Center for American Progress

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Development Funding Done Right

How to Ensure Multilateral Development Banks Finance Clean and Renewable Energy Projects to Combat Global Warming

Kari Manlove, Andrew Light, Kate Gordon, and Richard Caperton March 2010

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Introduction and summary

The World Bank Group is the largest and most important multilateral development bank providing critical funding across the developing world to fight poverty and boost economic growth and prosperity. Yet the World Bank and its affiliates (see box on page 2) direct more than twice as much financing toward fossil fuel-based energy projects than they do toward clean energy and energy efficiency projects despite the global warming crisis that threatens the developing world most severely.

The developed nations of the world, to varying degrees, are shifting away from fossil fuel-based energy toward clean energy in order to contribute to global climate stability, a more secure energy future, and more broad-based economic prosperity. While developing countries are also making great strides in this direction, much more needs to be done.

By 2030, carbon dioxide emissions from developing countries will actually exceed those from developed countries by 77 percent.[1] The dire environmental consequences of a warmer world will be matched by potentially debilitating economic shocks. According to the Stern Review on the Economics of Climate Change, an increase in global temperature of 5° C to 6° C (about 9° F to 10.8° F)—a real possibility over the next hundred years—could lead to an average 5 percent to 10 percent loss in global gross domestic product, with developing countries hit hardest.[2]

Global warming is a looming economic disaster that economic development strategies simply must address. Yet the World Bank, which often sets the standard for multilateral development banks around the world, is not doing enough to help developing nations embrace a more sustainable economic development model. This is a problem for an institution with the moral and financial responsibility to foster large-scale investment in sustainable economic growth. The bank should be using its considerable resources to help developing countries choose low-carbon development pathways.

The World Bank claims that it is now financing more low-carbon energy projects in the developing world, yet carbon-intensive energy projects continue to receive more than five times as much World Bank support as low-carbon and energy efficiency projects. Consider just these two cases in point:

- The World Bank is in the process of providing a $3.75 billion loan to South African utility Eskom to build a "supercritical" coal-fired plant. The World Bank says such supercritical coal projects are more energy efficient than traditional coal-fired plants, but these power plants still contribute massively to global warming compared to alternative or renewable energy-powered plants.

- The International Finance Corporation in 2008 helped finance the Tata Ultra Mega, a 4,000-megawatt supercritical coal-fired power plant in India's Gujarat state. Once online, the Tata Ultra Mega will be one of the world's top 50 greenhouse gas polluters.[3]

The World Bank Group

The World Bank Group is comprised of a number of global economic development facilities consisting of the International Bank for Reconstruction and Development and International Development Association—commonly known as the World Bank—the International Finance Corporation, the equity investment arm of the first two global lending institutions, the Multilateral Insurance Guarantee Agency, and International Centre for the Settlement of Investment Disputes. The World Bank Group's donor country members support all of these multilateral development institutions and hold shares in these institutions that are broadly commensurate with their funding levels.

For simplicity's sake, in this report we refer to all of these entities as the World Bank unless its individual units need to be explicitly referenced.

The World Bank's financing of such energy projects risks putting in jeopardy the world's most vulnerable communities—communities it exists to help. Residents of developing countries, particularly in Asia, breathe in the environmental contaminants of coal's pollution every day. Smog visibly hangs over major urban centers and soot blankets villages causing severe respiratory diseases.

Recent studies show that particulates from air pollution and soot are the second leading cause of global warming behind carbon dioxide.[4] The cost in lost productivity and rising health care costs in the developing world as a result of dirty, fossil fuel-filled air is growing apace. The World Bank should more carefully align its energy financing policies with the broader economic and environmental needs of those it was founded to help.

Fortunately, the method to ensure such a transition is now before the World Bank and its donor countries. This year the World Bank is asking for its first general capital increase in 20 years. A decision is expected later this year, but in late 2009 the U.S. Treasury

Department released a set of guidelines to direct the World Bank to consider low-carbon energy projects on par with coal projects. The guidelines soon became discussion points related to the general capital increase.

The response to the U.S. Treasury guidelines from the World Bank's other donor nations and from civil society organizations close to the bank was a mixed bag of applause, tepid acceptance, and outright objection. The most vociferous opponents of the U.S. policy change are developing country representatives on the board of the World Bank, among them China and India, who are upset with the process by which the United States made such recommendations and adamant about turning to coal in the absence of viable alternatives. What is being overlooked, however, is that the medium- to long-term outlook on the costs of global warming will overrun the benefits of short-term economic growth delivered through new coal-fired power generation plants.

As the World Bank's stakeholder countries consider the multilateral financial institution's request for a general capital increase, the United States needs to muster support to link new capital with new thinking about low-carbon generation and energy efficiency. The United States and like-minded nations that together exercise majority control of the World Bank must demand that the World Bank prioritize investment in low-carbon generation and energy efficiency projects that will not only create jobs and needed energy infrastructure today but also help stabilize local ecosystems, promote community health, and ensure continued economic prosperity.

