Abstract

The climate agenda has been a dominant feature of World Bank reform efforts, with President Banga aiming to both mobilize new resources and increase the proportion of total funding for climate related projects. The stakes are high: greenhouse gas (GHG) emissions in many borrowing countries are elevated and rising, dimming prospects for meeting the 2030 Paris Agreement target to limit warming to a 1.5 degrees Celsius increase. To date, stakeholders have focused on how to mobilize new funding for climate mitigation reflecting an emphasis on the supply side (e.g., financing) of the agenda. But there has been little analysis on the demand side (or project pipeline). The assumption is that more money will generate more demand. But this does not necessarily follow. In this paper, we discuss major factors that will influence demand for climate mitigation projects, especially from the largest emitters of greenhouse gases (e.g., China, India, Brazil, Indonesia, Mexico). Our assessment is that factors like World Bank borrowing costs and access to alternative sources of finance will likely limit demand absent financial incentives, which could prove costly and difficult to resource at the scale needed to have meaningful impact. We also see a risk that these incentives could be used inefficiently absent a rigorous analysis to identify where they could have the most impact and a robust framework for assessing results.
Warming or Cooling on World Bank Climate Finance: What Drives Country Demand?

Clemence Landers
Center for Global Development

Karen Mathiasen
Center for Global Development

Samuel Matthews
Center for Global Development

The Center for Global Development is grateful for contributions from the Bill & Melinda Gates Foundation in support of this work.

Contents

Introduction ........................................................................................................................................... 1
Development finance and climate mitigation ................................................................. 2
Factors that will affect borrower demand ........................................................................... 3
  Sources of finance .................................................................................................................. 3
  Relative cost of capital ......................................................................................................... 4
  World Bank lending terms .................................................................................................. 5
Potential uses of new IBRD funding .................................................................................. 7
  Doing Business with the World Bank ............................................................................... 7
How client demand could change country income composition ...................................... 8
Policy takeaways .................................................................................................................... 9
Final thoughts .......................................................................................................................... 11
List of Figures
1. IBRD lending 2021 to mid-2023 for major emitting countries ..............................................2
2. IBRD lending terms compared to external financing costs for high-emitting middle-income countries, November 2023 ..........................................................4
3. IBRD lending rates, 2020–2023 ........................................................................................................5
4. IBRD commitments by income level..............................................................................................8
5. Major IBRD borrowers relative to the IBRD GDI .........................................................................9

List of Table
1. Top 10 emitters that borrow from the World Bank: Projected change from 2020 ..........................................................1
Introduction

Over the last year, the World Bank reform agenda has focused on how to strengthen its support for global challenges, which shareholders recently agreed should cover eight issues, including climate change adaptation and mitigation.\(^1\) To finance this agenda, the World Bank is taking measures to stretch its balance sheet and adding hybrid capital and a new portfolio guarantee program to its offerings, with the possibility of a capital increase at a later date.\(^2\) And at COP 28, President Banga announced that 45 percent of World Bank annual spending would be on climate-related projects.

While the new financing could be made available for all global challenges, in this paper we focus on climate change mitigation and explore whether World Bank borrowers—especially large emerging markets (EMs)—will take advantage of new lending headroom to borrow for projects that will reduce emissions. We have chosen to focus on mitigation specifically because the stakes are so high: greenhouse gas (GHG) emissions in many borrowing countries are elevated and rising, dimming prospects for meeting the 2030 Paris Agreement target to limit warming to a 1.5 degrees Celsius increase in the earth’s temperature.

