

A R T I C L E S

As the World Burns: A Critique of the World Bank Group's Energy Strategy

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Summary

The World Bank Group (WBG) is uniquely positioned to support the growth of developing countries in a way that decreases GHG emissions and provides energy to the poor. Historically, the institution has failed to fulfill this potential, supporting carbon-intensive energy projects and neglecting renewable energy, energy efficiency and pro-poor energy development. A recent comprehensive draft energy strategy and an energy sector “Directions” document propose some positive changes, but fall far short of reorienting the institution’s energy lending in critical ways. Major revisions are therefore required. First, the WBG should end its support for fossil fuels and focus its limited resources on energy efficiency, renewable energy, and universal energy access. Furthermore, as a precondition for lending, the WBG should require borrowing countries to phase out all fossil fuels subsidies and to fully address the adverse impacts of any hydropower projects that receive WBG support. In addition, the institution should incorporate GHG accounting, linked to the shadow price of carbon, into upfront cost-benefit analyses of all future energy lending decisions. Finally, the WBG should eliminate perverse internal staff incentives that militate against these needed changes.

Over the next two decades, low- and middle-income countries will demand substantially more energy to meet the demands of their consumers and to fuel their economic growth.¹ According to the International Energy Agency (IEA), the consequent rise in energy consumption will account for nearly all of the global growth in energy-related carbon dioxide (CO₂) emissions.² How this new demand for energy is met—through what sources and for which people—will impact both poverty levels and the global climate. The World Bank Group (WBG) is uniquely positioned to promote environmentally sound energy growth that benefits the world’s poor. With a mandate to reduce poverty, a multibillion dollar energy portfolio, and the attention of private banks and governments, the institution can facilitate a low-carbon transformation while also ensuring that its energy investments do not exacerbate climate change.³ Despite this promise, the WBG is underperforming. Indeed, in certain respects, it is exacerbating both climate change and energy poverty by directing substantial resources to high-carbon energy that does not serve energy-poor communities and may in fact marginalize them further.

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1. INTERNATIONAL ENERGY AGENCY, WORLD ENERGY OUTLOOK 96 (2010) [hereinafter IEA (2010)]. According to the International Energy Agency (IEA), global energy-related CO₂ emissions increased by 5% over 2008 levels in 2010, making 2010 levels the highest in recorded history. *Id.* In 2008, the IEA reported that energy-related emissions account for over three-quarters of global warming gases, and, if no action is taken, 97% of the increase in world energy-related CO₂ emissions will come from the developing nations. INTERNATIONAL ENERGY AGENCY, WORLD ENERGY OUTLOOK 418 (2008). *See also* THE SECRETARY-GENERAL’S ADVISORY GROUP ON ENERGY AND CLIMATE CHANGE (AGECC), UNITED NATIONS, ENERGY FOR A SUSTAINABLE FUTURE, SUMMARY REPORT AND RECOMMENDATIONS 18 (2010), available at [http://www.un.org/wcm/webdav/site/climatechange/shared/Documents/AGECC%20summary%20report\[1\].pdf](http://www.un.org/wcm/webdav/site/climatechange/shared/Documents/AGECC%20summary%20report[1].pdf) (“The vast majority of energy demand growth is expected to come from lower-middle-income countries such as China and India, driven by rapid industrialization and an increasingly wealthy population scaling up demand for cars, household appliances and other energy-consuming products.”); David Wheeler & Kevin Ummel, *Another Inconvenient Truth: A Carbon-Intensive South Faces Environmental Disaster, No Matter What the North Does* (Ctr. for Global Dev., Working Paper No. 134, 2007), available at http://www.cgdev.org/doc/update/file_Another_Inconvenient_Truth.pdf.
2. IEA (2010), *supra* note 1, at 8 (China’s primary energy demand is projected to climb by 2.1% per year between 2008 and 2035, reaching two-thirds of the level of consumption of the entire Organization of Economic Cooperation and Development (OECD)).
3. *Id.* at 54 (noting that “even if the commitments under Copenhagen were implemented the emissions reductions needed after 2020 would cost more than if more ambitious earlier targets had been pledged”).

The WBG's 2011 Draft Energy Sector Strategy (the draft strategy), is a recent major example of the institution's shortcomings in the energy sector.⁴ A 10-year strategy document that sets institutional priorities for WBG loans, grants, and technical assistance, the draft strategy fails to map a path toward essential improvements. Long on vague formulations and short on commitments,⁵ it maintains support for carbon-intensive energy and fails to orient institutional resources toward the elimination of energy poverty. In a similar fashion, a 2013 "Directions" document, approved by the WBG's Board of Directors as this Article went to publication, also falls short, reiterating in a less precise format many of the draft strategy's approaches.⁶

This Article examines key provisions of the draft strategy as well as some sections of the Directions document, and calls for major revisions to the WBG's energy lending.⁷ We argue that the draft's positive advances are muted by its major omissions and its continued endorsement of high-carbon energy. Although it limits lending for coal, promotes the elimination of fossil fuel subsidies, and calls for accounting of project greenhouse gas (GHG) emissions in certain cases, it fails in several key respects. First, the draft strategy allows for continued support of fossil fuels at the expense of renewable energy and energy efficiency. Indeed, the draft strategy's stated commitments to oil and gas far outweigh the emissions-reducing impacts of its low-carbon projects and threaten to lock in carbon-intensive emissions for the next half-century. Second, the draft strategy does not require projects to internalize the cost of carbon into upstream project financing decisions and lacks measurable energy access targets to ensure poverty-reducing outcomes. Third, the draft turns a blind eye to the lessons learned from a bleak institutional history of environmentally harmful and poverty-exacerbating energy lending. Specifically, its *ex ante* oil and gas loan-screening factors are weak, and the draft strategy revives

substantial lending to large hydropower dams and continues support for fossil fuel extraction and development without adopting reforms recommended by reviews like the Extractive Industries Review and the World Commission on Dams that the WBG itself sponsored.

The WBG's energy-lending practice, as exemplified by the draft strategy and its current lending, do not match its climate change rhetoric. Over one year after the draft strategy was circulated and under new institutional leadership, the WBG released *Turn Down the Heat* in November 2012. Warning of the catastrophic impacts of the predicted four degree Celsius increase in global temperature, the report emphasizes that the world, and particularly its poorest populations, faces the prospects of increasing droughts and food shortages, rising malnutrition rates, flooding of coastal cities, and growing shortages of water in many regions, together with growing uncertainty and risks about the future of economic development itself.⁸ In the forward to the document, WBG President Jim Yong Kim declares, "it is my hope that this report shocks us into action."⁹ He further states that "data and evidence drive the work of the World Bank Group" and that "the World Bank is a leading advocate for ambitious action on climate change."¹⁰ Scientific reports, President Kim maintains, have led the WBG to "ramp up its work on these issues" leading to the 2010 World Development Report on climate and development, the 2008 Strategic Framework on Development and Climate Change, and its recent report released at the Rio+20 Summit on Inclusive Green Growth.¹¹ According to Kim, the WBG will "redouble" its efforts to support "national initiatives to mitigate carbon emissions and build adaptive capacity as well as support inclusive green growth and climate smart development."¹²

Unfortunately, as this Article will show, there is a disconnect between President Kim's statements and the WBG's actual behavior. If the WBG's lending priorities and institutional pathologies do not change, there is little likelihood that the institution will be more effective in addressing climate change and achieving its newly proclaimed goal of inclusive green growth.

After providing additional background on global energy poverty and the WBG's lending history, diverse interests,

4. See World Bank Group, *Energizing Sustainable Development: Energy Sector Strategy of the World Bank Group* (Apr. 2011), available at http://www.eenews.net/assets/2011/03/30/document_cw_01.pdf. The draft strategy reviewed here has not been released to the public. It was leaked in April 2011 and is available on several websites.

5. The WBG recognizes as much: "Demand for energy in developing countries is expected to increase dramatically in coming decades, with 1.6 billion people currently lacking access to electricity. Meeting their needs in an environmentally-sustainable manner is an urgent yet difficult challenge, requiring innovative policies and instruments." World Bank Group, *New World, New World Bank Group: (I) Post-Crisis Directions 3* (Apr. 20, 2010) (unpublished manuscript), available at [http://siteresources.worldbank.org/DEV-COMMINT/Documentation/22553954/DC2010-0003\(E\)PostCrisis.pdf](http://siteresources.worldbank.org/DEV-COMMINT/Documentation/22553954/DC2010-0003(E)PostCrisis.pdf).

6. World Bank Group, *Toward a Sustainable Energy Future for All: Directions for the World Bank Group's Energy Sector* (2013), <http://documents.worldbank.org/curated/en/2013/07/18016002/> (last visited July 24, 2013).

7. Because the 2013 Directions document reiterates many of the shortcomings of the 2011 draft strategy, our detailed analysis of the draft strategy in this Article can inform more comprehensive, future examinations of the Directions document.

8. POTSDAM INSTITUTE FOR CLIMATE IMPACT RESEARCH AND CLIMATE ANALYTICS, *TURN DOWN THE HEAT: WHY A 4°C WARMER WORLD MUST BE AVOIDED* (The World Bank, 2012), available at http://climatechange.worldbank.org/sites/default/files/Turn_Down_the_heat_Why_a_4_degree_centrigrade_warmer_world_must_be_avoided.pdf.

9. Jim Yong Kim, FORWARD, POTSDAM INSTITUTE FOR CLIMATE IMPACT RESEARCH AND CLIMATE ANALYTICS, *supra* note 8, at ix.

10. *Id.*

11. *Id.*

12. *Id.* at x; see also Anna Yukhananov, *World Bank Climate Change Report Says "Turn Down the Heat" on Warming Planet*, REUTERS (Nov. 18, 2012), http://www.huffingtonpost.com/2012/11/18/world-bank-climate-change-report_n_2156082.html (last visited July 9, 2013).

and institutional pathologies in Part I, we analyze the draft strategy's core components, with relevant comparisons to the 2013 Directions document, and suggest changes to both documents in Part II. In Part III, we conclude and summarize proposed solutions.

After its failure to pass muster at the April 2011 meeting of the WBG's Board of Directors Committee on Development Effectiveness (CODE), the draft stalled. Over two years later, the WBG Board of Directors approved the Directions document.¹³ The prospects for progress remain uncertain. Both documents fail to require essential changes in WBG energy lending, and implementation of their key provisions remains to be seen. Tension among key members and pressure from influential borrowing countries and private interests seeking increased lending for fossil fuels may curtail critical reforms. Preserving the progress made in the 2011 draft strategy and the 2013 Directions document and reforming their major weaknesses are critical for future efforts to set priorities to mitigate the climate impacts of WBG energy lending.

I. Background

A. Energy, Poverty, and Climate Change

Poverty and energy access are closely linked. Reliable, affordable, and clean electricity, cooking, and heating sources are important for human health, economic growth, and education, among other basic human needs. According to the United Nations (U.N.) Millennium Development Project, energy access is essential for the achievement of hunger eradication and universal primary education, among other Millennium Development Goals.¹⁴ Roughly 1.4 billion people, or 20% of the world's population, lack access to electricity. An estimated 2.7 billion people rely on biomass for cooking.¹⁵ Without major investments in energy infrastructure, these numbers will grow.¹⁶

At the same time, many of the world's energy-poor inhabitants are experiencing the adverse impacts of climate change. As poverty heightens vulnerability to

environmental change,¹⁷ millions of the world's poorest people face increased exposure to drought, more intense storms, floods, and environmental stress.¹⁸ The U.N. Development Programme (UNDP) Human Development Report already warned in 2007 that these impacts may result in a major human development "reversal" over the coming decades.¹⁹ The WBG succinctly identified this injustice in its 2009 Energy Strategy Approach paper: "[t]he poor in developing countries will suffer first and the most from climate change, when they have done the least to cause it and are the least able to deal with it."²⁰ Mitigating climate change is thus a core component of global poverty alleviation.

Fortunately, energy access expansion and climate change mitigation are not in conflict. Both the IEA's Universal Modern Energy Access Model and the WBG's own assessment suggest that the impacts of expanding access to meet "the most basic human needs"²¹ are negligible, increasing global GHG emissions by only 1%.²²

As well, basic, universal energy access is within financial reach. The IEA estimates that achieving universal access by 2030 will cost \$36 billion per year.²³ This figure represents only 3% of total projected global energy investments in the IEA's "new policies" scenario,²⁴ which assumes that a subset of current energy policy commitments that countries have made will be implemented.²⁵ When compared to the \$312 billion spent globally on fossil fuel subsidies in 2009, this investment in basic human welfare is small and achievable.²⁶

13. Lisa Friedman, *World Bank Approves Landmark Coal Restrictions*, CLIMATEWIRE (July 17, 2013), <http://www.eenews.net/climatewire/2013/07/17/stories/1059984538> (last visited July 24, 2013).

14. U.N. MILLENNIUM PROJECT, *INVESTING IN DEVELOPMENT, A PRACTICAL PLAN TO ACHIEVE THE MILLENNIUM DEVELOPMENT GOALS 30* (2005), available at <http://www.unmillenniumproject.org/documents/MainReport-Complete-lowres.pdf>. The U.N. Millennium Development Goals, adopted in 2000, are a global action plan to achieve eight anti-poverty goals. These include: (1) Eradicate extreme hunger and poverty; (2) Achieve universal primary education; (3) Promote gender equality and empower women; (4) Reduce child mortality; (5) Improve maternal health; (6) Combat HIV/AIDS, malaria, and other diseases; (7) Ensure environmental sustainability; and (8) Develop a global partnership for development. Specific targets were set for 2015. The WBG defines "energy poverty" and "environmentally sustainable development" in alignment with the Millennium Development Goals. The WBG states that its mission is to "reduce global poverty." See *About Us, Strategic Themes*, WORLD BANK GROUP, <http://go.worldbank.org/DM4A38OWJ0> (last visited June 24, 2013).

15. IEA (2010), *supra* note 1, at 56.

16. *Id.*

17. UNITED NATIONS DEVELOPMENT PROGRAMME, UNITED NATIONS, HUMAN DEVELOPMENT REPORT 2007/2008 OVERVIEW, *FIGHTING CLIMATE CHANGE: HUMAN SOLIDARITY IN A DIVIDED WORLD* (2008), available at http://hdr.undp.org/en/media/HDR_20072008_EN_Overview.pdf.