Discussions this year about a general capital increase for the World Bank—the decision will come in the spring of 2010—present a perfect moment to institute long-term reforms on energy financing. Specifically, the United States and its allies on the World Bank board should require that the bank to:

- Support low-carbon economic growth in developing countries through its financing of energy projects
- Issue an annual report on the entire World Bank Group's energy financing, with clearly defined fuel types and power generation
- Bring more transparency to its energy project selection process
- Consider the impact of greenhouse gas emissions in economic analyses of all energy projects

In the pages that follow, we will first review the World Bank's current energy financing practices, review their recent efforts to finance more low-carbon and energy efficiency projects, and then discuss the Treasury Department's guidelines in more depth—touching on a complicated debate regarding energy poverty and clean energy services. We will conclude with recommendations that more fully flesh out a responsible path for future energy financing priorities for the World Bank.

The energy finance decisions the World Bank makes in the coming years will influence economic growth and prosperity in developing world lending for decades to come. The United States is absolutely correct to insist the World Bank shift its financing priorities to build a more prosperous and sustainable global low-carbon economy. The forthcoming capital-raising talks at the World Bank are just the vehicle to ensure this shift happens quickly. There is little time to waste.

The World Bank's fossil fuel financing record

Comprehensive data from the World Bank on its energy financing projects suffers from a lack of transparency.[5] The World Bank in 2007 prepared a report on its energy financing, which it categorized as:

- Low carbon
- Access
- Blended low carbon and access
- Transmission and distribution
- Oil, gas, and coal
- Thermal generation
- Other energy[6]

Unfortunately, the World Bank's descriptions of these categories makes it difficult to do an accurate accounting for the number of high-carbon, low-carbon, and no-carbon investments the bank makes, or the comparative megawatts of electricity related to those projects.

Additionally, because the World Bank considers some coal-fired power plants to be low carbon, for example, if they employ carbon abatement technologies such as the pulverizing techniques used in supercritical coal facilities, the World Bank's current investment framework gives few clues to how seriously it takes its stated commitment to promote economic development and climate change. A similar problem is evident in the fact that access, transmission, and distribution projects can indirectly increase the use of fossil fuels, which raises concerns about their contributions to climate change.

Attempting to bring some clarity to the World Bank's energy financing practices, the World Resources Institute, or WRI, recently articulated a set of 10 criteria to judge the extent to which the World Bank assesses climate change and environmental sustainability in loans in the electricity sector.[7] The environmental think tank's criteria include:

- Long-term, integrated energy planning
- Regulatory policies to encourage renewable energy and energy efficiency projects
- Reforms to recognize the true environmental and social costs
- Access for the poor to the resulting power generation
- Other benchmarks related to good governance, such as transparency and stakeholder engagement

According to their analysis, roughly one-third of 31 loans considered by the World Bank between 2006 and 2008 conformed to at least half of these sustainability criteria; most met fewer than four of WRI's elements of sustainability. Another WRI report concludes that in 2007, nearly half of all World Bank energy financing went to projects in which the effects of climate change were mostly ignored.[8]

How the World Bank categorizes its energy projects is one thing. How it actually finances them is another, and arguably, more serious problem. In the absence of straightforward data from the World Bank, we must rely on third-party analysis of World Bank practices. The Bank Information Center, or BIC, a nonprofit organization that monitors the World Bank's financing activities, has attempted its own analysis. BIC examined the World Bank's financing practices and found a heavy preference for fossil fuel projects within the energy portfolio.

BIC research shows that in 2007 the World Bank put more than twice the financing into fossil fuel projects as into renewable and efficient energy projects.[9] Specifically, BIC found that in 2007 the World Bank invested more than $1.5 billion in fossil fuel projects and $641 million in renewable energy and energy efficiency projects.

What's more, when energy efficiency projects such as modernizing industrial facilities to minimize wasted energy are removed from the comparison, the report finds the World Bank financed five times as many fossil fuel projects as renewable energy projects in 2007. Nor have things improved since 2007. BIC calculated that in 2008 the amount of financing dedicated to fossil fuel projects by the World Bank and International Finance Corporation, or IFC, more than doubled.[10] In contrast, the combined categories of solar energy, wind, biomass, geothermal, and small hydropower only saw an 11 percent increase in funding.[11]

Collectively, these World Bank-financed fossil fuel projects are likely to make a significant contribution to global warming pollution. BIC estimates that the fossil fuel projects financed by the World Bank and the IFC in 2008 will be responsible for 2,072 million metric tons of carbon dioxide over their lifetimes—or 7 percent of annual global carbon dioxide emissions from the energy sector once the projects are up and running.[12] This percentage sets a dangerous trajectory given the urgency of the climate crisis.

But despite the analysis by WRI and BIC, significant questions remain about exactly how much of the World Bank's annual financing goes to support fossil fuel energy projects. For starters, the World Bank does not make public any figure corresponding to the total annual investments of all of its different lending and investment facilities. Tracking their spending thus requires compiling data from five different annual reports, each of which describe "total expenditures" in different terms.

