

# Let Them Eat Carbon

VIJAYA RAMACHANDRAN AND ARTHUR BAKER

## Abstract

The push for the World Bank and others to link their investments to addressing climate concerns stems from a fear that, unless developing countries take action to decarbonize now, their economic growth will lead to vast emissions that will derail all global efforts to limit climate change. This approach, which treats low- and middle-income countries as a monolith, is unhelpful to the conversation about climate change.

To understand better where emissions are concentrated and how to address them, we projected carbon dioxide emissions to 2035—the point at which observers believe they will level off in most countries due to technological advances and accumulating wealth—under some simple assumptions. Emissions from the world’s poorest 64 countries, those which get IDA loans, will remain very low for decades to come, even if their economies grow rapidly and without action to reduce emissions.

Pressuring low- and lower-middle-income countries to replace plans for gas power with solar or wind energy will have limited climate benefits compared to replacing coal generation in richer countries. It is just more efficient—and just—to focus on climate mitigation where emissions are high, and on poverty reduction where poverty is high. And given that there is no sign of an increase in aid spending, especially in the poorest countries, rich countries must not cannibalize development aid or reinvent the development finance architecture, but rather explore the highest benefit opportunities for emissions reduction available.

## Let Them Eat Carbon

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## Introduction

Poor countries are already paying for the carbon emissions of advanced industrialized economies—through floods, droughts, and typhoons. Now, if the wealthy countries have their way, the poor could be forced to cough up even more, this time thanks to ill-conceived policies that will inhibit growth and do little to address climate change. That can't be allowed to happen.

The poorest 64 countries, home to almost a quarter of the world's population, are not major contributors to carbon emissions. That is likely to remain the case for some time. For these countries, economic growth, including access to energy, is central to poverty reduction and perhaps the most important method for building resilience to climate change.

Central to that growth is low-cost financing from multilateral development banks such as the World Bank. In recent years, these organizations have increasingly focused on linking finance to climate adaptation and mitigation. This has benefits, but if not done carefully, could also force the poorest countries to make bad or expensive choices that help neither their citizens nor the planet.

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## Buying climate resilience

Poverty is still a global scourge. More than 700 million live on less than \$1.90 per day, and more than 3 billion on less than \$5.50. Five million children under 5 die from preventable diseases each year, and 250 million do not attend school. About 700 million people are chronically undernourished—a number that has likely increased during the current pandemic.

Reducing poverty is not feasible without access to cheap and reliable energy. Indeed, the lack of it in low- and lower-middle-income countries, home to a large majority of the world's poorest people, is one of the world's biggest inequities. Today, for example, only 14 percent of people in Sub-Saharan Africa have access to clean fuels and technologies such as bottled gas for cooking; the rest are forced to rely on wood, charcoal, and animal dung.

For them and for others around the world, governments must invest significantly in energy, particularly energy infrastructure. More electricity generation, improvements to the public grid, and spending on roads and cold storage facilities would allow businesses to create more and better jobs, increase productivity, and boost well-being and human dignity.

But they also help the poor to adapt to climate change. People with better access to education, healthcare, and housing [cope better with heat waves and typhoons](#). For example, as Cyclone Fani (a category 5 tropical cyclone) barreled toward the eastern coast of the Indian subcontinent in 2019, India (gross national income of \$7,700 per capita) and Bangladesh (\$4,600), evacuated more than a million people. Partly as a result, only 89 people were killed. That same year, Mozambique

(gross national income of \$1,300 per capita) and Zimbabwe (\$2,850) struggled to protect their populations ahead of the less-severe Hurricane Idai. More than a thousand people died.

It isn't just natural disaster preparedness. India has a nationwide program of food subsidies to cushion people during poor harvests, which has reduced malnutrition and saved lives. Since an increase in extreme weather events and food shortages seems likely, for poorer countries, getting to the point where such planning is possible—with roads, hospitals, resilient power grids, storage facilities, and early-warning systems—is key.

The path from here to there is energy intensive. To achieve economic prosperity and high-income status, people in poorer countries will likely increase their use of energy from the current per capita range of 100–300 kilowatt-hours per year to somewhere between 5,000 and 10,000 kilowatt-hours per year (the amount of energy consumed by a person living in a rich country). Like it or not, that increase will necessarily include fossil fuels.