18. *Id.* at 1.

19. *Id.*

20. World Bank Group, *Energy Strategy Approach Paper 2* (Oct. 2009) (unpublished manuscript), available at <http://siteresources.worldbank.org/EXTESC/Resources/Approach-paper.pdf>.

21. This level of energy access includes electricity for lighting, health, education, communication, and community services (50-100 kilowatt hours (kWh) per person per year) and modern fuels and technologies for cooking and heating of modern fuel or improved biomass cook stoves. IEA (2010), *supra* note 1, at 241, 249, 254-55. The AGECC report suggests this is too basic and states that "productive uses" should be included in the promotion of energy access. This broadening would include "electricity, modern fuels and other energy services to improve productivity," "agriculture: water pumping for irrigation, fertilizer, mechanized tilling," "commercial: agricultural processing, cottage industry," and "transport: fuel." THE SECRETARY GENERAL'S ADVISORY GROUP ON ENERGY AND CLIMATE CHANGE (2010), *supra* note 1, at 13.

22. IEA (2010), *supra* note 1, at 237, 248, 250; WORLD BANK GROUP, *ADDRESSING THE ELECTRICITY ACCESS GAP* 11, 31 (2010), available at http://siteresources.worldbank.org/EXTESC/Resources/Addressing_the_Electricity_Access_Gap.pdf.

23. IEA (2010), *supra* note 1, at 3.

24. IEA (2010), *supra* note 1, at 61-62. The new policy scenario takes into account policy commitments and plans, including the national pledges to reduce GHG emissions (communicated formally under the Copenhagen Accord) as well as plans to phase out fossil fuel energy subsidies. The scenario does not assume that all plans are fully implemented, but rather adjusts estimates of policy adoption based on estimated likelihood of country compliance. For example, in countries where uncertainty over climate policy is very high, it is assumed that the policies adopted are insufficient to reach their target. Financing for mitigation actions is also assumed to be limited and carbon markets are assumed to grow moderately.

25. IEA (2010), *supra* note 1, at 237.

26. IEA (2010), *supra* note 1, at 46.

B. Energy Growth at 450 Parts per Million

According to the IEA, in order to have at least a 50% chance of stabilizing the global temperature increase at a 2°C increase,²⁷ CO₂ levels must stabilize at or below 450 parts per million (ppm).²⁸ In light of this limit, IEA has employed a “450 Scenario” in its recent annual World Energy Outlook reports.²⁹ Although the WBG’s draft energy strategy acknowledges this target and references the IEA report, it does not orient itself to the 450 ppm objective. Our analysis uses the 450 ppm Scenario and the associated IEA projections and recommendations as a framework against which to measure the WBG’s draft strategy.

A central IEA finding is that renewable energy (RE) and energy efficiency (EE) are essential components of the 450 Scenario. Taken together, RE (including hydropower) and EE will account for 89% of the GHG reductions needed by 2020 to stabilize CO₂ at 450 ppm.³⁰ In addition, the IEA points to the importance of near-elimination of fossil fuel subsidies. It also predicts an increase in large-scale hydropower to meet energy needs at lower emissions levels, notwithstanding the negative social and environmental impacts of this power source, discussed further later in this Article.³¹ Without the support of international public finance, reaching the 450 ppm target will be made all the more difficult. Unfortunately, the WBG fails to heed its call.

C. World Bank Mission, Incentives, and Energy Policy History

I. Leadership and Leverage

The WBG is shaping energy policies and projects around the world. While its \$9-14 billion energy portfolio is a small fraction of global international finance for energy, the institution influences the energy development of many of its client countries and companies. As well, WBG loans have a powerful multiplier effect, enabling borrowers to leverage private finance and influencing the social and environmental standards of private lenders. In addition, as the interim trustee for the newly established Green Climate Fund within the U.N. Framework Convention on Climate Change (UNFCCC), the WBG is also aspiring to secure a central role in international climate finance.³² The institution is already home to the Climate Investment Funds (CIFs), discussed further below, whose two sub-funds, the Clean Technology Fund (CTF) and the Strategic Climate Fund, finance roughly \$7.2 billion in projects in low-emissions technology and climate change adaptation and mitigation.³³ According to the CIF website, every CTF dollar leverages \$8.4 from other sources.³⁴ As we discuss below, although these funds rely on bilateral and supplemental funds rather than core WBG funding, they function under the auspices of the WBG and have a leveraging effect on project and policy development in host countries.

Beyond its financial sway, the WBG also plays a significant role in generating knowledge about energy development and shaping both private- and public-sector project implementation standards. Both national export credit agencies and private banks look to WBG research on energy demand in borrowing countries and have adopted versions of WBG requirements for environmental assessment, involuntary resettlement, labor, and indigenous people.³⁵ This migration of the WBG’s information and project implementation “best practices” plays a significant if not easily measurable role in the types of energy policies and projects that developing countries adopt.

27. The Copenhagen Accord, reached at the Fifteenth Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC), sets a nonbinding objective of limiting the increase in global temperature to 2°C above pre-industrial levels. All major emitting countries and many others have subsequently associated themselves with the Accord. A two-degree increase was initially predicted to be the level over which catastrophic climate change would occur. However, some scientists predict that this rise would actually lead to dire effects. See, e.g., Mark Fischetti, *2-Degree Global Warming Limit Is Called a “Prescription for Disaster,”* SCI. AM. (Dec. 6, 2011), <http://blogs.scientificamerican.com/observations/2011/12/06/two-degree-global-warming-limit-is-called-a-prescription-for-disaster/> (last visited June 24, 2013).

28. IEA (2010), *supra* note 1, at 46.

29. INTERNATIONAL ENERGY AGENCY, WORLD ENERGY OUTLOOK, EXECUTIVE SUMMARY 3 (2012), available at <http://www.iea.org/Textbase/npsum/weo-2012sum.pdf>. INTERNATIONAL ENERGY AGENCY, WORLD ENERGY OUTLOOK 6 (2011). We based this Article on the 2010 report and note that at least some of IEA’s assumptions in the 2010 report are questionable in light of environmental issues and changed conditions since the report’s publication. These include Japan’s Fukushima power plant disaster, which cast a shadow on the future of new nuclear development (see Oliver Morton, *The Dream That Failed*, THE ECONOMIST (Mar. 10, 2012), <http://www.economist.com/node/21549098>), the failure of various carbon capture and storage to prove cost-effective (see *Trouble in Store*, THE ECONOMIST (Mar. 5, 2009), <http://www.economist.com/node/13226661>), and recent findings that hydropower’s contribution to GHG levels may be higher than estimated as a result of methane emissions from large reservoirs. See Luiz Pingueli Rosa et al., *Greenhouse Gas Emissions From Hydroelectric Reservoirs in Tropical Regions*, CLIMATIC CHANGE, Sept. 2004, at 9. Notwithstanding these assumptions about these technologies, we believe many of the IEA projections to be reasonable.

30. IEA (2010), *supra* note 1, at 394.

31. *Id.* at 305. Although these estimates are based on models, they are credible projections that, at the very least, provide a prioritization tool for policymakers seeking to shape climate-protective policies.

32. SUNITA DUBEY ET AL., FRIENDS OF THE EARTH ET AL., WORLD BANK, CLIMATE CHANGE AND ENERGY FINANCING: SOMETHING OLD. SOMETHING NEW? (2011).

33. *Early Results*, CLIMATE INVESTMENT FUNDS, <http://www.climateinvestmentfunds.org/cif/node/3342> (last visited June 18, 2013).

34. *Id.*

35. See Press Release, Export-Import Bank of the U.S., Ex-Im Bank Adopts the Equator Principles to Facilitate Project Finance Application and Review (Mar. 31, 2011), available at <http://www.exim.gov/pressrelease.cfm/0C634850-ADDD-7BC3-A45EBB7588C57CDF/>. The Equator Principles are a voluntary set of standards that largely reflect the social and environmental Performance Standards of the WBG’s International Finance Corporation (IFC). See EQUATOR PRINCIPLES, ABOUT THE EQUATOR PRINCIPLES, <http://www.equator-principles.com/index.php/about-ep/about-ep> (last visited July 11, 2013). Over 70 private lending institutions (such as Citigroup) and export credit agencies have adopted the principles in response to public concern about the social and environmental impacts of their lending practices in the developing world. *Id.*

2. Incentives and Inertia

The draft strategy's failure to promote a low-emission future is at odds with widespread concern over climate change and the threats it poses to the world's poor. Unfortunately, such institutional intransigence is commonplace. Despite numerous independent reviews over the past three decades, the WBG has failed to respond to their cogent conclusion, principle among them: lending for EE and RE should replace support for fossil fuels.

Several institutional pathologies underlie the WBG's failure to improve its energy lending. First, on the "supply side" of WBG dollars, the institution's "culture of loan approval"³⁶ and the associated staff incentives to lend to large projects and programs distort institutional priorities. Instead of poverty alleviation or emissions reduction metrics, the unwritten institutional incentives of the WBG's culture promote dollars lent as the main measure of project staff success.

Indeed, this misalignment of incentives has been acknowledged for decades,³⁷ most recently by the WBG's Internal Evaluations Group (IEG).³⁸ In a 2009 report, it explained that there "are no real links in the incentive system between staff reward and project performance."³⁹ Indeed, one former staffer observed that "there was one overriding objective in our work at the Bank, and that was to get as much money out the door as possible."⁴⁰

Second, on the "demand side" of the ledger, demand for RE and EE projects is weaker than optimal.⁴¹ Borrowing countries often seek loans for large, high-profile projects such as power plants, pipelines, and dams, characterizing them as critical for economic growth. At least in the short run, such projects often win more support from domestic elites than EE initiatives.⁴² By contrast, EE projects have high up-front transaction costs that, even though outweighed by their positive long-term benefits, remain a major barrier to project development. With increased voting power on the WBG's Board⁴³ and growing economic strength, the influence of major borrowing countries and their demand for fossil fuel projects is rising.⁴⁴ Taken together, these institutional realities frustrate efforts to change energy lending. Rather than realign institutional incentives to overcome these economic and political disincentives, the WBG's financing structure and staff reward system continue to disfavor EE projects.⁴⁵

3. WBG Energy-Lending Trends and Tracking Inconsistencies

The WBG's support of carbon-intensive energy development continues, and trends suggest a WBG preference for fossil fuels over RE and EE. In 2010, for example, the WBG's total energy lending was \$10.216 billion, of which \$6.557 billion was for fossil fuels, including \$4.4 billion to support coal-fired power, the most carbon-intensive of all fuels. At the same time, funding for energy efficiency and renewable energy, including investments in wind, solar, geothermal, and small hydropower, totaled \$3.55 billion.⁴⁶ While \$3.55 billion surpasses WBG commitments to increase spending for new RE and EE projects, the institution's support for fossil fuels overshadows these

36. Willi A. Wapenhans et al., Report of the Portfolio Management Task Force 12-14 (July 1, 1992) (internal World Bank document); STEVE BERKMAN, *THE WORLD BANK AND THE GODS OF LENDING* 44-45 (Kumarian Press, 2008) (further noting that this objective "was never stated openly" but that the "contradiction between those Bank staff and managers who devoted their efforts to make things work in Africa and those who devoted their efforts to advancement in the bureaucracy created a constant tension that tended to resolve itself in favor of the bureaucrats"); INDEPENDENT EVALUATION GROUP, *WORLD BANK GROUP, ANNUAL REVIEW OF DEVELOPMENT EFFECTIVENESS, SHARED GLOBAL CHALLENGES* 27 (2008), available at [http://lnweb90.worldbank.org/oed/oeddoclib.nsf/DocUNIDViewForJavaSearch/72CF9EA896BC5884852574EF004E7A59/\\$file/arde_08.pdf](http://lnweb90.worldbank.org/oed/oeddoclib.nsf/DocUNIDViewForJavaSearch/72CF9EA896BC5884852574EF004E7A59/$file/arde_08.pdf); see also Richard Webb, *Demotion and Rededication: 1981 to the Mid-1990s*, in *THE WORLD BANK: ITS FIRST HALF CENTURY*, VOL. 2, 338 (Devesh Kapur et al. eds., Brookings Inst. Press, 1997) (finding that "poverty was seen as an obstacle to lending performance, defined for the most part as lending volume").

37. BRUCE RICH, *MORTGAGING THE EARTH, THE WORLD BANK, ENVIRONMENTAL IMPOVERISHMENT, AND THE CRISIS OF DEVELOPMENT* (1995).

38. INDEPENDENT EVALUATION GROUP, *WORLD BANK GROUP, CLIMATE CHANGE AND THE WORLD BANK GROUP, PHASE I: AN EVALUATION OF WORLD BANK WIN-WIN ENERGY POLICY REFORMS XX* (2009), available at [http://lnweb90.worldbank.org/oed/oeddoclib.nsf/DocUNIDViewForJavaSearch/958B117271F0DE7585257589006D3A83/\\$file/cc_full_eval.pdf](http://lnweb90.worldbank.org/oed/oeddoclib.nsf/DocUNIDViewForJavaSearch/958B117271F0DE7585257589006D3A83/$file/cc_full_eval.pdf):

[I]nternal Bank incentives work against [energy-efficiency] projects because they are often small in scale, demanding of staff time and preparation funds, and may require persistent client engagement over a period of years. There is a general tendency to prefer investments in power generation, which are visible and easily understood, over investments in efficiency, which are less visible, involve human behavior rather than electrical engineering, and whose efficacy is harder to measure. A general neglect of rigorous monitoring and evaluation reinforces the negative view of efficiency.

See also Wapenhans et al., *supra* note 36, at 12.

39. INDEPENDENT EVALUATION GROUP, *WORLD BANK GROUP, REVIEW OF IDA INTERNAL CONTROLS, AN EVALUATION OF MANAGEMENT'S ASSESSMENT AND THE IAD REVIEW* 34 (2009), available at http://siteresources.worldbank.org/EXTOED/Resources/vol2_final.pdf.