More problematic still is the bank's overgeneralized project categorization system, which makes it exceedingly difficult to know exactly where energy-related financing is going. To

deal with this challenge, BIC's methodology was to track every single loan or investment the World Bank makes.[13]

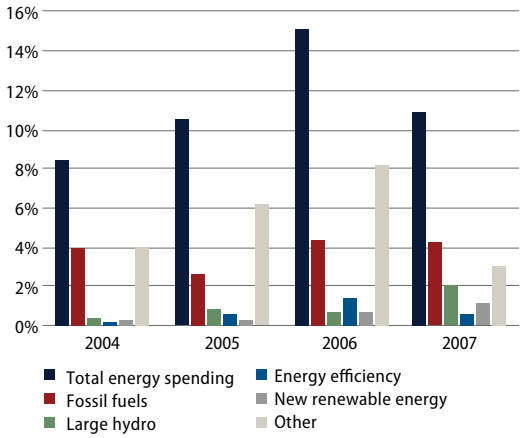
Despite these hurdles, in this report, we have used available data to estimate how much of the World Bank's total funding is going to fossil fuel-based energy projects. Because of the limitations of the available data these aren't precise numbers, but are intended to present an idea of the scale of this funding.

Our own analysis shows that while total World Bank energy financing varied from 2004 to 2007 (the last year for which we can find adequate data), the bank's overall emphasis on fossil fuel financing remained remarkably stable (see chart). Among electricity generation projects, fossil fuel-based projects received the great majority of support even as the bank claimed it had placed more emphasis on carbon mitigation.

Our conclusion is that the World Bank is financing far more fossil fuel power generation projects than renewable or efficient energy projects. In so doing, the bank is committing its recipient countries to an unsustainable growth model that will have profound long-term consequences for these countries' residents, ecosystems, and economies. Look no further than the bank's controversial financing of South Africa's latest coal-fired power plant (see box).

Fossil fuels continue to dominate World Bank energy spending

A breakdown of the World Bank's financing of energy projects between 2004 and 2007



Source: Author's calculations based on data from WRI, BIC, and the World Bank Group.

South Africa's confrontation over coal

South Africa in 2008 suffered an electricity shortage in large part due to a lack of advance planning by the government and the country's state-owned utility, Eskom. Part of the country's answer to the problem is a proposed 4,800-megawatt coal-fired power generation plant, called Medupi, to be built in the north of the country and financed in part by a $3.75 billion loan from the International Bank for Reconstruction and Development. The World Bank's board of directors is scheduled to approve this loan in March 2010 after South African President Jacob Zuma requested an expedited approval process.[14]

Eskom, which already operates the world's largest coal-fired power plant, Kendal Power Station, generates 95 percent of South Africa's electricity. Overall, Eskom runs 13 coal plants across the country.[15] One reason for Eskom's continued reliance on coal is that South Africa also boasts a wealth of coal resources, which explains in part why it has one of the highest global rates of per capita greenhouse gas emissions.

South African civil society groups have argued that the loan fails to account for the external costs of pollution and the health consequences for the average South African. More than 50 organizations are arguing that Eskom should explore low-carbon and energy efficiency alternatives.[16]

South Africa has been at the forefront of developing countries working to combat global warming. President Zuma was one of the leaders who took a pivotal role in piecing together the Copenhagen Accord in the 11th hour of last December's U.N. climate talks. But now Zuma is pushing for a plant that will help to quell the energy shortages that still plague the country, but will only make it more difficult for South Africa to meet the carbon mitigation reductions to which it is now committed. This is not the time to backpedal on the country's commitments to its citizens and the world.

Sustainability efforts at the World Bank

The World Bank is not insensitive to the problems of global warming or to the connection between economic development and global climate change. Although the bank's current financing practices provide substantial support for fossil fuels in general, and coal-fired power plants in particular, it is also paying increasing attention to climate change, climate finance, and environmental sustainability. Several initiatives demonstrate the World Bank's slow shift toward sustainability, notably its Strategic Framework on Development and Climate Change, released in 2008, and the Climate Investment Funds, which were set up to be administered by the World Bank around the same time.

The Strategic Framework on Development and Climate Change, or SFDCC, contains the World Bank's foundational position on global warming: "Unabated, climate change threatens to reverse hard-earned development gains [but] a well-designed and implemented global climate policy can also open new economic opportunities to developing countries."[17] The SFDCC goes on to outline a vision and strategy to guide the World Bank's financing practices in accordance with its recognition of the impact of climate change on its recipient countries. The document identifies six action areas for increased involvement by World Bank Group entities:

- Support climate actions in country-led development processes
- Mobilize additional concessional and innovative finance
- Facilitate the development of market-based financing mechanisms
- Leverage private-sector resources
- Support accelerated development and deployment of new technologies
- Step up policy research, knowledge, and capacity building

In addition, the SFDCC sets a goal for the World Bank to increase its financing for renewable energy and energy efficiency by roughly 30 percent each year. The framework calls for an interim report in the second half of 2010 to discuss the World Bank's progress in following and implementing the SFDCC. This report is currently in process.