<table>
<thead>
<tr>
<th>Country</th>
<th>% of World Total GHG Emissions</th>
<th>Projected % Change in CO(_2) Emissions By 2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>29.16</td>
<td>-6.80</td>
</tr>
<tr>
<td>India</td>
<td>7.33</td>
<td>56.46</td>
</tr>
<tr>
<td>Brazil</td>
<td>2.44</td>
<td>-46.24</td>
</tr>
<tr>
<td>Indonesia</td>
<td>2.31</td>
<td>54.75</td>
</tr>
<tr>
<td>Mexico</td>
<td>1.52</td>
<td>25.54</td>
</tr>
<tr>
<td>Türkiye</td>
<td>1.28</td>
<td></td>
</tr>
<tr>
<td>Pakistan</td>
<td>1.02</td>
<td>70.23</td>
</tr>
<tr>
<td>South Africa</td>
<td>0.99</td>
<td>-33.44</td>
</tr>
<tr>
<td>Vietnam</td>
<td>0.91</td>
<td></td>
</tr>
<tr>
<td>Nigeria</td>
<td>0.76</td>
<td></td>
</tr>
</tbody>
</table>

Source: Emissions Database for Global Atmospheric Research, 2023; Global Change Assessment Model; World Bank.

To date, stakeholders have focused on how to mobilize new funding for global challenges, reflecting an emphasis on the supply side (e.g., financing) of the agenda. But there has been little analysis on the demand side (or project pipeline). The current strategy simply assumes that more money will generate more demand. But this does not necessarily follow. In fact, the World Bank is not even at capacity now. As part of its balance sheet stretching agenda, the Bank announced that it would move its equity-to-loan (E/L) ratio from 20 to 19 percent, but the actual E/L ratio continues to hover around 22 percent.

---

In this paper, we identify several factors that will influence demand, including World Bank borrowing costs and access to alternative sources of finance. Our assessment is that these factors will likely limit interest from borrowers who are also the largest GHG emitters absent financial incentives which could prove costly and difficult to resource. And we see a risk that these incentives could be used inefficiently absent a rigorous analysis to identify where they could have the most impact and a robust framework for assessing results. We also believe that stakeholders need to address these issues so the World Bank can more effectively engage with its middle-income clients to reduce greenhouse gas emissions.

Development finance and climate mitigation

The IBRD estimates that it can provide an additional $50 billion in new headroom over the next 10 years based on projected gains from balance sheet optimization and shareholder support (excluding the possibility of a general capital increase). Trends in borrowing since 2021 show that mitigation financing has been an important component of the portfolios of most of the major emitting countries, with Vietnam a notable exception (See Figure 1).

**FIGURE 1. IBRD lending 2021 to mid-2023 for major emitting countries**

<table>
<thead>
<tr>
<th>Country</th>
<th>Adaptation</th>
<th>Mitigation</th>
<th>Non-climate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>1,856</td>
<td>1,800</td>
<td>1,670</td>
</tr>
<tr>
<td>China</td>
<td>8,049</td>
<td>8,454</td>
<td>6,172</td>
</tr>
<tr>
<td>India</td>
<td>2,150</td>
<td>949</td>
<td>130</td>
</tr>
<tr>
<td>Indonesia</td>
<td>595</td>
<td>595</td>
<td>0</td>
</tr>
<tr>
<td>Mexico</td>
<td>1,670</td>
<td>6,172</td>
<td>130</td>
</tr>
<tr>
<td>Nigeria</td>
<td>1,000</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td>Pakistan</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>South Africa</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Türkiye</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Vietnam</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Note: Nigeria and Pakistan receive substantially more in financing from IDA.

---

3 We also exclude the U.S. pledge, which could leverage $25 billion in new capacity, due to the low probability of congressional approval.
4 These figures may be overstated according to a CGD analysis of 2,554 World Bank projects tagged as climate which found that several hundred had no obvious connection to climate. Guido Nunez-Mujica et al., *What Counts as Climate? Preliminary Evidence from the World Bank’s Climate Portfolio* Center for Global Development (Washington, DC: Center for Global Development, 2023) https://www.cgdev.org/publication/what-counts-climate-preliminary-evidence-world-banks-climate-portfolio.
The Overseas Development Institute (ODI) released a survey in 2022 that provides some insight into borrowing countries’ preferences for MDB financing. Based on a survey of 500 senior government officials and 73 country office heads, ODI found that the top-four sectors respondents wanted the World Bank to support were (in order): education, health, climate mitigation and adaptation, and water and sanitation. ODI intends to repeat this survey in 2024. Earlier this year, CGD colleagues reported on a World Bank survey conducted in 2020 and 2021, which found that climate was ranked in the top 10 by only 7 of 43 countries.