40. BERKMAN, *supra* note 36.

41. INDEPENDENT EVALUATION GROUP, *WORLD BANK GROUP, ANNUAL REVIEW OF DEVELOPMENT EFFECTIVENESS, ACHIEVING SUSTAINABLE DEVELOPMENT XVI* (2009), available at http://siteresources.worldbank.org/EXT2009ARDE/Resources/arde09_web.pdf.

42. See INDEPENDENT EVALUATION GROUP, *supra* note 38, at xxxvii-xxxviii (2009) (noting that projects involving "demand restriction might be less prized and reinforced [than high-carbon energy infrastructure investments] because efficiency projects are complicated and staff-intensive, don't expend a lot of cash, and are less tangible and less prone to offer ceremonial occasions").

43. Robert Zoellick, *Why We Still Need the World Bank: Looking Beyond Aid*, FOREIGN AFFAIRS (Sept. 2011), <http://www.foreignaffairs.com/articles/137243/robert-b-zoellick/why-we-still-need-the-world-bank>.

44. *Id.* China currently has 3.32% of the voting power in the International Bank for Reconstruction and Development (IBRD). The United States has 15.48%. For a list of voting shares by country, see <http://siteresources.worldbank.org/BODINT/Resources/278027-1215524804501/IBRD-CountryVotingTable.pdf>.

45. INDEPENDENT EVALUATION GROUP, *supra* note 41 ("Internal staff and management incentives favor large projects, such as infrastructure or power, which disadvantages the typically smaller environmental projects.")

46. To be sure, amount lent is not always an indicator of positive climate impact. For example, one relatively small and well-designed loan for building efficiency standard implementation can reduce more emissions in the long run than a more expensive, one-off solar project. For this very reason, project carbon tracking is needed. Until such monitoring exists, we are left to dollars as the unit of comparison across energy sources supported by WBG funds.

renewable and efficiency achievements.⁴⁷ And in terms of climate impact, fossil lending locks in high-carbon energy development for decades.

In addition, the WBG's reporting on fossil, EE, and RE lending misrepresents the true composition of its portfolio in several respects. First, metrics used for measuring loan levels to different energy sectors are inconsistent across sources and artificially boost EE and RE numbers.⁴⁸ For example, funding of financial intermediaries (i.e., banks that lend to projects), infrastructure, and development policy lending are captured in its RE and EE but inexplicably excluded as to fossils.⁴⁹ Since these alternative modalities of lending are growing rapidly, inconsistent treatment frustrates accurate comparisons of the two sectors.⁵⁰ This key omission could disguise up to \$1 billion in additional fossil fuel finance.⁵¹ Second, projects do not provide transparent metrics against which to measure their social and environmental success. In the energy realm specifically, the WBG claimed in 2009 that its 2001 "targets for increasing access to electricity, reducing CO₂ emissions intensity, and reducing energy intensity have been met."⁵² However, the WBG provides no evidence to substantiate this claim or data on how the balance of WBG energy-sector operations have or have not contributed to these targets.⁵³ Third, inconsistent definitions of "energy efficiency" and "clean energy" make the WBG's energy portfolio difficult to evaluate. The WBG's definition of "clean" includes \$7.4 billion of CIF resources, which are not part of the WBG's core financing, as well as funding for coal plant rehabilitation and life extension. As a result, its stated commitment to increasing EE and RE lending in the draft strategy may be misleading, as further elaborated below.

4. Twenty Years of Clean, Climate-Friendly, Unfulfilled Commitments

Beyond these inconsistent metrics, various other energy-related commitments form the backdrop against which the current strategy is taking shape. The WBG has already subscribed to numerous frameworks whose purported purpose is to guide its approach in the energy sector, including

climate change-specific strategies and special donor funds, as well as RE and EE commitments. Indeed, many of the core features and shortcomings of the draft strategy have already appeared in other WBG initiatives.

For example, as far back as 1992, the WBG's annual World Development Report, entitled "Development and the Environment" that year, highlighted the importance of addressing climate change and pointed to win-win policies, such as energy price reform and improvements in energy efficiency, and noted the need to address environmental externalities through taxes or grants. One year later, the 1993 report, "Energy Efficiency and Conservation in the Developing World: The World Bank's Role," promised that the WBG would "continue its efforts toward increasing lending for components to improve EE [energy efficiency] and promote economically justified fuel switching."⁵⁴

Similarly, the WBG's 2000 report, *Fuel for Thought: An Environmental Strategy for the Energy Sector*, proposed a strategy to "mitigate the potential impact of energy use on global climate change."⁵⁵ Reviewing post-1992 progress on this agenda, "Fuel for Thought" found that "the strength of the WBG's commitment to energy efficiency and the environment is not what it should or could be."

In 2004, in Bonn, the WBG made a commitment to expand its investments in new renewables (a category that includes small hydro, wind, solar, geothermal, modern biomass, and marine energy and excludes large hydropower) and energy efficiency by 20% annually over 2005-2009. Total reported commitments for new renewables were \$860 million from fiscal 2005 to 2007, and commitments to energy efficiency were \$952 million over the same period. According to data released by the WBG, the WBG outperformed its Bonn commitment during 2005-2007, committing about double its goal of \$913 million. However, given the extremely low baseline from which the WBG was starting, fulfillment of such a target was not a challenge for the institution. In addition, at the same time it met this goal, fossil fuel lending continued to grow and greatly exceed RE and EE.

In 2006, the WBG published "Climate Change, Clean Energy and Sustainable Development," a proposed investment framework for clean energy needs of developing countries. It recommended power system expansion, with

47. HEIKE MAINHARDT-GIBBS ET AL., OIL CHANGE INTERNATIONAL, WORLD BANK GROUP ENERGY FINANCING: ENERGY FOR THE POOR? 5 (2010), available at <http://priceofoil.org/wp-content/uploads/2010/10/ociwbgenergyaccessfin.pdf>.

48. *Id.*

49. *Id.*

50. To be sure, financial intermediaries (FI) can play a valuable role in overcoming barriers to RE and EE finance. Often smaller in size, the per-project transaction costs are often higher than conventional energy projects. By lowering such costs, FIs can increase their feasibility and ultimate success. We merely suggest that equal treatment is needed across all forms of FI energy lending reporting.

51. MAINHARDT-GIBBS ET AL., *supra* note 47.

52. WBG (2009), *supra* note 20, at 5.

53. Indeed, "obtainment of the target on reducing CO₂ emissions intensity of energy production is somewhat hard to believe given that research shows that the trend in developing countries has been an increase in the intensity of CO₂ per unit of energy, with a sharp increase in China and India." MAINHARDT-GIBBS ET AL., *supra* note 47.

54. ROBERT J. SAUNDERS, WORLD BANK GROUP, ENERGY EFFICIENCY AND CONSERVATION IN THE DEVELOPING WORLD (1993). While only briefly mentioning GHGs, the paper proposes four WBG action items. These include:

Integrate energy efficiency issues into country policy dialogue; Decline to finance energy supply in the absence of structural reform; give demand-side management (DSM) "high level, in-country visibility;" "monitor, review, and disseminate the experience of new efficiency-enhancing supply-side and end-use . . . technologies . . . help finance their application; and encourage the reduction of barriers to their adoption."

Id.

55. WORLD BANK GROUP, FUEL FOR THOUGHT: AN ENVIRONMENTAL STRATEGY FOR THE ENERGY SECTOR 15 (2000), available at http://www.wds.worldbank.org/external/default/WDSContentServer/WDS/IB/2000/09/01/000094946_0008040539585/Rendered/PDF/multi_page.pdf.

emphasis on increasing access for the poor; mitigation of GHGs from both energy and land use change; and adaptation to climate change.⁵⁶ The second, mitigation pillar portrayed energy efficiency as a “quick-win and high-pay-off” pursuit.⁵⁷ Four years later, as part of the U.N. Secretary General’s Advisory Group on Energy and Climate Change (AGECC), the WBG called for commitment and concerted action on the goals of universal access to modern energy services and improved energy efficiency.⁵⁸

Few of the clean energy commitments set forth in these reports have been met.⁵⁹ This shortcoming raises the obvious question of whether the institution’s stated commitments even inform its decisions about which energy projects to support. Dr. Thomas Heller, in his review of the IEG’s “Climate Change and the World Bank Group,” concludes that the WBG’s environmental failures were rooted both in the perverse incentives of the institution’s organizational culture, and in the equally perverse dynamics of political economy on the borrower side. Dr. Heller notes that “even a cursory history of the Bank Group’s engagement . . . with climate change since the early 1990s indicates the matters stressed in the [IEG’s] report have been known to the Bank’s actors and central to the Bank’s agenda for this whole period.”⁶⁰ Accordingly, he asks whether there are “systemic or institutional reasons that cause the persistence of these obvious and long-standing attributes of World Bank Group practice?” “The unanswered question,” he noted, “is why outcomes should be different now and in years to come than they have been in the past.”⁶¹ In light of these entrenched failures, he calls for a more fundamental analysis of the WBG’s “comparative advantage in the field of climate change” in order to understand what institutional change, if any, is possible.⁶²

56. IEG (2009), *supra* note 38, at 25.

57. *Id.* at 25.

58. THE SECRETARY GENERAL’S ADVISORY GROUP ON ENERGY AND CLIMATE CHANGE (2010), *supra* note 1.

59. Moreover, although past and existing approaches emphasize a transition to low-carbon energy sources and energy access for the poor, none directly consider a reduction in financing for fossil fuel development. Only one earlier policy document, the *Strategic Framework on Development and Climate Change* (2008), provides operational guidelines on coal. While they propose higher standards for coal lending, some critics have pointed out that they are “sufficiently weak and vague that they do not represent a true obstacle to coal or any assurance towards low-carbon development.” MAINHARDT-GIBBS ET AL., *supra* note 47, at 4.

60. IEG (2009), *supra* note 38, at xxxiv.

61. *Id.*

62. *Id.* More specifically, Dr. Heller observes:

The Bank Group’s core mission . . . is certainly to foster economic growth, with a strong amendment in the last decade to express poverty alleviation orientation. This is reflected in an incentive system that concentrates on economic expansion and a commitment to short-run measures that bring poverty relief. Outcomes such as continued investment in energy infrastructure growth not necessarily constrained by environmental considerations (for example coal plant investment) or technology diffusion rather than (longer run) technology innovation would be expected in such an organizational culture explanation. Conversely, focus on demand restriction might be less prized and reinforced by the fact that efficiency projects are complicated and staff-intensive, don’t expend a lot of cash, and are less tangible and less prone to offer ceremonial occasions.

5. Overview of the 2011 Draft Energy Strategy and the 2013 Directions Document

To a substantial extent, the 2011 draft strategy builds off of these prior strategies and “commitments.” As such, it is both a reaction to the growing criticism of the WBG’s lending as well as a reiteration of prior strategies and commitments.⁶³ The draft strategy’s foundation lies in an “approach paper,” published in 2010, which provided the basis for a series of consultations in at least 36 countries between January and September 2010.⁶⁴

The 97-page draft strategy contains several notable provisions, such as a halt on lending for new coal-fired power projects in all but the poorest countries, a commitment to increasing the percentage of its portfolio allocated to “clean energy” lending, prioritization of increasing energy access, and an acknowledgement of the need for fossil fuel subsidy reduction. While seemingly positive, these portions of the draft strategy are riddled with imprecise definitions and commitments. More fundamentally, they are largely negated by provisions that call for continued support for oil and gas and increased lending for hydropower without mention of the associated risks and the need for more stringent environmental and social safeguards.

At the April 2011 meeting of the WBG Board’s CODE, some developing country members expressed strong opposition to the draft strategy.⁶⁵ Although the minutes of the meeting are not public, press interviews describing the meeting depict China, India, and South Africa as vocal opponents. Especially contentious was the coal-lending limitation provision.⁶⁶

In July 2013, the WBG Board of Directors approved the 29-page “Directions” document, which discusses WBG investment in fossil fuels, renewables, energy efficiency, and hydropower, among other areas, and encourages more concerted investment in natural gas and hydropower than the levels suggested by the 2011 strategy. In addition, it provides for potentially broad exceptions to the 2011 strategy’s ban on greenfield coal projects in all but the poorest countries.⁶⁷ Specifically, it states that “[t]he WBG will provide financial support for greenfield coal power

63. RICHARD K. LATTANZIO, CONG. RESEARCH SERV., THE WORLD BANK GROUP ENERGY SECTOR STRATEGY 1-4 (2011), available at <http://www.fas.org/sgp/crs/misc/R41912.pdf>.

64. WBG (2009), *supra* note 20; *Schedule of Consultative Meetings*, WORLD BANK GROUP, <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTENERGY2/EXTESC/0,contentMDK:22477367-pagePK:64168445-piPK:64168309-theSitePK:6297515,00.html> (last visited June 25, 2013).

65. See Matthew Berger, *Rich-Poor Rift Stalls World Bank’s Anticipated Energy Lending Policy*, INSIDE CLIMATE NEWS (July 21, 2011), <http://insideclimatenews.org/news/20110717/rich-poor-world-bank-coal-renewable-energy-loans?page=show>; *World Bank Energy Strategy Stalled*, BRETTON WOODS PROJECT (June 14, 2011), <http://www.brettonwoodsproject.org/art-568577>.

66. Lisa Friedman, *Developing Countries Denounce Restrictions on Coal Loans*, N.Y. TIMES (Apr. 12, 2011), <http://www.nytimes.com/cwire/2011/04/12/climatewire-developing-countries-denounce-world-bank-res-51099.html>.

67. WBG (2013), *supra* note 6, at v, 18, 20, 21.

generation projects only in rare circumstances”⁶⁸ and carves out an additional exception for supporting green-field as well as existing coal-fired plants “with operating carbon capture.”⁶⁹ How these conditions on coal lending will be applied remains to be determined. To catalyze the needed change, any energy-lending proposal must address the numerous shortcomings of the 2011 draft strategy and overcome substantial political hurdles that may stand in the way of approval and implementation.

6. Donor Country Hypocrisy

Any effort to limit the WBG’s fossil fuel lending must confront a central fact: the growth of the industrialized world, which has historically borne the lion’s share of responsibility for global GHG levels and climate risks, is still based largely on high-carbon energy. At the same time, the rich, industrialized countries continue to support, through export finance, fossil fuel development in the developing world that benefits them through sales of equipment and services. WBG donor country interventions against fossil fuel lending are thus met with skepticism by the borrowing countries.