The SFDCC is a commendable undertaking but at this moment in time does not necessarily represent the World Bank's practices at large for a few reasons. First, the SFDCC is in early stages and only coming under its first review. Many of the efforts that the SFDCC encompasses are also in early stages or pilot projects. There is not widespread evidence that the SFDCC is as

influential in the World Bank's lending as it could be. And finally, the SFDCC reports the World Bank's progress according to an inconsistent and unclear breakdown that does not reflect energy lending in a straightforward manner.

Yet as the World Bank begins to more thoroughly address its internal finance decision-making systems, it also faces increasing outside pressure to play an active role in global climate finance. In a 2008 survey of global opinion leaders and stakeholders by the World Bank about its future direction, 71 percent of respondents thought that the bank should assume a leadership role on climate finance and that this role should be second only to its mission to assist the development of poor countries.[18]

As part of the SFDCC process the World Bank became the home and administrator of the Climate Investment Funds. CIFs were established by a joint initiative between the United Kingdom, Japan, and the United States and consist of two distinct funds: the Clean Technology Fund, which aims to deploy clean technologies in developing countries, and the Strategic Climate Fund, an umbrella for several sectoral funds focusing on areas such as forestry and adaptation.[19]

As of September 2009, eight countries had pledged $4.9 billion to the Clean Technology Fund, which is the larger of the two CIFs.[20] To receive funding from the CTF, developing countries create investment plans with multilateral development banks to demonstrate an economic development trajectory that integrates a low-carbon strategy as well. The World Bank co-finances the funding, working closely with regional development banks to assess a country's investment plan and capacity to execute low-carbon projects at scale. To best enable this, the CTF is avoiding spreading the funding too thin and thus blocking the full potential of a project.

The United States first considered making a contribution to the CTF in the fiscal year 2009 budget. In response, a number of environmental and development groups expressed strong concern about supporting the World Bank's climate financing activities without significant reform. New to the scene and facing both bureaucratic obstacles and substantive objections, Congress made no budget authorization to the CTF until FY 2010. The FY 2010 budget requested $500 million and the CTF received $300 million. The FY 2011 budget, which has yet to be considered by Congress, requests an additional $400 million.

This example of the pace of U.S. funding for the CTF is illustrative of the CTF's slow but not hopeless start. The United Kingdom, Japan, and the United States called for the Climate Investment Funds less than two years ago. The CTF was formally established in July 2008, and already eight countries and one region have submitted investment plans that the CTF Trust Fund Committee has endorsed, including projects in Egypt, Morocco, South Africa, Mexico, Thailand, Turkey, Vietnam, and the Philippines. The Middle East and North Africa, as a region, are pursuing development of concentrated solar thermal initiatives. The investment plans broadly support wind energy, concentrated solar, energy efficiency, and urban transportation, such as bus rapid transit programs.

Considering the challenges inherent in getting any multilateral fund up and running quickly, the CTF's progress is laudable but as of yet it is still not reflective of the World Bank Group's core lending practices.

Guidance from the Department of Treasury

The United States, however, is starting to send signals to the World Bank about changing its ways. The U.S. Treasury Department, for example, is tightening its expectations of the bank's adherence to more sustainable and low-carbon climate financing. The key piece of evidence for this shift is its new set of guidelines for all multilateral development banks that were published by Treasury in late 2009. These guidelines call on the banks to do more to ensure that financing for low-carbon or no-carbon technologies will increase while due diligence is completed to ensure that the true carbon cost for each project is counted.

Although not intended, the timing of the release of the guidelines is noteworthy. In late February and early March of this year, the World Bank is conducting a series of consultations with key stakeholders, among them the United States, France, and Germany, to argue for a general capital increase in the World Bank's funds and to assess the stakeholders' overall reactions to current funding priorities, especially in light of the recent economic downturn.

Nongovernmental groups in the United States provided Treasury with input as it developed these guidelines. Environmental groups paid particular attention to how Treasury approached the imbalance between funding for fossil fuel power projects and low-carbon projects. In August 2009, for example, the Sierra Club and the Rainforest Action Network submitted a letter to Treasury discouraging financial assistance for coal in both domestic and international markets, arguing that "scarce public international finance should focus on accelerating the transition in developing nations and newly industrializing economies to renewable energy and to truly low carbon alternatives."[21]

Treasury did not conduct a formal consultation process nor open the guidelines for commentary prior to their publication. Treasury released the guidelines online during the second week of the climate negotiations in Copenhagen and initially they did not receive much attention.[22] As the guidelines received more attention, however, they began to receive both positive and negative reviews, but they are clearly meaningful in that they send a strong political signal from the United States to developing countries that the United States is serious about helping them develop low-carbon growth strategies and finance low-carbon electricity generation.

This is part of a monumental shift in U.S. thinking, one that is further evidenced by the U.S. commitment to a fair share of the 2012 "fast-track funding" that immediately mobi-

lizes finance for developing countries and to U.S. willingness to embrace the 2020 mid-term target of $100 billion in funding for developing countries to adapt to global warming and make the transition to a low-carbon economy.