Take agriculture, for example. Yields in Africa are about one-tenth those in Asia. To increase yields, and to feed more people on a fixed amount of cultivable land, farmers across Africa will have to use more fertilizer. And the most efficient process for producing synthetic fertilizer includes natural gas. Similarly, despite impressive efforts underway to build small-scale solar irrigation systems across the continent, large-scale irrigation—critical to improving yields at scale—will have to run on fossil fuels for at least the next several years. Continued and increasing fossil fuel consumption is regrettable, but it will mean more people will be fed with less land, reducing deforestation, and enabling the transition to modern agriculture.

And that's just farming. Fossil fuels are also needed to build roads, to build cold-storage systems to preserve food (and, as we've been reminded these last few years, vaccines), and to provide liquid fuels for moving people from rural towns to cities. Investments in oil and gas infrastructure are needed to reduce waste and leakages while also increasing productivity. The availability of clean cooking fuels, such as liquefied petroleum gas, is a must for reducing deaths and illness from indoor air pollution.

Perhaps luckily for the continent, in addition to relatively strong renewable energy sectors—including hydroelectric, solar, wind, geothermal, and hydropower—Africa also has vast natural gas stores. All told, the continent has 600 trillion cubic feet of natural gas in reserves, a third of which is in energy-poor Nigeria. Beyond direct uses like fertilizer, natural gas can also act as a backup for renewable energy sources, thereby ensuring a cheap and reliable electricity.

But to make the most of its resources, almost all the countries in Africa will need to borrow money to shore up their energy infrastructure. Rich countries may get loans at low or even negative interest rates, but for their less well-off counterparts, borrowing on private markets is very expensive. This is where development finance comes in. Poor countries rely on multilateral development banks that offer financing at a concessional rate.

The World Bank dominates this landscape through its two lending windows. The first is the International Bank for Reconstruction and Development (IBRD), which offers money at market rates to richer, credit-worthy, middle-income countries. Its annual commitments are of the order of \$25 billion. In 2020, Argentina, China, Colombia, Egypt, India, Indonesia, Jordan, Morocco, Turkey, and Ukraine were the top borrowers.

The second World Bank facility is the International Development Association (IDA), which lends money at low rates with a long repayment period to lower-middle-income and low-income countries. Through development credits, grants, and guarantees, IDA committed \$36 billion to the world's poorer nations for the most recent fiscal year—and on highly favorable terms.

This aid is hugely important to development and poverty alleviation. Yet the World Bank and other lenders are increasingly facing calls from their shareholders—including the United States and the European Union—to retrofit practices to address climate change as well as poverty. The World Bank has responded by announcing that it will not fund coal or upstream oil and gas projects. Downstream gas projects (that occur between manufacture and point of sale) will be allowed only under exceptional circumstances, and the Bank is busy writing rules for when such projects can go forward. The European shareholders would like even that exception to sunset soon. The United States has not yet stated its preference, but pressure is growing for it to do so.

These moves are described as a win-win solution for poverty and climate change. There is little recognition that wind and solar may be insufficient on their own to meet the full range of energy needs in poor countries.

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## Poor countries are not the problem

The push for the World Bank and others to link their investments to addressing climate concerns stems from a fear that, unless developing countries take action to decarbonize now, their economic growth will lead to vast emissions that will derail all global efforts to limit climate change.

Beyond questions of lending at the World Bank, this approach, which treats low- and middle-income countries as a monolith, is unhelpful to the conversation about climate change at large. China and Chad are not the same—they [have very different emissions trajectories](#) and [require very different climate policies](#). For example, emissions from the world's poorest 64 countries, those which get IDA loans, will remain very low for decades to come, even if their economies grow rapidly and without action to reduce emissions.

To understand better where emissions are concentrated and how to address them, we projected carbon dioxide emissions to 2035—the point at which observers believe they will level off in most countries due to technological advances and accumulating wealth—under some simple assumptions. Each country is different, but for simplicity, we split them into five groups.

First, there are the low-income countries—the very poorest nations—home to 8% of the world population. These 29 nations are eligible for highly concessional IDA loans, and in 2018, they were responsible for less than 0.5% of global emissions. Assuming these countries' economies grow by 5% per year and their emissions grow proportionately, in 2035 they would still be responsible for only 1% of global emissions. And these are conservative assumptions: emissions [tend to grow more slowly](#) than the economy, and the low-income countries' emissions have grown by only around 2% per year over the past five years. Even if these countries' emissions were to rise by 8% per year until 2035, we calculate that they would still contribute less than 2% of global emissions.