The United States, for example, published a guidance document in 2009 proposing a series of requirements that multilateral development banks (MDBs) should apply to proposed coal projects. The criteria include more rigorous alternatives analysis, use of best available technology, offsets, and corollary support for policy reforms that encourage developing country energy markets to support no- or low-carbon alternatives to coal.⁷⁰ While this three-page document is nonbinding, the more rigorous requirements signal growing U.S. reluctance to support coal projects in the MDBs.

But, at the same time, the United States, which is responsible for roughly one-fifth of GHG gas emissions and one-quarter of CO₂ emissions,⁷¹ has refused to enter into an international agreement that would require it to limit its GHG emissions. In addition, the United States is funding coal-fired power development in developing nations

through its Export Credit Agency (ECA), the U.S. Export-Import Bank (Ex-Im). For example, in May 2010, Ex-Im approved a \$900-million loan for the 3,960-megawatt (MW) Sasan superthermal coal plant in India.⁷² This project will emit over 25 million tons of CO₂ per year, a new addition to the list of the world’s 50 biggest point sources of GHG emissions. Furthermore, in 2011, Ex-Im approved a loan of \$805 million to finance the purchase of equipment for the coal-fired 4,800-MW Kusile power plant. The plant, detailed further below, will emit 36.8 million tons of CO₂ per year, increasing annual South African GHG emissions by nearly 10% with a single investment.

European countries deserve the same criticism. In recent years, the United Kingdom and Germany have increased their domestic consumption of coal.⁷³ In addition, like the U.S. Ex-Im, European ECAs have also supported coal projects abroad. For example, Germany’s Euler Hermes and its public development bank the Kreditanstalt für Wiederaufbau (KfW), poured over \$3 billion in funding for 11 coal plants between 1994 and 2009.⁷⁴ Europe’s multilateral development bank, the European Investment Bank, invested over \$2.5 billion in nine coal projects during that same period.⁷⁵

These facts do not escape the observation of WBG client countries seeking to develop their fossil resources. Borrowers like Brazil, China, and India may interpret institutional attempts to limit lending for the fossil fuel projects they demand as a thinly veiled effort to stymie their economic progress. For example, according to Rogério Studart, World Bank Executive Director for Brazil and seven other Latin American and Caribbean countries, “[the proposed limitations on fossil energy] makes the conversation really awkward. [Industrialized nations tell us] that we should have a low-carbon growth strategy. Yes, but how about you?”⁷⁶ Thus, U.S. and European attempts to limit WBG financing of fossil fuel energy development in the low- and middle-income countries appear self-interested and hypocritical.

68. *Id.* at v. 25. This language was negotiated and altered at least once during the final days before the WBG Board vote. The June 2013 draft of the Directions document that was leaked to the media formulated the condition on coal lending in a different fashion, providing that the WBG “will cease providing financial support” to coal except in “rare circumstances.” Friedman, *supra* note 13 (emphasis added). According to news reports, the United States objected to the current formulation that changes *cessation* of coal ending *except for* in rare cases to a condition on coal lending “only in rare circumstance.” *See id.*

69. *Id.* at 26.

70. Guidance to MDBs for Engaging With Developing Countries on Coal-Fired Power Generation, U.S. Department of the Treasury, Dec. 14, 2009, *available at* <http://www.bicusa.org/en/Article.11708.aspx>. Other U.S. leaders have criticized the WBG’s support of coal. In 2009, when he was still a U.S. senator, now-U.S. Secretary of State John Kerry (D-Mass.) issued a harsh critique of the WBG and other multilateral development banks’ support of coal energy in the developing world. *See* Kate Sheppard, *Kerry to World Bank: Don’t Be Dirty*, MOTHER JONES (Nov. 19, 2009), <http://www.motherjones.com/mojo/2009/11/kerry-calls-world-bank-stop-funding-dirty-energy>.

71. KEVIN A. BAUMERT ET AL., NAVIGATING THE NUMBERS, GREENHOUSE GAS DATA AND INTERNATIONAL CLIMATE POLICY 12 (2005), *available at* http://pdf.wri.org/navigating_numbers.pdf.

72. Tennille Tracy, *U.S. Export-Import Bank Clears India Power-Plant Loan*, DOW JONES NEWSWIRES (Aug. 25, 2010), <http://www.adfn.com/nasdaq/StockNews.asp?stocknews=BUCY&article=44136919> (last visited June 24, 2013).

73. *See* Merkel’s Green Shift Forces Germany to Burn More Coal, BLOOMBERG.COM (Aug. 19, 2012) (discussing national shift from nuclear to coal), <http://www.bloomberg.com/news/2012-08-19/merkel-s-green-shift-forces-germany-to-burn-more-coal-energy.html>; *see generally* Energy Information Agency, International Energy Statistics, Europe Coal, *available at* <http://www.eia.gov/cfapps/ipdbproject/iedindex3.cfm?tid=1&pid=1&aid=2&cid=r3,&syid=2007&ceid=2011&unit=TST>.

74. BRUCE RICH, ENVIRONMENTAL DEFENSE FUND, FORECLOSING THE FUTURE: COAL, CLIMATE AND PUBLIC INTERNATIONAL FINANCE 6-7 (2009), *available at* http://www.edf.org/sites/default/files/9593_coal-plants-report.pdf; *see also* Ailun Yang & Yiyun Cui, *Global Coal Risk Assessment: Data Analysis and Market Research* 18-19 (World Resources Inst. Working Paper, Nov. 2012), *available at* http://pdf.wri.org/global_coal_risk_assessment.pdf.

75. *Id.*

76. Lisa Friedman (2011), *supra* note 66.

II. Analysis

In this section, we explore the draft strategy's key components and propose improvements to its business-as-usual approach. As mentioned above, the 2013 Directions document largely reiterates many of these provisions, renders them less precise, or is silent on them. First, we examine its fossil lending and failure to define and track the carbon impact of its investments. We then analyze the effectiveness of how the draft strategy addresses renewable energy, and energy efficiency. Next, we review the credibility of the WBG's proposed support for reducing harmful subsidies and its stated prioritization of energy access for the poor. Finally, we evaluate the draft's hydropower and carbon finance objectives.

A. Fossils Forever?

The draft strategy calls for continued support for fossil fuel projects. In so doing, it perpetuates the institution's contribution to GHG emissions as well as other harmful pollutants. It also squanders scarce public funds on an industry that already attracts large amounts of private investment. Indeed, the World Economic Forum reports that over 75% of the global increase in energy use from 2007-2030 is expected to be met through fossil fuels, especially coal, and an estimated 77% of the power stations required to meet demand are yet to be built.⁷⁷ Rather than help this dire projection become reality, the WBG's resources should aim to prevent this disastrous energy scenario.

Although coal lending in some poorer countries would decrease under the draft's limit on new coal projects, the draft strategy proposes no significant changes to WBG oil and gas lending. Even though the WBG has surpassed its aforementioned Bonn Conference commitments to increase RE and EE lending, this achievement cannot make up for the climate change contribution of its fossil fuel-heavy portfolio.⁷⁸ Every new fossil fuel investment locks in more GHG emissions for decades. What is more, evaluating actual effects of the institution's collective efforts will be made all the more difficult by the draft strategy's failure to establish transparent reporting and tracking systems that disclose the institution's full range of financial support for fossil fuels.

77. WORLD ECONOMIC FORUM, GLOBAL RISKS 29 (Kristen Van der Elst & Nicholas Davis eds., 6th ed. 2011), available at <http://riskreport.weforum.org/global-risks-2011.pdf>.

78. According to one study, when the fossil fuels involved in the World Bank and IFC lending projects for the 2008 fiscal year were combusted, "[t]he project lifetime CO₂ emissions from this one year of WBG financing represents approximately 7% of World annual CO₂ emissions from the energy sector or more than twice as much as all of Africa's annual energy sector emissions." Heike Mainhardt-Gibbs, *World Bank Group Energy Sector Lending: Encouraging the World's Addiction to Fossil Fuels* (Feb. 2009), http://www.bicusa.org/wp-content/uploads/2013/01/InfoBrief_Feb2009.pdf.

I. The Real Carbon Footprint: GHG Emissions Tracking, Pricing, and Monitoring

The draft energy strategy commits to analyze the WBG's contribution to GHG emissions, including an analysis of alternative investments based on "shadow pricing" of the emissions.⁷⁹ Such an analysis is important because it requires the institution to evaluate and report the anticipated GHG effects of its lending. In addition, a shadow price can help borrowing countries in making energy investment decisions, to the extent that they placed any priority on reducing GHG emissions.⁸⁰ The 2013 Directions document further dilutes this approach stating only that "[a]s a new development, phasing in of GHG emissions analysis starting in July 2013, subject to availability of funds and of acceptable methodologies, provides an opportunity to examine the implications of, and develop and test methodologies for, capturing global externalities."

While the Directions document represents a significant step back from the 2011 draft strategy's progress, even the draft strategy's approach is insufficient in several respects. First, the draft strategy has no associated commitment to integrate the findings of GHG accounting into the WBG's project finance decisions. An effective system would incorporate the social cost of GHG emissions as a key economic criterion in the upstream phases of the WBG's project selection and approval process. Once the GHG emissions of proposed power investments (as well as other industrial, transport, and agricultural projects) were calculated, a shadow price could be assigned to the tons of GHGs that would be annually emitted by a proposed project, and incorporated into the economic analysis for choosing among alternatives. This is not a new idea. In 2004, the WBG-sponsored Extractive Industries Review recommended adoption of the same shadow pricing technique to incorporate the external costs of carbon and climate change in its project appraisal process.⁸¹ The key, in short,

79. "Shadow pricing" assigns a hypothetical market price to goods for which market demand was absent or deficient—in this case, the price of emitting GHGs under a scenario in which the market prices them. The shadow price of one ton of CO₂ is no longer hypothetical, since it has already been recognized by the European governments within the carbon trading scheme of the European Union. If, for example, the 25 million annual tons of CO₂ emitted by a giant 4,000-MW coal plant were simply assigned the price that already existed in the European Union (most recently 4.5 Euros per ton or US\$6, see <https://www.theice.com/marketdata/reports/ReportCenter.shtml?reportId=10&contractKey=81#report/10/reportId=10&contractKey=81>), then over \$125 million dollars per year in extra costs should be incorporated into the economic appraisal of such a proposal.

80. For its part, the IFC has already taken steps toward this end in its revised Performance Standard on Resource Efficiency and Pollution Prevention. That standard requires IFC client companies to quantify direct and indirect emissions from projects that produce more than 25,000 tons of CO₂-equivalent annually. INTERNATIONAL FINANCE CORPORATION, GUIDANCE NOTE 3, RESOURCE EFFICIENCY AND POLLUTION PREVENTION 5 (2012), available at http://www1.ifc.org/wps/wcm/connect/9187330049800a6baa9cfa336b93d75f/Updated_GN3-2012.pdf?MOD=AJPERES.

81. The Review recommended that:

The WBG should apply carbon shadow value analysis systematically to its cost-benefit analysis and rate of return calculations in order to internalize the currently externalized costs of all energy projects, such as greenhouse gas emissions, as a follow-up to its carbon backcasting as input for its strategies to encourage investment

is not just calculating the GHG footprint, but also costing GHG emission impacts and weighing it in the economic decisionmaking process. The draft strategy proposes nothing of the sort. Instead, the draft commits to generating more information on the carbon footprint of energy projects, and fails to propose a system for *using* this information to inform institutional lending decisions.

Second, as mentioned above, the inconsistencies across WBG definitions of “clean energy” and “low carbon” as well as its GHG reporting thwart accurate accounting for project emissions. For example, the draft’s new strategy claims the WBG will increase lending for what it calls “clean energy” to 75% by 2015, up from a supposed level of 67% for 2008–2010. While seemingly laudable, this commitment is based on misleading definitions. So-called low-carbon projects include large dams and modernization and life extension of coal plants, together with electric transmission and distribution lending to complement coal or other fossil fuel plants. Further, the new test for whether a loan is for “clean” energy depends on the WBG’s evaluation of whether “differences in GHG emission relative to alternatives or without project-scenarios are estimated to be zero or negative.”⁸² This definition is a reformulation of the rather specious proposition that the WBG funding for fossil fuels is “clean” so long as the alternative to the WBG’s finance is less-efficient fossil energy that emits more GHGs.⁸³

Third, the draft strategy does not require continual emissions tracking for the life cycle of covered projects. Such monitoring is critical to ensure WBG’s projections are accurate. For example, the International Finance Corporation (IFC) claims that the 4,000-MW WBG-supported Tata Mundra coal-fired plant in India “is likely to be the most energy-efficient, coal-based thermal power plant in the country.”⁸⁴ Rigorous and credible monitoring is the only way to test the validity of this sweeping assertion. As one doubtful watchdog group pointed out, “[i]t is essential that IFC and the [Tata Mundra] plant owners agree to monitor the daily CO₂ emissions using continuous emissions monitoring system (CEMS), and publicly disclose the data.”⁸⁵

In sum, while the draft strategy takes the important step of requiring calculation of some project GHG emissions, it fails to require internalization of the cost of car-

bon in analyzing new investments. As well, its failure to use credible and precise definitions of clean energy and low carbon and its lack of specificity as to emissions monitoring frequency and public reporting will make the actual project impacts and institutional progress difficult to track. In order to actually reduce project GHG emissions and shore up confidence, the WBG’s energy strategy must remedy these major deficiencies. Given the Directions document’s failure to make any firm commitment to GHG accounting, prospects for this critical change appear increasingly unlikely.