Several of the guidelines' objectives are designed to specifically address the problems raised in this report about the World Bank's approach to financing power generation projects in the developing world, among them:

- Begin considering greenhouse gas emissions in financing decisions
- Mitigate price hurdles for the adoption of low-carbon technologies for power generation
- Build supply and demand for low-carbon resources
- Provide loans that level the playing field in terms of costs and investment decisions between coal and low-carbon alternatives
- Explore low-carbon alternatives alongside coal-fired generation
- Require projects to use the best available technology whenever possible
- Make the decision-making process more transparent to stakeholders, board members, and the public through documentation of the appraisal and decision processes

In light of the aforementioned difficulty in acquiring records or reporting of the bank's energy lending, transparency emerges as a particularly relevant and appropriate request.

Nonetheless, the guidelines could be sharpened on a few key concerns. While Treasury requests that the World Bank and other multilateral development banks consider greenhouse gas emissions in their financing decisions, it is unclear how heavily they will be required to weigh in those decisions. One could argue that the guidelines lack such specificity because the form of implementation should be left up to the bank in consultation with other stakeholders. Nonetheless, the guidelines have become controversial within the bank's board of directors and the 24 executive directors representing member countries.

As was previously mentioned, after Treasury published its guidelines in late December they went largely unnoticed by many, including some bank shareholders. Once finalized, instead of circulating its final product to the World Bank's board of directors, Treasury sent the guidelines directly to World Bank President Robert Zoellick. While this procedure is not unprecedented, the guidelines discuss an especially sensitive issue that warrants attention.

Thus, perhaps, because the U.S. Executive Director Ian Solomon has the greatest percentage of the voting share on the board, this direct approach appeared to other executive directors as a unilateral move. Nine of these directors, representing developing countries including China and India, responded with a formal objection to President Zoellick.[23] They put their point procedurally that the United States had signaled "an unhealthy subservience of the decision making process in the Bank to the dictates of one member country brought about in an opaque and non-inclusive manner."[24] The guidelines are now open for comment.

More substantively these executive directors signed on to the letter to Zoellick that emphasized that the bank's primary objective is to alleviate poverty and that coal advances this objective more efficiently and at a lower cost than do many renewable and efficient energy projects. The executive directors' letter said, "The Bank should be concerned about climate change only to the extent it impinges upon the efforts of the developing countries toward achieving poverty alleviation and economic growth."

What this view overlooks, however, is that a carbon-intensive approach to economic development is in fact at odds with long-term poverty alleviation in that it speeds ecological destruction and forces dependence on increasingly high-cost and unhealthy fossil fuels. This viewpoint also misses the opportunity to leverage the shift to a low-carbon economy as a powerful means of job creation, infrastructure investments, the development of new potential growth sectors, and more. The bank could provide resource and technical assistance to developing countries that can be active players in harnessing this transition for economic gain and poverty reduction.

Before we complete our discussion of the U.S. Treasury's response to these criticisms, and our recommendations about how the United States should proceed on the question of a general capital increase for the World Bank, we need to pause here to detail why these executive directors from developing countries are mistaken about coal.

Poverty, energy poverty, and a warming climate

The serious impact that global warming pollution can have on human health, habitation, and economic stability is increasingly clear. Climate scientists warn of the imminent risks in letting global warming continue unabated. The more greenhouse gas emissions contribute to warming the atmosphere, the more severe the climatic consequences to humans. Global warming is projected to cause sea level rise, intensify storms, prolong and exacerbate drought, aggravate food shortages and water scarcity, and potentially fuel political instability.

Most scientists call for stabilizing the concentration of carbon dioxide in the atmosphere at 450 parts per million, but some parties now insist that anything over 350 parts per million is too dangerous. For unprepared developing countries, especially those in low-lying areas, even the best case global warming scenarios could be severely crippling especially given the prospects of sea level rise even with a scenario that stabilizes temperature increase at 2° C over pre-industrial levels.

In addition, serious public health risks accompany the pollution emitted by traditional fossil fuel energy sources, such as coal-fired power plants and exhaust pipes. In Asia, for example, atmospheric brown clouds of soot, known as "ABCs" for short, hang low to the ground and cause severe respiratory problems. These ABCs haunt cities and are the second-leading cause of global warming after carbon dioxide. Such black carbon is commonly called "the poor man's pollution" because it mixes particulates from fossil fuel combustion with that of dung, agricultural residue, and other cheap fuel sources burned in urban cooking stoves.

Complicating the health consequences of coal-fired power plants, however, is the fact that 1.6 billion people around the world lack affordable and reliable access to electricity services and are considered to live in "energy poverty."[25] Some of the countries that suffer the most from energy poverty are understandably focused on power generation as a top priority for economic development. But if the solutions to alleviating energy poverty increase global warming pollution, then they will have the ultimate effect of undermining poor communities and actually creating poor health and unsustainable economic systems. Two steps back for every one step forward.