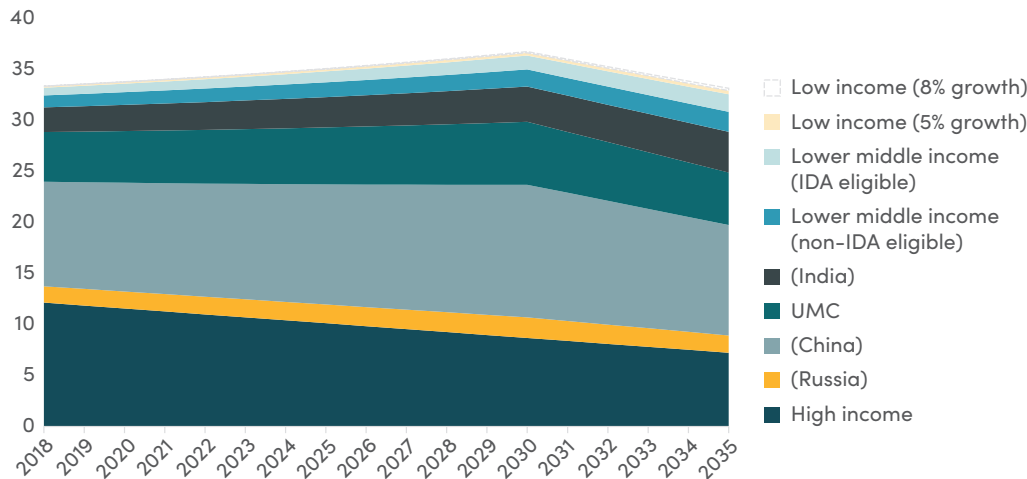
The next group is lower-middle-income countries that are also eligible for IDA loans. These 35 countries are home to 13% of the world's population. In 2018, they were responsible for just 4% of global carbon dioxide emissions. Assuming these economies grow by 5% per year until 2035 and their emissions grow proportionately, they would make up only about 5% of global emissions.

The third group is the lower-middle-income countries that are no longer eligible for IDA support. These 14 nations are home to 25% of the world's population, with the majority being in India. Although they have largely graduated out of IDA programs, they remain eligible for loans from the IBRD. In 2018, they were responsible for 11% of global emissions. However, if their emissions were to grow by 3% per year, by 2035 they could be responsible for 18% of global emissions.

The fourth group is upper-middle-income countries, like China and Russia. They're home to 38% of the world's population and produced 50% of global carbon dioxide emissions in 2018. We assume that until 2030, upper-middle-income countries' emissions will rise by 2% per year (the average over the past decade) before declining to reach net zero. If, starting in 2030, this group's emissions declined linearly towards net zero in 2050, the emissions saving would be greater than total emissions from IDA-eligible countries between 2018 and 2050.

The last group is high-income countries, whose emissions are assumed to decline linearly to reach net zero by 2050. This is optimistic; hitting that target would require a reduction in their emissions by around 2% per year, compared to around 1% per year over the last five years. But it is also telling. Even if rich countries reduced emissions by the most aggressive targets plausibly imaginable, the poorer countries' emissions would still be a small portion of the global total.

**FIGURE 1. Projected CO<sub>2</sub> emissions (2018–2035)**



Source: Projections by Arthur Baker, updated from Mitchell and Baker (2020).

These figures point to two main conclusions. First, the 64 lowest-income countries account for a very small share of global emissions. Even if these countries grow very rapidly as the bigger countries decarbonize, they will not become a major problem for the climate. Second, it would be inefficient—not to mention unjust—to put the burden of climate mitigation onto them.

Climate mitigation is a true global public good: averting a ton of carbon dioxide is equally beneficial for the climate wherever you do it. As such, there is no need to spread climate mitigation attempts equally across countries. We should focus on where we can reduce the most emissions for the least cost, economic and social. That's likely to be the upper-middle- or high-income countries. Coal plants have the highest emissions per kilowatt-hour of electricity produced. About 85% of emissions from coal plants come from upper-middle- or high-income countries. Let's worry about closing those first.

Of course, in some cases, climate mitigation activities in the poorest countries make sense—environmentally, economically, and in terms of health. For example, the vast majority of coal emissions from IDA-eligible countries are from Pakistan, Uzbekistan, Lao, and Bangladesh (although Germany's coal plants emit four times more than all four combined). [Replacing coal plants there](#) with greener—although not necessarily renewable—fuels might be a good climate mitigation investment. Reducing deforestation in the Congo Basin could also be a good investment. However, these examples are the results of nuanced and individual calculations; they do not require a wholesale change in the development finance architecture.



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## Climate hypocrisy

But what happens if those changes are made anyway? It seems clear enough that making climate mitigation a central part of every loan would necessarily reduce the resources available for economic development—while doing little for the planet.