2. Coal Phaseout Takes One Step Forward, Sliding Back

In contrast to its definitional ambiguity with respect to carbon tracking, the draft energy’s prohibition on lending for new coal projects in certain client countries is clear: “no new coal-based power projects will be financed in IDA-blend⁸⁶ [i.e., better-off poorer countries like India that borrow from both the International Development Association (IDA) and the International Bank for Reconstruction and Development (IBRD)] or IBRD countries.”⁸⁷ The 2013 Directions document establishes a different condition on coal lending, stating that the WBG “will provide financial support for greenfield coal power generation projects only in rare circumstances.”⁸⁸ And those circumstances will be “defined” by “[c]onsiderations such as meeting basic energy needs in countries with no feasible alternatives to coal and a lack of financing for coal power.”⁸⁹ Also, the Directions document applies the WBG’s 2010 “Criteria for Screening Coal Projects Under the Strategic Framework for Development and Climate Change” to all greenfield coal power projects “undertaken in these exceptional circumstances.”⁹⁰ Before discussing some of the major shortcomings of both of these coal policies, a short primer on coal and the WBG’s history of support for it is warranted.

Basic facts on coal’s impacts lay bare the need for limiting its expansion: as the most carbon-intensive fossil fuel and the fastest-growing carbon-emitting energy source,⁹¹ coal’s expansion in the developing world threat-

in low and no-carbon energy alternatives. Shadow pricing should internalize both local costs, like pollution, and global costs, such as climate change.

Extractive Industries Review, *Striking a Better Balance, Volume I, The World Bank Group and Extractive Industries, The Final Report of the Extractive Industries Review* 64 (Dec. 2003), [http://irispublic.worldbank.org/85257559006C22E9/All+Documents/85257559006C22E985256FF6006843AB/\\$File/volume1english.pdf](http://irispublic.worldbank.org/85257559006C22E9/All+Documents/85257559006C22E985256FF6006843AB/$File/volume1english.pdf).

82. WBG (2011), *supra* note 4, at 26.

83. *Id.*

84. *FAQ—Tata Mundra Project*, INTERNATIONAL FINANCE CORPORATION, http://ifcext.ifc.org/ifcext/southasia.nsf/Content/TataMundra_FAQ (last visited Sept. 27, 2012).

85. Shakeb Afsah & Kenyl Salcito, *Tata Mundra: Potentially Among the Top CO₂ Emitters in India*, CO₂ SCORECARD (June 9, 2011), <http://www.co2scorecard.org/home/researchitem/20>.

86. The WBG’s International Development Association (IDA) oversees and administers this concessional lending. Eighty-one countries with the lowest global Gross National Incomes (GNI) are eligible to receive IDA assistance, including zero or very low interest loans. *See What Is IDA*, <http://web.worldbank.org/WBSITE/EXTERNAL/EXTABOUTUS/IDA/0,,contentMDK:21206704-menuPK:83991-pagePK:51236175-piPK:437394-theSitePK:73154,00.html>.

87. WBG (2011), *supra* note 4, at 21.

88. WBG (2013), *supra* note 6, at 25 (citing World Bank Group, *Operational Guidance for World Bank Group Staff: Criteria for Screening Coal Projects Under the Strategic Framework for Development and Climate Change* (Mar. 2010), available at http://siteresources.worldbank.org/EXTENERGY2/Resources/CGN_20100331.pdf).

89. *Id.*

90. *Id.*

91. Coal is the most carbon-intensive of fossil fuels: for equivalent amounts of energy produced, coal combustion releases double the amount of CO₂ of natural gas, and 40% more than oil. *See UNITED NATIONS DEVELOPMENT PROGRAMME, UNITED NATIONS, HUMAN DEVELOPMENT REPORT*

ens the global climate and human health. The IEA has reported a “re-carbonization” of world energy production since the 1990s linked mainly to the rapid growth in coal-fired energy production in developing nations.⁹² Between 2000 and 2006, global coal use, mainly for power production in developing countries and economies in transition, grew at 4.9% per year, more rapidly than any other fossil fuel, as well as new renewable energy technologies (i.e., wind, solar, geothermal), which grew at an annual rate of 3.1%.⁹³ The IEA predicts that low- and middle-income countries⁹⁴ as a group will account for all of the growth in global coal demand up to 2035, with China, India and Indonesia accounting for nearly 90% of the total incremental growth.⁹⁵ Two new coal plants are opened every week in China, and, in India, a new coal-fired power plant was approved for construction every two days in 2010.⁹⁶

The adverse health and environmental impacts of coal mining and combustion are well-documented. According to the U.S. National Academy of Sciences, the external costs of sulfur dioxide (SO₂), nitrous oxides (NO_x), and particulate matter (PM) associated with coal electricity generation totaled \$62 billion in the United States in 2005 alone.⁹⁷ Premature mortality and other health costs were considered to constitute the vast majority of the damages.⁹⁸ According to the Environmental Defense Fund, between 6,000 and 10,600 annual deaths can be attributed to the 88 coal-fired power plants and companies that received public international financing from 1994 to early 2009, including 18 plants that have received WBG support.⁹⁹

Notwithstanding the negative impacts, the WBG’s coal lending increased in recent years.¹⁰⁰ As mentioned above, in fiscal year (FY) 2010, the WBG’s funding for coal power projects reached a record high of \$4.3 billion, a more than 300% increase over the previous year.¹⁰¹ That figure declined to \$290 million in FY 2011 and then rose again to \$690 million in FY 2012.¹⁰² The most significant and notorious projects are major loans to two new coal-fired power plants in India and South Africa, both among the world’s 50 largest.¹⁰³ At 4,800 MW of capacity, the South African Eskom Medupi plant will emit an estimated 25 to 32 million tons of CO₂ per year.¹⁰⁴ On a similar scale, the 4,000-MW Tata Mundra plant, as discussed above, will emit over 25 million metric tons of CO₂ annually for over 25 years.¹⁰⁵ In terms of carbon output, both plants will be among the largest point source emitters on the planet.¹⁰⁶ As such, they represent a commitment to carbon-intensive energy sources for the next 40 to 50 years.

WBG justifications for its support of these major emitters are dubious. According to the WBG, its participation in supercritical coal plant development enables the use of efficient, emissions-reducing “super critical” technologies.¹⁰⁷ However, market data undercut this assertion. According to the IEG, “the WBG had little direct impact on technology choice” for Tata Mundra and several other new, WBG-financed, supercritical coal plants.¹⁰⁸ Instead, the coal-burning technology was “largely or entirely predetermined by project sponsors before WBG [World Bank

2007/2008, FIGHTING CLIMATE CHANGE: HUMAN SOLIDARITY IN A DIVIDED WORLD 55 (2008).

92. IEA (2008), *supra* note 1, at 384.

93. *Id.* at 123-24.

94. The IEA divides countries between those that belong to the OECD and those that do not. Almost all of the latter are considered low- or middle-income, and we therefore use that more common monomer to describe the IEA’s findings regarding non-OECD countries.

95. IEA (2010), *supra* note 1, at 199. According to the IEA, China will remain the world’s largest consumer of coal, while India will become the second-largest around 2030; Indonesia will take fourth position (behind the United States) by 2035. Over the projection period, China will install around 600 gigawatts (GW) of new coal-fired power generation capacity, comparable with the current combined coal-fired generation capacity of the United States, the European Union, and Japan.

96. Anna Petherick, *Market Watch: Dirty Money*, NATURE 72 (Feb. 2012). Both governmental and international private finance are significant drivers of this expansion. See Ailun Yang & Yiyun Cui (2012), *supra* note 74. A recent study estimates that major global private banks’ total investments in coal in 2010 were almost twice what they were when the Kyoto Protocol came into effect in 2005. HEFFA SCHÜCKING ET AL., BANKROLLING CLIMATE CHANGE: A LOOK INTO THE PORTFOLIOS OF THE WORLD’S LARGEST BANKS (2011), available at <http://go.nature.com/wpQVqZ>.

97. National Academy of Sciences, *Report Examines Hidden Health and Environmental Costs of Energy Production and Consumption in U.S.* (Oct. 19, 2009), <http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=12794>.

98. *Id.*

99. SARAH PENNEY ET AL., ENVIRONMENTAL DEFENSE FUND, ESTIMATING THE HEALTH IMPACTS OF COAL-FIRED POWER PLANTS RECEIVING INTERNATIONAL FINANCING (2009), available at http://www.edf.org/documents/9553_coal-plants-health-impacts.pdf. See also Paul R. Epstein et al., *Full Cost Accounting for the Life Cycle of Coal*, 1219 ANN. N.Y. ACAD. SCI. 73 (2011), available

at <http://onlinelibrary.wiley.com/doi/10.1111/j.1749-6632.2010.05890.x/pdf>.

100. HEIKE MAINHARDT-GIBBS, WORLD BANK GROUP AND INTERNATIONAL ENERGY DEVELOPMENT, IMPLICATIONS FOR SUSTAINABLE DEVELOPMENT, POVERTY REDUCTION AND CLIMATE CHANGE 29 (Richard Brand & Thomas Hirsch eds., 2011), available at http://www.eed.de/fix/files/doc/110301_World%20Bank_energy_analysis_21_EED.pdf.

101. See World Bank, Energy Data, tbl. 3, available at <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTENERGY2/0,,contentMDK:21651596-menuPK:4140787-pagePK:210058-piPK:210062-theSitePK:4114200,00.html> (“new thermal generation” refers to coal); MAINHARDT-GIBBS (2011), *supra* note 100.

102. MAINHARDT-GIBBS (2011), *supra* note 100, at 4.

103. David Wheeler, *Carma Watch: A Red Light for the World Bank Group on Coal*, CARBON MONITORING FOR ACTION BLOG (Jan. 8, 2008), <http://carma.org/blog/carma-watch-red-light-for-the-world-bank-group-on-coal-fired-power/>.

104. *Medupi Coal Power Plant*, BANKTRACK.ORG, http://www.banktrack.org/show/dodgydeals/medupi_coal_power_plant (last visited Sept. 27, 2012).

105. David Wheeler, *Tata Ultra Mega Mistake: The IFC Should Not Get Burned by Coal*, GLOBAL DEVELOPMENT VIEWS FROM THE CENTER (Mar. 12, 2008), <http://blogs.cgdev.org/globaldevelopment/2008/03/tata-ultra-mega-mistake-the-ifc.php>.

106. DUBEY ET AL. (2011), *supra* note 32, at 8.

107. Justin Lin, *Why Coal?*, DEVELOPMENT IN A CHANGING CLIMATE, WORLD BANK BLOG (Mar. 2, 2009, 6:16 PM), <http://blogs.worldbank.org/climatechange/why-coal>. Outside observers also espouse this view of the WBG’s role in certain countries—i.e., that because new coal plants would operate less efficiently and at the same volume without outside funding for supercritical technology, the WBG’s funding for such technology results in less emissions compared with a baseline scenario in which the WBG does not provide such support. See Richard K. Morse, *Cleaning Up Coal*, FOREIGN AFFAIRS 105 (July/Aug. 2012), <http://www.foreignaffairs.com/articles/137685/richard-k-morse/cleaning-up-coal>.

108. INDEPENDENT EVALUATION GROUP (IEG), WORLD BANK GROUP, CLIMATE CHANGE AND THE WORLD BANK GROUP, PHASE II: THE CHALLENGE OF LOW CARBON DEVELOPMENT 64 (2010), available at http://siteresources.worldbank.org/EXTCCPHASEII/Resources/cc2_full_eval.pdf.

Group] involvement.”¹⁰⁹ For example, before the WBG decided to support Tata Mundra, the private sector was already favoring investments in India’s supercritical plants, with 70% of planned new privately financed capacity already projected as supercritical.¹¹⁰ This support was driven in part by a doubling in coal prices, which made the extra capital cost for a supercritical plant largely compensated in financial terms by reduced operating costs and reduced fuel use. In light of these facts, the WBG can hardly claim to be a catalyst even for more efficient coal technology.¹¹¹

Against this backdrop, the draft energy strategy’s prohibition on new coal project lending to IDA-blend and IBRD countries is a significant step, as is the 2013 Direction document’s limit of lending to “rare circumstances.”¹¹² However, loopholes could keep the door to coal open. First, the draft strategy leaves open the possibility of support for rehabilitation and life extension of coal plants, which is effectively the equivalent of financing a new coal plant for 10-20 years.¹¹³ And the Directions document specifically allows for “providing support aimed at increasing the efficiency of the existing infrastructure for . . . coal-fired power generation . . .” subject to certain criteria.¹¹⁴

Rehabilitation and modernization typically extend the life of a facility from 10 to 25 additional years, locking in substantial future GHG emissions.¹¹⁵ By contrast, the IEA’s 450 Scenario requires decommissioning of roughly one-third of new coal and gas plants (some 300 gigawatts (GW)) before the end of their technical lifetimes.¹¹⁶

Instead of extending the life of coal plants, almost 90% of new investment during this time must, according to the IEA, be in low-carbon (i.e., non-coal) technologies if CO₂ levels are to level at 450 ppm.¹¹⁷

A relatively recent WBG project (referred to as “India: Coal Fired Generation Rehabilitation Project” in project documents) illustrates the climate risks of coal plant rehabilitation support. In 2009, the WBG and the Global Environment Facility (GEF) approved funding for this effort, with the purported goal of modernizing and extending the life of three coal plants for 15 years.¹¹⁸ The WBG represented the project as a “low-carbon,” EE initiative, maintaining that net emissions would decrease compared to a no-project baseline because power from other additions to the grid would be more CO₂-intensive, and because the rehabilitated plants would, on average, emit less CO₂ per unit of power generated than other plants constructed during the same time. Two fundamental facts about the project belie this “low-carbon” projection. First, the loan will extend the plants’ remaining lifetime from an estimated seven years to 17, meaning 10 more years of emissions from the most carbon-intensive energy source available. Second, each plant will emit more carbon over time thanks to the “efficient” rehabilitation repairs that WBG funds will support. The rehabilitated coal plants will have less downtime after modernization than they did before. Therefore, the net result of the WBG and GEF participation in the rehabilitation project is three coal plants burning more coal annually and for a period of 10 years longer than if the WBG had done nothing.¹¹⁹ More rather than less carbon emissions are the likely outcome.