It is critical to emphasize that we are not advocating against greater energy access for developing countries. The World Bank is an indispensable player in combating poverty, alleviating energy poverty, and providing energy services. As the World Bank's Independent Evaluation Group, or IEG notes, "the welfare benefits of electricity access are on the order of $0.50 to $1 per kilowatt-hour."[26]

These evaluators of the World Bank are right. It is important for the World Bank to provide energy services to as many of the energy poor as possible. Yet climate change threatens the progress made on economic development and will impact the least-developed communities first and worst. To succeed in its mission to alleviate poverty and energy poverty, the World Bank must seriously consider how its projects exacerbate climate change and be as transparent as possible in its deliberations on project selection.

There are, however, opportunities to pursue energy efficiency and low-carbon alternatives that the World Bank has not yet embraced. In 2008, for example, the IEG performed an analysis of the potential "win-win" reforms of the World Bank's energy lending policies.[27] The IEG concluded that energy efficiency is one of the largest missed opportunities for the World Bank because it can improve affordability for low-income consumers and save energy. But to achieve these results will require the World Bank to revisit its internal incentives. Rather than prioritizing immediate and sizable returns, the World Bank needs to find a way to recognize energy savings and financial returns that emerge over time, which is generally the case with energy efficiency.

A straightforward push to develop low-carbon and energy efficiency projects is also required, yet the World Bank keeps missing opportunities to do so. One example of a missed low-carbon alternative is the Tata Ultra Mega project in India. This project was financed in part by the International Finance Corporation in 2008 as part of the Kyoto Protocol's Clean Development Mechanism, which allows developed countries who have signed off on the accord to receive credit for emissions reductions by paying for low-carbon energy projects in developing countries. The plant relies on supercritical coal technology that burns more efficiently than traditional plants.

Still, the IFC estimates that once on-line in 2012, the plant will emit 23.4 million tons of carbon dioxide per year for decades to come, just a few million tons shy of a traditional plant's emissions. Coal plants can have a 50-year lifespan and, even when they go off-line, their carbon dioxide emissions will be locked into the atmosphere for decades.

David Wheeler at the Center for Global Development argues that there is a viable, low-carbon alternative to the Tata Ultra Mega and similar proposed supercritical coal-fired power plants.[28] India has massive potential for solar power, demonstrated by the government's ambitious target to generate 20 gigawatts of solar power by 2020. Wheeler performed a cost analysis of the Tata Ultra Mega project and claims that electricity rates from a solar thermal plant would be comparable to the rates for electricity from a large coal plant. His conclusion is based on rising construction costs of the supercritical technology's materials and, most importantly, the return that a solar thermal plant could generate from the Clean Development Mechanism's market's price on avoided or reduced carbon emissions—something that may or may not survive into a second commitment period for the Kyoto Protocol.

Wheeler did a similar analysis for the Mmamabula coal-fired power plant proposed in Botswana, comparing multiple technologies.[29] Essentially, his calculations account for the environmental and climatic impact of the project and not simply the amount of power produced for each dollar.

His analysis internalizes what is typically considered an externality to cost assessments by the World Bank and others. His results returned a financial preference for low-carbon technology, again in favor of a solar thermal plant.

The lesson here is that the World Bank can and should strive to alleviate energy poverty through low-carbon solutions that are the building blocks for sustainable economic development. Few entities are better positioned to be the catalyst in clean-energy finance in developing countries. The World Bank has an opportunity to revolutionize the transition—an opportunity it must seize. The United States must drive this effort, both at the World Bank and at home, where U.S. reliance on coal for power generation is equally controversial (see box).

The United States at the coal face

There is no doubt that the United States must confront its own use of coal. This is an essential piece in legitimizing our voice in global discussions of low-carbon economic development. For this reason, the Center for American Progress supports putting a price on carbon emissions, which will dramatically change our financial calculations of energy generation and ensure we take the health, environmental, and economic consequences of coal-fired power generation into consideration.

Leveling the playing field for new, low-carbon technologies will help drive investment into new industries and markets and will create millions of jobs in inventing, producing, installing, and maintaining clean and efficient energy systems. Case in point: The clean-energy projects that were funded as part of the 2009 stimulus package provide resources for investing in a new national energy grid, which could both save energy by eliminating inefficiencies in the current system and make it possible to better integrate renewable energy sources into the system, thus lowering our reliance on coal. Our estimates are that these resources alone could create up to 278,600 jobs of which 139,700 would be ongoing.[30]

Even as we focus on new renewable energy sources, we cannot completely turn our back on the coal plants that currently provide more than 50 percent of this country's electricity. We must prioritize investments in industrial efficiency to make these plants run cleaner, as well as in the research, development, and deployment of so-called carbon-capture-and-sequestration technologies, or CCS, which, if successful, would extract carbon at some point in the process of burning coal for electricity generation and store it indefinitely in materials or in underground cavities.