Factors that will affect borrower demand

We identified five major issues we expect to influence demand for climate mitigation projects for middle income country borrowers:

Sources of finance

Multilateral development banks (MDBs) are generally not the dominant source of mitigation finance for large emerging market emitters because renewable energy is increasingly economically viable, and therefore capable of attracting private investment. In addition, whether the source of finance is public or private, many EMs are increasingly able to self-finance through domestic bond markets, taxation, and external capital markets.

China is the starkest example. It is the world’s largest carbon emitter accounting for 29 percent of annual global emissions (the United States remains the largest cumulative emitter). To put this in perspective, the next nine largest emitters who are also IBRD borrowers together account for 18.6 percent of global emissions. However, there is no clear role for the World Bank in supporting China’s green energy transition. As shown in Figure 2, IBRD’s terms are above what China can access on the market and it is already financing its own transition, including a doubling of wind and solar capacity expected over the next five years.

For many poorer (“frontier”) EMs and low-income economies, a higher level of official finance is needed and MDB financing is a more critical source. But, as discussed below, there are other factors that may inhibit demand.

---

Relative cost of capital

A related factor is how IBRD lending terms compare to other sources (e.g., external market borrowing). Looking at these relative terms today, we find that the IBRD is not an especially attractive partner for the major emitting countries. Figure 2 shows that two out of eight major emerging markets can access funding on terms equivalent to or better than what the IBRD can offer. In addition, these terms are close to what Mexico and Brazil can access. A notable finding is that two of the countries that would benefit most in terms of cost differential by borrowing from the World Bank—South Africa and Vietnam—are not very active clients.

**FIGURE 2. IBRD lending terms compared to external financing costs for high-emitting middle-income countries, November 2023**

Notes: Group A is the most concessional IBRD pricing group and covers vulnerable groups and recent IDA graduates, B includes countries below the Graduation Discussion Income (GDI) that do not fall under any Group A categories, and C includes countries that are above GDI but are not high income. Sovereign yields represent the average yield to maturity, weighted by amount issued, for all active sovereign bonds issued in USD and with tenors greater than 8 years and less than or equal to 10 years. The IBRD lending term applies the IBRD lending formula for loans with maturities greater than 8 years and less than or equal to 10 years to the 10-year SOFR overnight swap rate. All market data is current as of November 29, 2023. For India, bonds issued by state-owned enterprises were used in place of sovereigns.

Source: Bloomberg LLC; IBRD.
• In South Africa’s latest country partnership framework which sets out country priorities and prospective lending volumes, the government had no plans to borrow. In practice, South Africa did accept two COVID-related emergency operations as well as a $497 million loan to decommission and repurpose a coal-fired power plant (with concessional funding from Canada).
• Vietnam has only borrowed $615 million since 2021, predominantly for COVID recovery. Borrowing was also on IDA concessional terms even though Vietnam graduated from IDA in 2017.

World Bank lending terms
The absolute cost of IBRD borrowing will also affect demand. IBRD costs have been rising from an average of 1.1 percent in mid-2020 to as much as 6.36 percent today for an 8–10 year loan, consistent with the increase in risk-free rates globally. Higher borrowing costs could dampen interest in borrowing especially for countries with heavy debt loads (i.e., Pakistan and Türkiye) or seeking to maintain low-external debt levels (i.e., Mexico or Vietnam).

FIGURE 3. IBRD lending rates, 2020–2023

Note: Lending terms are based on the IBRD pricing formula for USD loans with maturities of 8 to 10 years.
Source: Bloomberg LLC; IBRD.

But even if rates were to fall, climate projects (i.e., projects whose primary benefit is to lower emissions) could be a tough sell for many countries—especially when there are no quantifiable rates.

9 Clemence Landers and Rakan Aboneaj, “Is World Bank Lending a Hot Ticket in a Global Credit Crunch?” Center for Global Development (Washington, DC: Center for Global Development, 2022), https://www.cgdev.org/blog/world-bank-lending-hot-ticket-global-credit-crunch. NB: These rates reflect the variable SOFR rate, rather than the ten-year SOFR overnight swap rate used in Figure 2.
of return (e.g., forest preservation) or if the rates of return are below what a country can get using fossil fuels. In these instances, a subsidy element may be needed.