Notwithstanding these damning facts, neither the WBG nor the GEF have refuted the concerns registered by project critics. As early as 2006, when the project was first being considered for GEF funding, UNEP protested, asserting that rehabilitation “would favor the use of coal over other fuels” and that “global impacts will be negative over the long term” and recommending that “these proposals be set as examples of types of projects GEF should not support.”¹²⁰ In a one-page response, the GEF disregarded these concerns and proceeded to sink over \$45 million into the project. For its part, the WBG seeks to replicate it (27,000 MW of coal plants await renovation and modernization in India alone).¹²¹

109. *Id.*

110. David Wheeler, *Crossroads at Mmamabula: Will the World Bank Choose the Clean Energy Path?* (Center for Global Development, Working Paper No. 140, Feb. 2008), available at www.cgdev.org/files/15401_file_Bank_Coal.pdf.

111. ABIGAIL JONES ET AL., THE BROOKINGS INSTITUTION, THE WORLD BANK AND COAL AID (Oct. 2011), available at <http://www.brookings.edu/~media/research/files/papers/2011/10/10%20world%20bank%20coal%20aid%20purvis%20aid%20global%20views.pdf>.

112. WBG (2013), *supra* note 6, at 26.

113. WBG (2011), *supra* note 4, at 19.

114. WBG (2013), *supra* note 6, at 26. This support is conditioned on compliance with the coal screening criteria referenced on page 25 of the Directions document.

115. INTERNATIONAL ENERGY AGENCY CLEAN COAL CENTRE, PROFILES: LIFE EXTENSION OF COAL-FIRED POWER PLANTS 1 (2005), available at http://www.iea-epl.co.uk/publishor/system/component_view.asp?LogDocId=81405&PhyDocId=5990.

Large coal-fired generating units are usually designed to operate with a minimum of modification for at least 25 years. Yet, units exceeding 25 years operational service today account for more than 45% of coal-fired power generating capacity. It is standard procedure to extend the life of a power plant to 40 years, and some units have operated for more than 50 years.

According to a project appraisal report for a coal plant rehabilitation project in India, rehabilitation could lead to more emissions. See GLOBAL ENVIRONMENT FACILITY (GEF), REQUEST FOR CEO ENDORSEMENT/APPROVAL 92 (Apr. 22, 2009), available at <http://www.thegef.org/gef/sites/thegef.org/files/repository/India%20-%20Coal%20Fired%20Generation%20Rehabilitation%20Project.pdf> (noting that proposed coal power plant project may result in a net increase in carbon emissions. Namely, “[b]ecause of increase in the capacity and improved plant load factor, the overall generation from the unit may be more than the generation possible from using the same amount of coal, thus leading to combustion of even more coal than earlier.”).

116. IEA (2010), *supra* note 1, at 417.

117. *Id.*

118. GLOBAL ENVIRONMENT FACILITY (2009), *supra* note 115, at 22.

119. *Id.* at 151:

Because of increase in the capacity and improved plant load factor, the overall generation from the unit may be more than the generation possible from using the same amount of coal, thus leading to combustion of even more coal than earlier. Emission from this additional generation that requires additional coal to be burnt should be compared with emission from new generation capacities connected to the grid—including coal-fired, gas-fired, lignite-fired, large hydropower, nuclear and renewable energy projects. The emission reduction (or increase) for this part would be based on the difference in emission factors for the rehabilitated plant and the future build margin for the grid.

120. *Id.* at 34-36.

121. *Id.* at 151-52.

Kosovo, Coal, and Political Economy

A new coal project illustrates the power of institutional politics in driving lending decisions. The WBG Board is considering support of a lignite coal plant in Kosovo.³ Lignite is the dirtiest fossil fuel, with higher sulfur, lead, mercury, and carbon content than even conventional coal. Controversial within the WBG, the project may have ultimately won institutional support because of U.S. and European political pressure.^b

In fact, the project reveals how the U.S. government took seemingly contradictory positions within the WBG. As discussed above, the United States has criticized the WBG's lending for coal, voting against, for example, the WBG's loans for the Medupi coal plant in 2010. The United States and NATO invested a lot of political capital in promoting the independence of Kosovo, and indeed the U.S. State Department had pushed aggressively for Kosovo's independence. One of Kosovo's gravest problems is a chronic shortage of electric power, associated with two decrepit lignite power plants operating below capacity; they were in desperate need of renovation or replacement. The quickest solution, as proposed by a U.S. Agency for International Development study, would be to renovate one of the plants, bringing it up to European Union coal plant pollution standards, and close the other plant and replace it with a new 600-MW facility.^c

The WBG claimed in January 2012 that while there was some potential for developing renewable energy sources in the country, lignite was the only cheap, plentifully available domestic fuel for needed future generating capacity.^d Expert observers disagreed. University of California at Berkeley Prof. Daniel Kammen, protested to the U.S. Treasury Department the U.S. government's support for the Kosovo project.^e Dr. Kammen was the founder and director of the Renewable and Appropriate Energy Laboratory at Berkeley. The WBG touted his appointment in October 2010 to a newly created high-level position of "Chief Technical Specialist for Renewable Energy and Energy Efficiency," where he would "provide strategic leadership on the policy, technical, and operational fronts."^f Dr. Kammen stayed with the WBG for 14 months. After he returned to academia, the WBG abolished the position.

In his letter to the U.S. Treasury, Dr. Kammen pointed out that simply addressing Kosovo's huge power losses from inefficiency—some 40% of the electricity generated—would obviate at much lesser cost the need for investing in a new 600-MW lignite plant. A study Dr. Kammen directed at the Renewable and Appropriate Energy Lab found that investments in energy efficiency and upgrading the electric transmission and distribution system—combined with solar, biomass, and wind energy, along with use of both small and larger scale hydropower—altogether would provide 30% more jobs than the "business-as-usual" (new coal plant) path at an estimated cost savings of 50%. Indeed, 200 MW of private-sector wind projects were already waiting for approval from the Kosovo government.^g

Moreover, the health impacts of the new lignite plant, even if it met EU standards, would expose the inhabitants of the nearby capital, Pristina, to coal emissions pollution that in the United States, Kammen pointed out, is responsible for the premature deaths of 30,000 people annually. If the proposed project were to proceed, it would leave "a devastating legacy for a young nation that we know can have a different path."^h In August 2012, a WBG response to a letter to WBG President Jim Yong Kim from 17 physicians from Kosovo, Canada, and the United States, raising concerns about the health impacts of the proposed Kosovo coal power project, agreed that "public health is critical to sustainable development," but concluded that "Kosovo will have to continue to rely on its domestic coal resources but use coal in a cleaner and more efficient manner." Nezir Sinani of the Kosovan nongovernmental organization Institute for Development Policy said:

This clearly shows that the Bank will not be considering how coal affects people's lives, let alone the environment. I am very skeptical that the Bank will undertake the changes needed to avoid a four degree warmer world when it is more than clear that the path they have chosen is that of more coal.ⁱ

In the spring of 2013, President Kim responded to questions about the WBG's potential support of the plant with references to the country's "severe" need for electricity. Speaking at the WBG's 2013 spring meeting, he stated that "[t]he issue for us in Kosovo is that their need for energy is so severe that it's not a question of whether everyone can have three refrigerators and multiple flat-screen TVs."^j As noted previously, the 2013 Discussions document includes exceptions to the ban on WBG greenfield coal lending in "rare cases" in which "there are no feasible alternatives available to meet basic energy needs and other sources of financing are absent." Whether this new exception becomes WBG policy, and whether the WBG will determine that Kosovo constitutes such a case, remains to be seen.

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- a. Lisa Friedman, *Former Clean Energy Czar Tries to Stop Europe's Dirtiest New Power Plant*, ENVT. & ENERGY NEWS (Mar. 14, 2012), <http://www.bicusa.org/en/Article.12607.aspx> (last visited June 24, 2013).
 - b. Lisa Friedman, *U.S. on Both Sides of New Battle Over Assistance to "Ugly" Coal-Fired Power Plant*, N.Y. TIMES (July 11, 2011), <http://www.nytimes.com/cwire/2011/07/11/11climatewire-us-on-both-sides-of-new-battle-over-assistan-96428.html?pagewanted=all> (last visited June 24, 2013).
 - c. *Id.*
 - d. Lisa Friedman, *World Bank Studies Coal-Fired Power Plant for Kosovo*, ENVT. & ENERGY NEWS (Jan. 17, 2012), <http://nicholasinstitute.duke.edu/news/world-bank-studies-coal-fired-power-plant-for-kosovo> (last visited June 24, 2013).
 - e. Letter from Daniel M. Kammen, Professor, Univ. of Cal., Berkeley, to Marisa Lago, Assistant Secretary, International Markets and Development, U.S. Dep't of the Treasury (Mar. 12, 2012), available at http://www.eenews.net/assets/2012/03/14/document_cw_01.pdf.
 - f. Press Release, World Bank, International Leader on Clean Energy Joins World Bank, (Sept. 9, 2010), <http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:22696712~pagePK:64257043~piPK:437376~theSitePK:4607,00.html> (last visited June 24, 2013).
 - g. Letter from Daniel M. Kammen to Marisa Lago, *supra* note e; DANIEL M. KAMMEN ET AL., SUSTAINABLE ENERGY OPTIONS FOR KOSOVO: AN ANALYSIS OF RESOURCE AVAILABILITY AND COST 6 (Jan. 15, 2012), available at http://rael.berkeley.edu/sites/default/files/Kosovo%20Energy%20Scenarios-19-Jan-2012_0.pdf; Friedman, *supra* note a.
 - h. Daniel M. Kammen, Letter to Marisa Lago, *supra* note e.
 - i. *World Bank and Climate Policy: Cloudy Forecast for Policy Reform*, BRETTON WOODS PROJECT (Dec. 6, 2012), <http://www.brettonwoodsproject.org/art-571584>.
 - j. Sandrine Rastello, *Kim Says World Bank Can't Reject Coal if People Freeze*, BLOOMBERG (Apr. 17, 2013), <http://www.bloomberg.com/news/2013-04-17/kim-says-world-bank-can-t-reject-coal-if-people-freeze.html>.

The second loophole is both the draft strategy's and the Directions document's positive references to carbon capture and storage (CCS). After establishing the ban on lending for new coal plants in non-IDA countries, the draft states that the WBG will "consider assistance for . . . coal-combustion plants with carbon capture and storage, in all countries."¹²² But many new plants are claiming to be "CCS-ready" even before installing the expensive and still-unproven technology. If the WBG deems these plants as compliant with the draft strategy's definition of CCS, the WBG could effectively support new coal plants in non-IDA countries that, although CCS-ready, could continue to emit GHG emissions. The Directions document states that it will "consider support for greenfield as well as existing coal-fired plants with operating carbon capture."¹²³ However, it is not clear what the definition of "operating" is, including how much of the coal plant's GHG emissions would have to be captured in order to be considered "operating." To close this loophole, the WBG should either eliminate these exceptions or specify that only projects with fully functioning and effective CCS systems capturing all GHG emissions will be considered for support.

3. Oil and Gas Flow Forward

In contrast to the draft strategy's partial limits on coal finance, the oil and gas status quo appears entrenched. Although the draft strategy qualifies that WBG financing of upstream oil projects will "be selective" and that it will support natural gas not as just any fossil fuel, but rather as "a fossil fuel with the lowest carbon intensity,"¹²⁴ the fundamental fact remains: the WBG aims to continue financing of high-carbon energy. Indeed, the July 2013 Directions document contemplates a "scal[ing] up" in "engagement" in natural gas, stating that the "WBG will continue to assist countries to address barriers to commercializing natural gas and increasing possibilities for private investment by engaging on the policy and regulatory front. . . ."¹²⁵ Such unqualified support may ultimately cause further harm to the climate, local ecosystems, and impacted communities, as well as the institution's poverty-reduction and good-governance efforts.¹²⁶

The adverse effects of upstream oil and gas projects are well-documented. With respect to climate change, the petroleum produced by these projects will eventually be burned elsewhere, emitting GHGs and offsetting local emissions *reductions* that the WBG's few RE and

EE projects have generated. Even taken alone, these additional GHG emissions are a sufficient basis for phasing out WBG-subsidized support of these projects. What is more, oil and gas development does little, if anything, to increase energy access for the poor, as most petroleum investments in developing countries are directed to export and industrial use. In addition, petroleum extraction poses risks of corruption and conflict that many "resource-cursed" host countries confront.¹²⁷ Finally, the institutional opportunity cost is great, as these large projects draw WBG staff and resources away from much-needed RE and EE efforts.¹²⁸

The draft strategy's failure to end WBG lending to this sector is surprising in light of well-substantiated proposals to end such WBG investments and the institution's troubled history in the sector. For example, in 2004, the Extractive Industry Review, headed by former Indonesian Environment Minister Emil Salim, recommended that the WBG "phase out investments in oil production by 2008 and devote its scarce resources to investments in renewable energy resource development, emissions-reducing projects, clean energy technology, energy efficiency and conservation, and other efforts that delink energy use from greenhouse gas emissions"¹²⁹ The draft strategy ignores this core recommendation.

Moreover, the list of WBG petroleum problem projects is long. One sobering example is the Chad-Cameroon oil development and pipeline project, which received WBG support from 2001 to 2008 when the IBRD withdrew from the project.¹³⁰ The institution justified its involvement on the grounds that, with WBG oversight, the government would make good on its promise to harness the rents from extraction to further pro-poor development.¹³¹

127. *See generally id.*

128. Richard K. Lattanzio (2011), *supra* note 61, at 9-10; *see also* Martin A. Weiss & Jeffery Logan, Congressional Research Service, Report No. RS22989, The World Bank's Clean Technology Fund (CTF) (Nov. 24, 2008); Issue Brief on Energy, WORLD BANK, <http://go.worldbank.org/E084GP3GQ0> (last visited Apr. 18, 2013).

129. EMIL SALIM, STRIKING A BETTER BALANCE: THE EXTRACTIVE INDUSTRIES REVIEW, EXECUTIVE SUMMARY 7 (2003), *available at* [http://irispublic.worldbank.org/85257559006C22E9/All+Documents/85257559006C22E985256FF6006820D2/\\$File/execsummaryenglish.pdf](http://irispublic.worldbank.org/85257559006C22E9/All+Documents/85257559006C22E985256FF6006820D2/$File/execsummaryenglish.pdf).

130. Press Release, World Bank Group, World Bank Statement on Chad-Cameroon Pipeline (Sept. 9, 2008), *available at* <http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:21894530-pagePK:34370-piPK:34424-theSitePK:4607,00.html>.