But why pursue such efforts? Rich countries, the dominant shareholders of the World Bank and IMF, have thus far shown little interest in formulating climate policy based on evidence or reasonable trade-offs. Instead, they have moved swiftly to restrict financing for fossil fuels, including on natural gas projects, congratulating themselves for creating restrictions on the world's poorest countries that they would never dream of imposing at home. The restrictions include an almost-total ban on the financing of fossil fuels among lenders of development finance. The World Bank is most likely aware of the sharp trade-off between climate mitigation policy and poverty reduction. But it seems to have had little choice but to comply with the conditions imposed by shareholders eager to please their domestic environmental constituencies.

Perhaps no set of rich countries is more inconsistent in this regard than the European Union, whose members have shut down clean energy nuclear plants, increased imports and exports of natural gas, and brought new domestic coal plants online, all while insisting that development finance institutions [immediately shun all fossil fuel projects](#) in poor countries.

To make matters worse, European Union bureaucrats are currently engaged in a back-and-forth on what constitutes clean energy. As member countries face fuel shortages, they have come under pressure to expand their definition to include nuclear power and natural gas. But that's only for domestic purposes; a spokesman for the EU was [quick to clarify](#) that the current, flexible EU taxonomy will not inform development policy. Natural gas will be green for Europeans but effectively banned for Asians and Africans.

Meanwhile, with little consultation or transparency, a group of eight Nordic-Baltic countries recently announced that they would support the financing of renewable technologies such as smart microgrids and green hydrogen only in the world's poorest countries (Nordic-Baltic Constituency, 2021). In addition to being hypocritical—Norway is the world's most fossil-fuel dependent rich country in the world—it is also cruel to the millions of people living in poverty.

Rich-country policymakers are quick to argue that their restrictions do not amount to a ban on natural gas projects but rather represent support for wind and solar. The reasoning, one imagines, is that the private sector or “donors” like China can fund gas. But this approach worsens the disparity between low-income countries and the rest of the world because none of the low- and lower-middle-income country utilities are creditworthy. The fact is—and this is well known to policymakers in rich countries—[no one is signing long-term infrastructure deals](#) without public financing or guarantees. That is precisely why development finance banks exist. They are meant to bring down capital costs in high-need, low-credit markets.

If development banks are to continue to do their jobs, they will need to think more deeply about their stance on emissions. The World Bank and other lenders must have a transparent and realistic approach to climate change that meets the needs of poor countries.

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## Put poverty first

Poverty reduction must remain the central goal of development finance. For the bottom billion living desperate and precarious lives without proper access to food, water, housing or healthcare, investments in energy and other types of infrastructure are lifesaving. Projects aimed at reducing poverty will also build resilience to climate change.

That is why the poorest countries should be able to use IDA financing for the full range of energy investments. Beyond walking back outright prohibitions, lending organizations will also have to avoid the tendency to steer recipients toward certain projects and away from others. That can be addressed by a strong commitment to rigorous and transparent analysis of available alternatives—a renewed commitment to being honest brokers, rather than advocates for one approach over the other. As Yoweri Museveni, the president of Uganda, wrote in the *Wall Street Journal*: “The Western aid-industrial complex, composed of nongovernmental organizations and state development agencies, has poured money into wind and solar projects across the continent. This earns them praise in the US and Europe but leaves many Africans with unreliable and expensive electricity that depends on diesel generators or batteries on overcast or still days.”

To be sure, for middle-income countries that borrow from IBRD but also have access to private markets, it may be sensible for the World Bank to be **more restrictive** on projects in the energy sector, if it can raise additional capital—beyond its core funds—for such a cause. And for upper-middle-income countries, climate mitigation is a reasonable aim to consider. But it can't be the only goal. Middle-income countries—just like those European nations firing up their coal and natural gas plants when the wind stops blowing—will also need fossil fuel backups to make renewables work.

Pressuring low- and lower-middle-income countries to replace plans for gas power with solar or wind energy will have limited climate benefits compared to replacing coal generation in richer countries. It is just more efficient—and just—to focus on climate mitigation where emissions are high, and on poverty reduction where poverty is high. And given that there is no sign of an increase in aid spending, especially in the poorest countries, rich countries must not cannibalize development aid or reinvent the development finance architecture, but rather explore the highest benefit opportunities for emissions reduction available. The world will reach net zero by ruthlessly targeting emissions, not by putting a solar panel on top of every school.

Blocking economic development will increase the harm from climate change by making the poor less resilient. If we are serious about climate change, we need to make poor people less poor.