For new plants, CAP calls for an emissions performance standard that requires all new coal-fired power plants to meet a carbon dioxide emissions standard achievable with the best available CCS technology.[31] We have also proposed a joint initiative between the United States and China to cooperate on three key facets of emissions reductions and CCS deployment:

- Establishing pilot sequestration programs for industrial plants in China
- Investing in research on retrofits of aging coal-powered plants
- Mobilizing the private sector to support these efforts[32]

To aid in the growth of clean-energy markets, commercialize low-carbon technologies, and engage the private sector at full capacity, the United States should create and fund a new Clean Energy Deployment Administration.[33] CEDA would provide direct support, such as direct loans, letters of credit, loan guarantees, and indirect support, such as authority to issue bonds, purchase debt securities, and other financial products for clean-energy projects.

CEDA would jumpstart business investment, increase capital at reduced loan rates, lower energy prices to consumers, and spur the construction and operation of domestic clean-energy and energy efficiency projects. This in turn would enable and accelerate the potential to transfer low-carbon energy generation technologies to developing countries.

Global warming is a challenge that every nation confronts and it is essential that the United States do its part to reduce emissions from coal-fired power plants and invest in a cleaner, more sustainable future.

Timing is everything

The coming months will present several ideal opportunities to communicate stakeholder countries' concerns regarding energy lending and climate finance to the World Bank. As noted, for the first time in 20 years, the World Bank is requesting a general capital increase from its donor countries. In addition, the World Bank, following up on its Strategic Framework on Climate Change and Development, plans to issue an interim progress report following the general capital increase consultations, roughly timed to coincide with the stakeholders' decisions on capital increases.[34]

These developments present an opportunity for the World Bank to compare its activities against its sustainability metrics and provide an honest assessment of its handling of climate change. It is also an opportunity for the World Bank to outline a new direction that prioritizes low-carbon alternatives to coal-fired power plants.

At the same time, the United States is reaching a critical moment for how we handle our relationship with and support for the World Bank. Not only are we considering whether to increase our contribution but we can also expect our overall approach and perspective of the Bank's activities to change course.[35]

The U.S. executive director on the bank's board of directors is a political appointee and the Senate confirmation hearing for Ian Solomon, President Barack Obama's selection, took place late in January 2010. The transition of this position is meaningful precisely because it is a political appointment. While the previous Bush administration did not take climate change seriously, the current administration does; this shift in priorities should be reflected in Solomon's treatment of World Bank financing.

Since the U.S. executive director controls a significant portion of the voting share, and the largest of any other executive director, the United States now has an opportunity to engage in constructive conversations with developing and donor countries on how to deploy low-carbon technologies and help alleviate poverty.

Recommendations

Moving forward, the World Bank should adopt policies that better integrate its commitment to both sustainability and poverty alleviation. Even small steps are significant in the signal it sends to donor countries, developing countries, and other development banks. Our recommendations would require the bank to:

- Support low-carbon economic growth in developing countries through the financing of energy projects
- Issue an annual report on the entire World Bank Group's energy financing with clearly defined fuel types and power generation
- Bring more transparency to its energy project selection process
- Consider the impact of greenhouse gas emissions in economic analyses of all energy projects

Support low-carbon economic growth in the developing world

Most immediately, if the World Bank wishes to remain in the running to manage some part of the emerging global climate funds, it must adopt policies that clearly support the ambition of developing countries to adopt low-carbon development plans. The U.N. climate summit in Copenhagen ended with a near consensus on the Copenhagen Accord, which requires signatory parties to articulate low-carbon development plans consistent with a global target of holding anthropogenic temperature increase to no more than 2° C over pre-industrial levels by 2050 by 2020. More than 90 nations have now submitted plans to meet this goal.

The accord also includes provisions for $30 billion in quick-start funding by 2012 and an ambition of raising $100 billion per year by 2020 for adaptation assistance and financing for developing countries to transition to a low-carbon economy. If the World Bank is to play any part in the administration or development of these and other financing mechanisms, then it must commit itself to the broad values at the heart of this agreement and the specific pathways stipulated by parties to meet these goals.

In addition, the bank must actively resist countervailing internal policies that would undermine achievement of these goals, such as continued subsidies for carbon-heavy fuel sources. Such directions in bank policy should be guided not only by the agreements of

the United Nations Framework Convention on Climate Change, the current home of the world's principle climate negotiations, but also by relevant decisions by the Group of 20 leading developed and developing nations, whose leaders agreed last September to phase out subsidies for fossil fuels by 2050.

Issue an annual report on World Bank energy financing

Consistent with this goal, the World Bank should issue annual reports detailing its energy spending, using categories consistent across organizations, with projects separated by fuel type and clearly identified as generation.

The World Bank has made some significant strides in its funding for renewable energy strategies, but its method of differentiating these projects from carbon-intensive methods of electricity generation remains obscure. Just as progress toward global carbon abatement is not possible without a clear inventory of the current sources of pollution, progress by the World Bank on meeting its own climate related goals is not possible without a more accurate and transparent accounting of previous and current levels of funding.