131. INDEPENDENT EVALUATION GROUP, THE WORLD BANK GROUP PROGRAM OF SUPPORT FOR THE CHAD-CAMEROON PETROLEUM DEVELOPMENT AND PIPELINE CONSTRUCTION viii, xiv, 10, 35 (2009), *available at* <http://sitere-sources.worldbank.org/INTOED/Resources/ChadCamReport.pdf>.

WBG concluded after intense debate that its direct involvement could help increase the otherwise very low probability that Chad's people would escape the oil curse, and thus decided to support the program and to do so beyond IFC participation—to include capacity-building activities as well as devising the novel revenue management and institutional arrangements summarized earlier. . . . In engaging in the Chad Cameroon Pipeline Program, the World Bank Group was aware that this was a highly risky and complex project, in a difficult environment. The decision to engage reflected the view that our participation had the potential to help mitigate the environmental and social impact of the pipeline. In addition, our involvement in the design of the oil revenue management system was to ensure that revenues would be effectively used for the benefit

122. WBG (2011), *supra* note 4, at 21.

123. WBG (2013), *supra* note 6, at 26.

124. WBG (2011), *supra* note 20, at 21.

125. WBG (2013), *supra* note 6, at 20.

126. *See generally* TERRY KARL, PARADOX OF THE PLENTY: OIL BOOMS AND PETRO STATES (1997). Although the draft strategy states that the WBG will "be selective" in financing upstream oil projects and that engagement on these projects is necessary to enable expansion of the WBG's positive transparency agenda, achievement of responsible oil resource management is at best a pipe dream and at worst a shoddy excuse for enabling high-carbon, high-corruption resource extraction.

While many observers and experts called into question these assumptions, the WBG provided \$337.6 million in assistance to the project, about 9% of the project cost.¹³² This contribution catalyzed much larger amounts of export credit agency and private bank financing.¹³³ Despite the WBG's effort to reform both governments' management of the project revenue and also despite the rigorous oversight system that the WBG put in place for the project, the oil development and pipeline failed to help the people of Chad and Cameroon. Instead, as many outsiders predicted, Chadian government officials funneled substantial shares of the revenues to its military engagement in an ongoing armed conflict with rebel forces.¹³⁴ After numerous WBG warnings to the Chadian government, the IBRD withdrew its support, but the IFC is still involved. The pipeline continues to be a source of conflict in the region.

Indeed, the IFC continues to approve environmentally risky oil and gas projects.¹³⁵ In 2010, the IFC accounted for around three-quarters of total new WBG investment of around one billion dollars in extractive industries, including oil and gas development in Brazil, Ghana, and India.¹³⁶ By 2011, around one-third of all complaints to the IFC Compliance Officer/Ombudsman (CAO) concerned extractive projects.¹³⁷

Two other megaprojects are worth noting for their scale and impact and for the WBG's subsequent failure to incorporate into the draft strategy the lessons learned from their failures. In 2008, the IFC approved a \$300 million loan to support expansion of the Camisea project, a large gas and oil export development undertaking in the Peruvian Amazon that had already encountered a history of environmental abuses and conflicts with indigenous peoples. Oxfam, and other nongovernmental groups in Peru, North America, and Europe condemned the IFC's involvement for lack of economic and social due diligence and for not complying with its own Performance Standards.¹³⁸ Camisea was

followed in 2009 by IFC loans for \$215 million to American and British companies for offshore oil development in the coastal waters of Ghana. Oxfam and various environmental groups protested the IFC's rush to push money into accelerating the project, pointing out that an environmental and social impact assessment had not even been prepared, and that the Ghanaian government was woefully lacking in monitoring and regulatory capacity to deal with the project's environmental and safety issues. Despite the fact that the project would entail construction and operation of 15 new offshore wells to develop one of Africa's largest oil finds, IFC staff had decided that the project did not merit a full environmental assessment. Worse, contrary to its claims of promoting "best international practice" for environmentally risky projects, the IFC had approved practices that were truly substandard: in contravention of International Maritime Organization recommendations, the use of a single-hulled tanker, rather than a double-hulled vessel, as an offshore production, storage, and offloading facility, and the dumping of drilling wastes into the ocean. The government did not have coherent plans to deal with oil spills, nor did it have the equipment; spills had already occurred from initial offshore operations, affecting fishing villages, with no cleanup response from either the government or companies involved.¹³⁹

Absent a termination of oil and gas lending, these devastating effects will continue to manifest. In supporting this subsector, the WBG risks exacerbating climate change, harming local ecosystems and communities, and undermining sound governance in host countries. The time to halt WBG oil and gas lending is now.

B. Mainstreaming or Circumventing New Renewables?

Increasing renewable energy sources are a key component of any climate solution. Unfortunately, the draft strategy uses vague metrics for tracking its RE lending and conditions increased WBG support for RE on circumstances and events that are largely outside its control. Such institutional hedging is unacceptable in light of the key role that RE must play in a low-carbon energy future. Although the WBG cannot claim to be reducing carbon emissions through supercritical coal investment or fossil fuel support, it can catalyze EE and RE development. Instead of

of the country and its people, and thereby attempted to avert the resource curse that had plagued so many other countries.

132. INDEPENDENT EVALUATION GROUP, THE WORLD BANK GROUP PROGRAM OF SUPPORT FOR THE CHAD-CAMEROON PETROLEUM DEVELOPMENT AND PIPELINE CONSTRUCTION 3 (2009), available at <http://siteresources.worldbank.org/INTOED/Resources/ChadCamReport.pdf>.

133. KORINNA HORTA ET AL., THE CHAD-CAMEROON OIL AND PIPELINE PROJECT: A PROJECT NON-COMPLETION REPORT 7 (2007), available at http://apps.edf.org/documents/6282_ChadCameroon-Non-Completion.pdf.

134. Bank Information Center, *World Bank Announces Withdrawal From Chad-Cameroon Pipeline After Early Repayment* (Sept. 12, 2008), <http://www.bicusa.org/en/Article.3892.aspx> (last visited July 23, 2013).

135. *Id.*

136. WORLD BANK GROUP, THE WORLD BANK GROUP IN EXTRACTIVE INDUSTRIES: 2010 ANNUAL REVIEW 13 (2010), available at http://siteresources.worldbank.org/EXTOGMC/Resources/336929-123337886428/WBG_Extractive_Industries_Annual_Review_2010.pdf.

137. *The World Bank and Extractives: A Rich Seam of Controversy*, BRETTON WOODS PROJECT (Feb. 7, 2012), <http://www.brettonwoodsproject.org/art-569560>.

138. César Gamboa, *Camisea and the World Bank: A Lost Opportunity to Make Things Better*, BRETTON WOODS PROJECT (Apr. 1, 2008), <http://www.brettonwoodsproject.org/art-561075>; Press Release, Oxfam, *World Bank Announces Fund Approval for Peru Pipeline Project* (Feb. 6, 2008), <http://www.oxfamamerica.org/press/pressreleases/world-bank-announces-fund-approval-for-peru-pipeline-project>; Andrew Miller et al., *Open Letter to*

International Finance Corporation Regarding Financing for Camisea II, AMAZON WATCH (Jan. 29, 2008), <http://amazonwatch.org/news/2008/0129-open-letter-to-international-finance-corporation-regarding-financing-for-camisea-ii>.

139. Christiane Badgley, *West Africa Oil Boom Overlooks Tattered Environmental Safety Net*, CENTER FOR PUBLIC INTEGRITY (Jan. 19, 2012), <http://www.publicintegrity.org/2012/01/19/7896/west-africa-oil-boom-overlooks-tattered-environmental-safety-net>; *IFC Approves Offshore Oil Projects in Ghana Despite Serious Outstanding Concerns*, BANK INFORMATION CENTER (Feb. 20, 2009), <http://www.bicusa.org/en/Article.11047.aspx>; *Review of Environmental Material for Phase 1 of the Jubilee Oil Project Offshore Ghana*, PACIFIC ENVIRONMENT (Feb. 10, 2010), <http://www.bicusa.org/en/Article.11047.aspx>; Letter of Ian Gary, Senior Policy Advisor, Oxfam America et al., to the Board of Directors, World Bank Group (Feb. 12, 2009), <http://www.bicusa.org/en/Article.11047.aspx>.

pouring its scarce funds into fossil fuel markets already awash in private funds, the WBG should focus on other investments that cannot attract private capital as easily.¹⁴⁰

As mentioned above, according to the IEA, RE and EE investments can generate 89% of the CO₂ reductions needed by 2020 to stabilize levels at 450 ppm.¹⁴¹ As well, according to a Stanford University study, renewable energy could be cost-competitive with fossil fuel by 2030 with appropriate policy changes that account for the negative externalities of fossil fuels and the positive externalities of wind, water, and solar-sourced power.¹⁴² In the IEA's 450 ppm Scenario, RE is predicted to supply 45% of total electricity output by 2035 and 20% of total heat.¹⁴³ Hydropower, discussed further below, is projected to make up a large portion of RE increases, almost matching coal's 2035 share.¹⁴⁴ The IEA emphasizes that this growth hinges on government policies to encourage RE development.¹⁴⁵

The WBG draft strategy and the Directions document are quick to recognize the myriad opportunities in the RE field. The draft strategy notes that "renewable energy will increasingly contribute to slow the growth of GHG emissions."¹⁴⁶ Indeed, it reports that the number of governments that have set policy targets or introduced incentives for RE has doubled since 2005. Over 100 countries have set such targets, one-half of which are developing.¹⁴⁷ Various WBG studies analyze and recommend promoting RE growth in countries with large energy-poor populations, such as India and sub-Saharan Africa.¹⁴⁸ Citing potential technical breakthroughs for grid, mini-grid, and off-grid systems, the draft strategy also suggests opportunities for positive WBG research and development support for wind and solar.¹⁴⁹

Despite these opportunities and seeming enthusiasm for RE, the draft strategy avoids any measurable, credible commitment to increasing investment in RE. First, there is no actual target for RE per se. Instead, the draft strategy mentions mere considerations and expectations for RE lending. For example, the draft states that the WBG will "*consider* all forms of renewable energy, *depending on* the country's resource endowment, institutional and technical capacity, policy environment, availability of financing for cost differences, and trade-

offs."¹⁵⁰ By these terms, all of the WBG's RE support is contingent upon a wide variety of amorphous variables. In addition, rather than establishing measurable targets for RE lending, the draft strategy offers vague speculation concerning possible increases in future lending (i.e., "wind, solar, biogas, and biomass-based energy sources are expected to gain in importance").¹⁵¹

Second, the draft strategy subsumes RE within "clean energy," as just one component among others in this category. "Clean energy" is then defined as "those [projects] in which differences in GHG emission relative to alternatives or without-projects are estimated to be zero or negative."¹⁵² Remarkably, this category can contain *any* type of fuel source, even high-carbon sources like gas and oil, as long as the counterfactual is defined as a slightly higher emitter.¹⁵³ What is more, the draft strategy's definition of clean energy includes "policy lending," which can consist of *any* type of budget support for the energy sector, including subsidization of fossil fuel projects.¹⁵⁴

Finally, even if "clean energy" were assigned a credible definition, the draft strategy conditions its entire implementation, including "clean energy" targets (to increase clean energy lending from 67% in FY 2008-2010 to 75% by 2015¹⁵⁵) on "external factors" such as "expected concessional financing," and on the consummation of an international climate agreement.¹⁵⁶ The Directions document contains similar conditions, stating that "[w]here renewable energy is not the least-cost option, the WBG will consider financial support if it can mobilize concessional financing to cover the incremental cost or if there is strong client ownership."¹⁵⁷ As a practical matter, it is unlikely that sufficient concessional funding will be available to make these projects viable and attractive to borrowers. As for the future of an international climate agreement, recent setbacks in UNFCCC negotiations have shown this to be an unlikely outcome for years to come. Similarly, as noted, the draft also dilutes the strength of its commitments by making them dependent on numerous, imprecise coun-

140. David Wheeler (2008), *supra* note 110.

141. IEA (2010), *supra* note 1, at 394.

142. Mark Z. Jacobson & Mark A. Delucchi, *A Plan for a Sustainable Future: How to Get All Energy From Wind, Water, and Solar Power by 2030*, Sci. AM. 58 (Nov. 2009).

143. IEA (2010), *supra* note 1, at 282.

144. *Id.* at 51.

145. *Id.* at 308.

146. WBG (2011), *supra* note 4, at 6.

147. *Id.* at 6-7.

148. GEVORG SARGSYAN ET AL., WORLD BANK GROUP, UNLEASHING THE POTENTIAL OF RENEWABLE ENERGY IN INDIA (2010), available at http://siteresources.worldbank.org/EXTENERGY2/Resources/Unleashing_potential_of_renewables_in_India.pdf; TODD M. JOHNSON ET AL., INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT/THE WORLD BANK, LOW-CARBON DEVELOPMENT FOR MEXICO (2009), available at http://siteresources.worldbank.org/INTLAC/Resources/Medec_final_Oct15_2009_Eng.pdf.

149. WBG (2011), *supra* note 4, at 7.

150. *Id.* at 19.

151. *Id.*

152. *Id.* at 26.

153. It is also unclear whether or not large hydropower is renewable. For example, in its 2004 Bonn Commitments, the WBG *excluded* large hydropower from its RE targets, largely because of its adverse environmental and social impacts, discussed above. See *infra* at 10. In light of the substantial negative impacts of large hydropower and the controversy surrounding their use, such clarity is critical. However, as recently as December 2012, the WBG included its significant lending to large hydropower in its seemingly impressive statement that 44% of its 2012 energy investment was in RE. See World Bank Issues Alarming Climate Report, National Public Radio, Dec. 4, 2012, (quoting Jim Young Kim as stating: "Well, just as an example, very recently, in 2007, some 22 percent of [WBG] projects in energy were focused on renewables. And by 2012, that number is 44 percent, so we doubled in a five-year period, and that number will only grow over time."), available at <http://www.npr.org/2012/12/07/166713194/world-bank-issues-alarming-climate-report>. For any reporting to be credible, the WBG's RE definitions must be consistent, precise, and transparent.

154. WBG (2011), *supra* note 4, at 26.

155. *Id.* at viii.