Richer economies can and do offer subsidies on their own. For example, in the U.S. inflation reduction act, the majority of the $394 billion in energy and climate funding was provided in the form of tax credits.\textsuperscript{10} At the other end of the spectrum, low income and fragile states are eligible for grants or highly concessional loans (e.g., 50-year repayment period, 10-year grace and 2.5 percent interest starting in year 11) for all World Bank borrowing. But among the major emitters listed in Table 1, only Pakistan and Nigeria are eligible for concessional financing which they receive from IDA, the World Bank facility that funds the poorest countries. Since 2021, about a third of their IDA financing has been tagged for climate (32.3 percent for Nigeria and 34.7 percent for Pakistan).

Shareholders and World Bank management have concluded that subsidized lending will be needed to incentivize middle income borrowing for global challenges, although details are scarce. The Bank has introduced a set of principles to inform a concessionality framework, including that:

- Concessional financing should prioritize global public goods and domestic market failures and be additional both with respect to markets and domestic public resources.
- Concessional funds should be allocated to eligible activities that are in line with a country’s development priorities, include knowledge transfer and have a clear positive development impact.
- The IBRD should prevent allocative distortions and moral hazard by offering the minimum concessionality required for an IBRD-eligible country to borrow for public sector projects.
- The IBRD should promote transparency, accountability, and simplicity in the use of concessional resources.\textsuperscript{11}

There is no income threshold included in the criteria, which in theory would enable the World Bank to subsidize lending for any borrowers—even upper middle-income countries. This represents a major shift: historically, scarce subsidized financing has gone to the poorest countries with less ability to self-finance.

There are a range of options for calculating subsidies, but for the purposes of this note, we are assuming that the subsidy rate would be equivalent to IDA blend terms, which are currently about 30 percent cheaper than IBRD terms based on our back of the envelope calculations. Under this assumption ‘buying down’ IBRD lending to IDA blend terms would cost about 30 cents on the dollar, which would translate into $3 billion in grants for $10 billion in lending. (For comparison, IDA donors provide just under $8 billion a year in grants).


The World Bank has yet to set a target for concessional financing or identify possible sources for the grants they need to lend on below market terms. Germany, which plans to purchase $305 million euros of the Bank’s hybrid capital, intends to use its coupon payments for this purpose. But the amount will be small. For 2023, donors will also be asked to help deliver the largest IDA replenishment ever and have agreed that funding for the global challenges agenda should not come at the expense of the poorest. This commitment, which we fully support, will make additional fundraising challenging, especially given other priorities like Ukraine and potentially in the Middle East.

**Potential uses of new IBRD funding**

The fourth factor is whether additional funding from donors and balance sheet optimization will grow the overall lending pot or will only be available for climate-related projects. If the former, countries may choose to augment funding for other national priorities like infrastructure or human development or a different global challenge (e.g., biodiversity). To incentivize borrowing for climate, some potential donors are planning to include a “preference” (i.e., soft earmarking) attached to their contribution.

This too is a significant departure as the IBRD has historically been primarily a demand driven organization, but there is precedent for this approach: the Asian Development Bank recently set up a special facility to attract donors who wanted to provide funding for climate projects only.¹²

**Doing Business with the World Bank**

A common refrain from IBRD countries is that the World Bank’s high transaction costs discourage borrowing. The ODI survey of client countries affirmed this view: fewer than half of the respondents rated the performance of MDBs as good or very good on management and reporting requirements, processing times and the use of local contractors.

World Bank President Ajay Banga has seized on this issue. In his remarks at the 2023 annual meetings, Banga noted that a World Bank project takes 27 months on average before any funding is dispersed, and this is often followed by a lengthy implementation process. Banga intends to reduce project review and approval time by one-third and has shared that he wants his legacy to be a Bank that functions much better than when he arrived. Banga’s timeline is ambitious—he is aiming to reach this goal within two years.¹³ While laudable, this could conflict with donor pressure to create more consistent methodology and results measurement metrics for climate mitigation projects.