Because meeting this goal would require a significant shift in how the bank understands its own categories of funding by fuel type, an independent external audit of this process should accompany the transition period to a new form of categorizing current levels of funding. In turn, the bank should establish benchmarks for an appropriate increase in investment in low-carbon and carbon-neutral technologies consistent with the SFDCC.

More World Bank transparency

The World Bank should follow the recommendations of several independent organizations such as the World Resources Institute and the Bank Information Center, as well as the U.S. Department of the Treasury, to bring more transparency to the process of project selection. Transparency is critical for accuracy in connecting climate goals with project selection and also for building trust with relevant stakeholders.

Section 3.0 of the recently issued Treasury guidelines calls for open information—and, critically, supporting documentation—on the World Bank's rationale for its selection of proposed projects, including any upstream engagement with the borrower, any attempts to evaluate other options for projects, and any supplemental funding sources that might overcome the additional costs of lower-carbon options. This transparency is also critical for establishing more productive relationships with stakeholders and for mitigating concerns about an opaque internal process that insulates it from consideration of these issues.

The WRI report concludes on the same point: "Stakeholders demand for greater emphasis on environmental and social sustainability from policymakers, government agencies and regulatory authorities is necessary to shift these options from niche applications in the mainstream. Without this demand, vested interests with a stake in continuing to depend on inefficient fossil-fuel economies may dominate decision making."

Consider greenhouse gas emissions in all World Bank power projects

Every energy project financed by the World Bank needs to consider the impact of greenhouse gas emissions—extended to include the so-called life cycle analysis of the energy project on overall health and welfare. Such analysis would not only measure the carbon emissions that come directly out of the power plant, but the carbon expended in the process of building the facility and transporting fuel to it for power generation and expending any waste byproducts.

Compliance with the three previous recommendations would of course demand that this recommendation be embraced as well. But rather than only considering the life cycle analysis of the sources of carbon to produce a given amount of energy the World Bank must work with host countries to integrate solutions that mitigate against high social and health costs.

One example of this process in action is in the state of Wisconsin. The state government requires electricity generation projects to consider a broad set of potential ramifications of greenhouse gases related to air, water quality and quantity, land and soil, wildlife and protected species, agriculture, land use, property values, future development, service reliability, local economic impacts, community service, revenue sharing, transmission and distribution changes, and electricity rates.

Ideally, this kind of assessment by the World Bank would also include an analysis of what type and scale of project would best support the long-term economic health of the community, perhaps by prioritizing community-owned distributed energy systems, which have been shown to create greater local economic benefits than utility-owned projects in some developing countries. The World Bank could consider integrating its laudable microcredit and community lending strategies with a focus on community-owned wind, solar, and other renewable energy projects.

Other recommendations

The World Bank should also consider short-term transition plans to assist countries in decreasing their levels of energy poverty as well as maintaining energy security. The bank should work with host countries and other multilateral development banks to develop

long-term integrated energy planning that addresses immediate needs while also planning for the future. Energy pathways that will exacerbate poverty should not be locked in for the sake of achieving short-term energy needs. But security for the present can be met though a variety of low-carbon transition fuels that make such transitions more successful so long as they do not become crutches that can never be kicked away.

In addition, the propriety of projects selected should reflect not only a host county's economic portfolio, but also its carbon profile. Smaller arenas for climate negotiations that have been employed over the past year, such as the Major Economies Forum, are organized around a principle that successful mitigation of carbon pollution does not require the cooperation of all of the world's countries, but only those responsible for some 80 percent of emissions. There is a vast difference between the emissions profile of countries such as China, India, Brazil, and Indonesia on the one hand and Chad, Paraguay, Liberia, and Laos on the other. Some of these economies can sustain a longer transition period from traditional sources and lower-carbon solutions and others must lock in lowest- and no-carbon sources as quickly as possible.

Conclusion

The global community confronts the most challenging transformation it has ever faced. We must refuel the economic engines of developed countries using new, renewable sources—sources that contributed very little to getting us to our current levels of prosperity—but we must simultaneously narrow world economic disparities by accelerating the development of some countries with an alternative set of fuels.

These alternative and renewable fuels have never been deployed at any real scale. We must accelerate their use so that we can decelerate the greenhouse gases we've unleashed that are warming the planet. Finance will be the engine that drives us quickly along this path of slowing down our rates of carbon pollution and its corresponding dangerous rise in temperatures. But finance alone does not get us where we need to go. We must direct this funding in a wise and prudent manner so that we truly prioritize sustainable economic development and growth. Ultimately, we must direct the world's considerable resources toward projects that simultaneously maximize our prosperity while honoring our ecological and ethical obligations.

The World Bank now faces a choice. As the governors and shareholders of the bank begin to defend their financing choices for power projects and solicit more resources to do their work, they must decide whether this remarkable institution will be put at the service of the larger project of reducing carbon pollution or whether it will become an obstacle to it. History will reveal whether all of the individual investment choices made by the bank were correct. But in the short run we will be able to clearly see whether the bank is moving in the right direction, either acting in the collective best interests of the nations of the world or in opposition to them.

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