development of a 1,500-acre 750 MW Ultra Mega Solar Park, one of the world's largest single-site solar power plants. Here we see a package of interventions across the WBG that work together to provide a total solution: formulation of an approach for implementing large scale grid-tied solar; a package of public sector finance for early stage de-risking, IFC advisory support to concession out three solar power projects; and a package of US\$437 million in commercial financing to prove the ultimate bankability of the overall enterprise.

A quarter of the park's solar energy is being sold directly to Delhi Metro Rail Corporation (DMRC), a network that serves 2.6 million people every day, with 60 percent of DMRC's power needs met by solar power coming from this plant. This helps the DMRC not only reduce its dependence on coal, but also save Rs. 7.93 billion on its energy bill over the next 25 years. IFC's US\$473 million financing package included the mobilization of US\$309 million from other investors. This is one of the largest mobilizations in India, where US\$2.4 in additional debt was mobilized for every dollar of IFC investment.

Iraq: Reducing Gas Flaring—Basrah Gas Company

In 2021, IFC invested in the Basrah Gas Company (BGC), one of the largest gas flaring reduction projects in the world. As lead arranger, IFC arranged a US\$360 million lending package to BGC, to help the company increase its capacity to treat and process associated gas that would otherwise be flared from natural gas fields. The project is expected to reduce unnecessary flaring and associated emissions by around 10 million metric tons of CO₂e per year. In addition to IFC financing of US\$138 million from its own account, IFC mobilized US\$180 million from eight international banks, and US\$42 million through its Managed Co-Lending Portfolio Program (MCLPP), an IFC platform that allows institutional investors to participate in IFC's loan portfolio.

Cameroon: Financing Clean Power—420 MW Nachtigal Hydropower

The project financing, closed in 2019, supports the construction of a privately owned and operated 420 MW power plant on the Sanaga River, increasing Cameroon's power generation capacity by nearly a third and providing very cheap power, at around €0.06/kWh, to save the country US\$100 million in annual costs. IFC helped develop and structure the project in its early stages, with US\$13 million development capital, and subsequently invested €60 million in equity and €110 million in debt and mobilized €800 million in loans from development finance institutions and commercial banks. MIGA provided €165 million in breach-of-contract insurance to two shareholders of the Nachtigal project—EDF International, an international power company, and STOA, an infrastructure investor focused on Africa—to de-risk the project and enable private investment. The World Bank provided a €171 million loan guarantee to mobilize unprecedented long-term financing from local commercial banks, thereby lowering loan costs and balancing the mismatch between the project's long economic life and its financing maturities. The World Bank also provided a €86 million payment guarantee to backstop the government's obligations under project-related agreements..

West Bank and Gaza: Supporting Distributed Generation

In 2018, IFC structured an innovative debt financing package for the PRICO Solar project to promote the installation of solar panels on the rooftops of several buildings belonging to the Gaza Industrial Estate (GIE), Gaza's largest business park. IFC followed up in 2020 with an investment in the Massader Solar project, which will outfit 500 local schools with solar panels across the West Bank. PRICO is the largest solar installation in the Gaza Strip and the first one for which an ad-hoc grid integration solution has been developed with the grid operator to ensure power evacuation a 24/7 continuity of supply. IFC's debt financing package for the PRICO project entailed a Blended Concessional Finance loan of US\$8 million, consisting of commercial senior debt from IFC and concessional tranche from the IFC-Canada Climate Change Program. Massader's debt financing package included US\$8.1 million in commercial loans from IFC's own account and US\$8.1 million in concessional debt from the Finland-IFC Blended Finance for Climate Program and the Dutch MENA Private Sector Development Program. The project also received grant financing from the World Bank of US\$2.0 million.

Colombia: Catalyzing via Supporting Capital Markets

The World Bank provided technical assistance to the Central Bank of Colombia to conduct the first climate risk assessment on physical and transition risks for the banking sector and provided input into Colombia's Sovereign Green Bond Reference Framework. In September 2021, Colombia issued an inaugural green bond of Colombian Peso of 750 billion Colombian pesos (US\$196 million equivalent), benefitting from joint World Bank and IFC support to become the first Latin American country to issue a sovereign green bond in local currency. IFC has also supported green bond policies and green instrument listing requirements in South Africa, Vietnam, Egypt, Ghana, Morocco, and Tunisia.

Endnotes

1. World Bank Group. 2021. "World Bank Group Climate Change Action Plan 2021–2025: Supporting Green, Resilient, and Inclusive Development." Washington, DC. <http://hdl.handle.net/10986/35799>.
2. DA is the World Bank's concessional and grant funding arm for the world's poorest countries.
3. See World Bank Group. 2021. "Expanding WBG support for Country NDCs and LTSs." World Bank Group COP26 Climate Briefs. Washington, DC: World Bank. <https://www.worldbank.org/en/topic/climatechange/publication/world-bank-group-cop26-climate-briefs>.
4. See World Bank Group. 2021. "Country Climate and Development Reports (CCDRs)." World Bank Group COP26 Climate Briefs. Washington, DC: World Bank. <https://www.worldbank.org/en/topic/climatechange/publication/world-bank-group-cop26-climate-briefs>.
5. Rozenberg, Julie, and Marianne Fay. 2019. "Beyond the Gap: How Countries Can Afford the Infrastructure They Need while Protecting the Planet." Sustainable Infrastructure Series. Washington, DC: World Bank. <https://openknowledge.worldbank.org/handle/10986/31291>
6. IEA. 2020. "World Energy Outlook 2020." Paris: International Energy Agency. <https://www.iea.org/reports/world-energy-outlook-2020>.
7. World Bank Group. 2021. "World Bank Group Climate Change Action Plan 2021–2025: Supporting Green, Resilient, and Inclusive Development." Washington, DC. <http://hdl.handle.net/10986/35799>.