---


How client demand could change country income composition

A related issue is how the climate agenda could affect the allocation of resources among World Bank borrowers. As we discussed in a recent blog, IBRD has been prioritizing funding for its lower-middle income clients (LMICs). Since 2018, the IBRD has significantly increased lending levels to countries below the graduation threshold, otherwise known as the Graduation Discussion Income (GDI) currently set at $7,155 per capita. This shift occurred after a few large shareholders, including the United States, made it a condition of the 2018 general capital increase (GCI), arguing that IBRD funding should go to countries with the least ability to self-finance.

In the six years leading up to the 2018 GCI, an average of 40 percent of IBRD financing was going to countries above the IBRD’s GDI. The 2018 GCI essentially reversed this trend, with almost 70 percent of IBRD financing now going to countries below the GDI. Lower-middle-income countries (LMICs) were big winners with average funding nearly doubling from $8.5 billion to $15 billion a year. Lending to countries above the GDI stayed flat throughout the same period.

**FIGURE 4. IBRD commitments by income level**

<table>
<thead>
<tr>
<th>Income Level</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
<th>FY19</th>
<th>FY20</th>
<th>FY21</th>
<th>FY22</th>
<th>FY23</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMIC</td>
<td>$2.0</td>
<td>$2.5</td>
<td>$3.0</td>
<td>$3.5</td>
<td>$4.0</td>
<td>$4.5</td>
<td>$5.0</td>
<td>$5.5</td>
<td>$6.0</td>
<td>$6.5</td>
<td>$7.0</td>
<td>$7.5</td>
</tr>
<tr>
<td>UMIC (below GDI)</td>
<td>$0.5</td>
<td>$1.0</td>
<td>$1.5</td>
<td>$2.0</td>
<td>$2.5</td>
<td>$3.0</td>
<td>$3.5</td>
<td>$4.0</td>
<td>$4.5</td>
<td>$5.0</td>
<td>$5.5</td>
<td>$6.0</td>
</tr>
<tr>
<td>UMIC (above GDI)</td>
<td>$1.0</td>
<td>$1.5</td>
<td>$2.0</td>
<td>$2.5</td>
<td>$3.0</td>
<td>$3.5</td>
<td>$4.0</td>
<td>$4.5</td>
<td>$5.0</td>
<td>$5.5</td>
<td>$6.0</td>
<td>$6.5</td>
</tr>
<tr>
<td>HIC</td>
<td>$0.0</td>
<td>$0.5</td>
<td>$1.0</td>
<td>$1.5</td>
<td>$2.0</td>
<td>$2.5</td>
<td>$3.0</td>
<td>$3.5</td>
<td>$4.0</td>
<td>$4.5</td>
<td>$5.0</td>
<td>$5.5</td>
</tr>
</tbody>
</table>

*Source: IBRD.*


15 The Global Discussion Income was introduced by the IBRD as an alternative to a graduation threshold to signal that the only implication of reaching $7,155 per capita is a conversation between the World Bank and country officials on future engagement (e.g., there is no expectation that the country will actually graduate).
Going forward, President Banga has said “we need to focus on 10 countries where the growth of emissions will be so high if we don’t change to renewables that all the work we do in the developed world to reduce the use of emission-heavy energy will be lost in those 10 countries. That’s what we need to do to get to 1.5 degrees. Those 10 countries happen to be middle-income countries.”

A potential unintended consequence of this is that IBRD could have difficulty maintaining its levels of financial engagement with LMICs. Four of the 10 major emitters are upper middle-income countries and only three are LMICs (see Figure 5).

While this risk is mitigated by potential lackluster demand among the higher income countries, we think shareholders should consider whether to set any guardrails with respect to borrower income composition (i.e., to maintain the current financing mix where a majority of IBRD funding goes to countries below the GDI).

**Policy takeaways**

Stakeholders want the World Bank to deliver on a tough agenda within an exceptionally difficult context—carbon emissions from many IBRD borrowers are rising fast. China and India, the first and third largest carbon emitters globally, illustrate the scope of the challenge. In 2022, India’s emissions from fossil fuels increased 6 percent, reaching a new high, and India has not committed to reach net

---

zero until 2070. In 2023 China’s emissions are expected to exceed the record level set in 2021 and it has not pledged to reach net zero until 2060.

The implication is that even with a vastly scaled up financial platform to fight GHG emissions in the countries where the Bank engages, emissions may still be higher in 5 to 10 years than they are today. And consider this: the World Bank Group’s corporate scorecard in FY2022 showed that bank-funded projects led to 194 million metric tons of GHG emissions reductions, while the Emissions Database for Global Atmospheric Research reports that China’s emissions exceeded 15 billion metric tons in 2022.

The World Bank’s climate mitigation strategy should also take into account that most large emitting borrowers can access alternative sources of finance on similar or better terms than what the Bank has to offer, and some do not view the World Bank as a major partner. This is not necessarily a negative, provided countries are actively financing a green transition on their own. What complicates the picture is that many climate interventions will require subsidized financing which is much harder to come by. For the World Bank, adding a subsidy element for middle income countries will require grant funding, creating a new burden for donors already facing a multitude of very worthy asks within constrained budgets. Ultimately, it may make more sense for the Bank to focus on smaller emitters at the lower end of the income spectrum where access to finance remains a key challenge and where it can meaningfully influence a country’s overall emissions trajectory.

Given that demand for subsidies will no doubt exceed supply, shareholders need ways to assess where scarce grant resources can be most effective. Currently, the IBRD’s climate action plan targets relate to funding, rather than impact, making it impossible to glean the link between financing and outcomes. So as a condition of financial support, shareholders should push for rigorous, methodologically consistent, and verifiable analysis on what could be achieved in terms of reductions in carbon emissions. This will also require the Bank to incorporate emissions projections into its project documents, which most lack.

To recap, we believe shareholders should more fully integrate demand dynamics into the Evolution Roadmap by requesting:

- Projected demand for climate mitigation projects based on input from borrowers, especially the 10 largest emitters and countries where emissions are growing the fastest;

---

An analysis of where IBRD financing, including incentives, can most readily move the needle on emissions reductions (i.e., cost benefit analysis);

• Agreement to prioritize countries and projects based on this analysis; and

• Agreement to use emissions reductions, rather than funding, as a target and a measurement of impact.

An issue that is beyond the scope of this paper but highly relevant to potential demand dynamics is climate finance reform. The climate finance architecture is fractured and inefficient, with new facilities—like the Loss and Damage fund—pending. In particular, we recommend that stakeholders focus on the World Bank’s climate-related Financial Intermediary Funds (FIFs), as detailed in this CGD paper. The FIFs represent a considerable source of concessional finance, but governance of these institutions is entirely separate from the World Bank so combining assets or aligning lending principles and procedures would be a heavy lift. That should not deter shareholders, however, as the potential benefits of a more streamlined and better integrated climate financing structure could be significant.

Final thoughts

Our sobering assessment of the World Bank’s ability to influence emissions reduction also highlights the importance of looking at this agenda in a more holistic way so stakeholders do not focus excessively on initiatives where impact may be comparatively low. As an example, the World Bank and the IMF have both underscored the high cost of fossil fuel subsidies which reached $7 trillion in 2022, a $2 trillion increase from 2020. According to the IMF, their elimination would reduce fossil fuel CO2 emissions to 34 percent below 2019 emissions—an enormous gain. Full subsidy elimination is not politically viable, but we do wonder if offering meaningful financial incentives to help reduce fossil fuel subsidies could be a better use of scarce grant resources.

We recognize that by introducing demand dynamics along with climate finance and subsidy reform we risk creating paralysis by analysis. That is not our intention. Our aim is to reinforce what President Banga said at COP: that we can’t allow our discussion to be on one item because climate is a complicated topic that requires complicated thinking. And ultimately, grappling with these kinds of trade-offs will be key to maximizing the World Bank’s impact.