156. *Id.* at 31.

157. WBG (2013), *supra* note 6, at 22.

try conditions. Such all-encompassing hedging totally undermines the stated targets.¹⁵⁸

C. The Broken Efficiency Record

The WBG's treatment of EE is similar to that of RE: acknowledgment of its importance without the necessary commitments. Although the draft strategy lists the many virtues of EE, it fails to state more than vague aspirations of future support. This ambiguity is objectionable given the central role that EE must play in a low-carbon energy future and WBG client countries' growing interest in EE.

According to the IEA, one-half of the global emissions reductions required to meet the 450 ppm goal should come from EE.¹⁵⁹ This goal is obtainable given EE's wide-ranging benefits. In addition to emissions reductions, EE promises economic and social benefits.¹⁶⁰ For starters, EE often reduces energy demand and therefore prices and costs. According to the IEG, much of the demand for energy services over the next 30 years can be more cheaply provided through deployment of efficiency measures (such as efficient buildings, industrial equipment, lighting, air conditioners, and appliances) than through increased generation.¹⁶¹ These lower prices can increase energy access to the poor.¹⁶² Moreover, EE can improve system reliability while reducing vulnerability to external shocks and supply constraints.¹⁶³ Indeed, by most accounts, EE is a "no-regrets" policy that "can offer a solution across challenges as diverse as climate change,

energy security, industrial competitiveness, human welfare and economic development."¹⁶⁴

In light of these benefits, WBG client countries are asking for EE investments. Of the 33 WBG client countries with the largest energy-related GHG emissions, 20 mention EE as a high-level goal in their "country assistance strategies" documents prepared by the WBG in collaboration with client countries and in accordance with their "vision for development."¹⁶⁵

Seventeen countries had specific goals related to primary fuel pricing, 21 had power-pricing goals, and 25 had goals relevant to efficiency-related power-sector reform.¹⁶⁶ Separate from these plans, countries are already taking steps to ramp up EE. Payoffs have been significant. For example, in Vietnam, EE and demand-side management projects, completed at a lower cost than new generation projects, resulted in a reduced peak load of 1,997 MW, corresponding to 130 million tons in lifetime emissions reductions.¹⁶⁷

Notwithstanding EE's climate mitigation and economic benefits and its investment needs, the WBG's contribution to EE has been deficient.¹⁶⁸ The WBG's poor record in EE is despite the fact that as far back as 1990, the WBG's Donors' Agreement that accompanied the ninth replenishment of the International Development Association explicitly called upon the WBG to "expand its efforts in end-use energy efficiencies and renewable energy programs and to encourage least-cost planning in borrower countries."¹⁶⁹ The U.S. Congress has included instructions for years to the U.S.

158. As discussed above, it has increased its lending for RE over the past several years, even surpassing commitments made at Bonn. Other programs include a new multidonor program that is part of the CIFs and is managed by World Bank Group and other MDBs; the program, *Scaling Up Renewable Energy in Low-Income Countries (SREP)*, focused on bringing clean energy technologies to meet the unmet demand for energy in low-income countries. Discussions are underway to bring in funding to double this pilot group. CLIMATE INVESTMENT FUNDS, SREP PROGRAMMING MODALITIES AND OPERATIONAL GUIDELINES (2010), available at http://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/SREP%20Programming_modalities_final_110910_key_document.pdf. See also SARGSYAN ET AL. (2010), *supra* note 148, at 19 (describing WBG solar investment in India, the Jawaharlal Nehru National Solar Mission, which contemplates more RE investments); LIGHTING AFRICA, <http://www.lightingafrica.org/> (last visited July 11, 2013). The IFC in particular has increased support for RE and EE, ramping up investments in renewable energy and energy efficiency by 60% from 2009, to 2010 and 2011, to around \$1.6 billion annually. It has supported new investments in greenfield wind farms in Bulgaria, China, Mexico, and Turkey. It has also formed a climate change department dedicated to clean technology investing, with six senior industry-sector specialists in clean technology areas, such as solar and wind power, water, distribution, green buildings, and solid waste. A recent example suggests a positive step forward: in November 2012, the IFC directly invested approximately \$143 million in two South African concentrated solar power (CSP) projects.

159. IEA (2010), *supra* note 1, at 394.

160. WBG (2011), *supra* note 4, at 19 ("Many energy efficiency measures have robust and high financial rates of return and lower the cost of energy use.")

161. IEG (2009), *supra* note 38, at 83.

162. WBG (2011), *supra* note 4, at 19.

163. *Id.* at 6. The 2011 draft strategy also states, "recent volatility in energy prices has highlighted the importance of diversifying the energy portfolio, rapidly implementing measures to improve energy efficiency, and being better prepared for large energy price swings and spikes." *Id.* at 8.

164. THE SECRETARY GENERAL'S ADVISORY GROUP ON ENERGY AND CLIMATE CHANGE (2010), *supra* note 1.

165. *Country Assistance Strategy*, WORLD BANK GROUP, <http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/0,,contentMDK:20120746~menuPK:51551~pagePK:41367~piPK:51533~theSitePK:40941,00.html>.

The CAS takes as its starting point the country's own vision for its development, as defined in a Poverty Reduction Strategy Paper or other country-owned process. Oriented toward results, the CAS is developed in consultation with country authorities, civil society organizations, development partners, and other stakeholders. The purpose of the CAS is to set out a selective program of Bank Group support linked to the country's development strategy and based on the Bank Group's comparative advantage in the context of other donor activities. CASs are designed to promote collaboration and coordination among development partners in a country.

166. IEG (2009), *supra* note 38, at 27-30.

167. IEG (2010), *supra* note 108, at 26. To be sure, market barriers to EE exist. Capturing the social benefits of EE is fundamentally difficult, and private EE investment incentives are often suboptimal. In addition, borrowing governments perceive more potential reward from new generation and infrastructure projects than EE, which builds upon already existing systems. IEG (2009), *supra* note 41. See also THE SECRETARY GENERAL'S ADVISORY GROUP ON ENERGY AND CLIMATE CHANGE (2010), *supra* note 1. However, these challenges are not insurmountable as evidenced by numerous countries that have implemented successful EE programs and decoupled economic growth from energy growth. THE SECRETARY GENERAL'S ADVISORY GROUP ON ENERGY AND CLIMATE CHANGE (2010), *supra* note 1.

168. Rich (1995), *supra* note 37, at 169-71. IEG (2009), *supra* note 38, at 23-24 (emphasizing the need for, and commitment to, energy efficiency in the context of fighting climate change, citing numerous sources stating the same from 1992 to the present).

169. World Bank Group, IDA, "Additions to IDA Resources: Ninth Replenishment" (confidential document prepared for executive directors' meeting, Tuesday, 23 January 1990), 5 January 1990, 6, ¶ 18.

World Bank executive director to promote end-use efficiency and conservation.^{170 171}

The WBG's failures in promoting EE are in part rooted in the WBG's aforementioned culture of loan approval. The IEG has observed that managers and staff prefer "large infrastructure projects that focus on electricity generation and distribution over smaller energy efficiency projects to deal with demand-side management or appliance standards and building codes."¹⁷² Strong, unwritten internal incentives to push through major single loans, lessen the attractiveness of working on efficiency projects for WBG staff.¹⁷³ As the IEG observes:

[E]nergy efficiency is simply not as visible as energy generation. It is hard to spend quickly sums of money on energy efficiency . . . and yet energy efficiency projects are often complex or difficult. This inconvenient reality makes them less attractive to managers and agencies that use disbursements as a measure of action and large turbines as a visible sign of achievement.¹⁷⁴

Although energy-efficiency projects have proven returns, "they may not be attractive to Bank staff and management in an environment that measures results by volume of disbursements."¹⁷⁵ Indeed, the IEG reports that some WBG staff view EE as "less real than generation."¹⁷⁶ Perhaps most revealing is the IEG's finding that "a small group of dedicated enthusiasts has pursued energy efficiency despite the internal disincentive."¹⁷⁷

170. RICH (1995), *supra* note 37, at 170.

The Bank claims it is already promoting efficiency through its supply-side investments in transmission, distribution, and generation, as well as through its adjustment policies to promote higher pricing of electricity. These measures are important and necessary, but beg the fundamental issue, reiterated by numerous independent studies, of the need for true least-cost energy planning—which would examine demand-side investment options alongside proposed new generating infrastructure. Such an approach would immediately reveal the Bank's gross negligence in virtually ignoring investments in end-use efficiency and conservation.

171. Although the WBG has supported some EE projects through financial intermediaries, which may have helped overcome the high per-project transaction cost, this progress is overshadowed by its systematic failure to direct its energy investments to EE and meet client country demand. *See* IEG (2010), *supra* note 108, at 26.

172. IEG (2009), *supra* note 41, at 58.

173. To illustrate its point, the IEG provided the following example:

[C]ompare a \$5.7 million GEF-funded energy efficiency project in Vietnam that included a \$1.8 million component for a residential CFL component to a \$335 million hydropower generation project in Ethiopia, funded in part with a \$198 million IDA credit. The hydropower plant contributes 35 times as much to a tally of Bank disbursements but costs the Bank only 3.8 times as much in preparation and supervision. Overall, the hydropower project cost 58 times as much as the energy efficiency project and 183 times as much as the CFL component. Yet it generated only about 20 times as much power and provided only about 4.5 times as much capacity. This is not to suggest these two particular projects were substitutes or were inappropriate. Rather it serves to illustrate the order of magnitude of Bank costs, client costs, and client benefits in energy efficiency and renewable projects; it also suggests why preparation of small energy efficiency projects has relied on trust funds rather than Bank budget.

174. IEG (2009), *supra* note 38, at 83.

175. IEG (2010), *supra* note 108, at 43.

176. IEG (2009), *supra* note 38, at 83.

177. IEG (2009), *supra* note 41, at 75-76.

The WBG's draft strategy and the Directions document fail to make any direct commitments to EE. Instead, as with its treatment of RE, the WBG hedges its EE commitment. Instead of establishing targets, the draft strategy mentions the goal of giving "high priority to work with countries to increase energy efficiency."¹⁷⁸ Rather than detailing steps toward this high priority end, the draft merely proposes further study of "the potential for promoting" appropriate technology and "institutional and market set-ups" for access and energy efficiency.¹⁷⁹ In its Africa section, the draft strategy states that the WBG will "seek and scale up demand-side interventions . . . to maximize efficiency gains."¹⁸⁰ However, the draft sets no benchmarks or goals and fails to specify steps the WBG will take to enable EE implementation. In a similar manner, the Directions document states in vague terms that the WBG "will work to help overcome" barriers to efficiency improvements.¹⁸¹ Rather than setting clear targets for EE lending, the document lists examples of existing initiatives such as a "Community of Practice for energy efficiency has been established . . . to promote an exchange of information and lessons learned and to provide guidance to staff."¹⁸² Without defined objectives, such initiatives are unlikely to fund EE at the levels needed to achieve significant results.

More fundamentally, the draft strategy and Directions document fail to address the misalignment of staff incentives with respect to RE and EE lending and the associated, pernicious culture of loan approval that often disfavors WBG support for these critical sectors. An effective energy strategy should tackle these entrenched barriers in order to catalyze needed increases in EE support.

D. Hydropower Redux

Many global projections suggest an increased role for large hydropower projects. The IEA projects that hydropower will grow from 16% to 19% of total electricity generation in the 450 ppm Scenario.¹⁸³ Hydropower is expected to be the largest source of affordable "renewable" energy.¹⁸⁴ Within the WBG, investment in hydropower has increased significantly in recent years, from less than \$250 million annually in 2002-2004, to \$500 million per year in 2005-2007, and over \$1 billion in FY 2008.¹⁸⁵ Large hydropower with storage projects, the most environmentally and socially sensitive type of hydropower, accounted for one-

178. WBG (2011), *supra* note 4, at viii.

179. *Id.* at 18.

180. *Id.* at 75.

181. WBG (2013), *supra* note 6, at 16.

182. *Id.*

183. IEA (2010), *supra* note 1, at 305.

184. U.S. DEPT. OF THE TREASURY, U.S. POSITION ON DRAFT WORLD BANK STRATEGY (2011), available at <http://www.treasury.gov/resource-center/international/development-banks/Documents/U%20S%20%20Position-Energy%20Strategy-April%2011-2011%20final.pdf>.

185. WORLD BANK GROUP, DIRECTIONS IN HYDROPOWER (2009), available at http://siteresources.worldbank.org/INTWAT/Resources/Directions_in_Hydropower_FINAL.pdf.

third of the investments in volume.¹⁸⁶ In a 2010 report, the IEG stated that hydropower is the renewable energy technology with the “longest and largest record within the WBG and the one with the greatest predicted potential scale-up over coming decades.”¹⁸⁷ In addition, hydropower makes up the largest share of the current WBG renewable energy portfolio.¹⁸⁸

Despite this predicted growth in the importance of large hydropower, the draft strategy’s section on hydropower is vague and ignores important aspects of international best practice. The Directions document contemplates increased support for all forms of hydropower. Neither document mentions critical lessons learned from the institution’s tarnished history of megadam support.¹⁸⁹ Instead, the draft strategy states that the WBG is “committed to scaling up efforts to maximize the strategic value of hydropower resources in an environmentally and socially sustainable manner, including mechanisms to evaluate and share benefits from such multipurpose projects, *where appropriate*.”¹⁹⁰ The Directions document states decidedly that “[t]he WBG will engage in hydropower projects of all sizes and types—run of the river, pumped storage, and reservoir—including off-grid projects meeting decentralized rural needs” and that “[i]n addition to climate change mitigation, reservoir hydropower projects can often provide climate change adaptation services”¹⁹¹ Several flaws in this cursory treatment of a significant and long-controversial energy subsector are glaring.

First, neither the draft strategy nor the Directions document discusses GHG emissions from hydropower. Studies have shown that large reservoirs in the tropics emit methane, a powerful GHG.¹⁹² A 2007 study estimated that each year, large dams release 104 million metric tons of methane, 2.6 billion tons of CO₂ equivalent (one ton of methane is equivalent to 25 tons of CO₂) making dams a significant contributor to climate change.¹⁹³ Proposed WBG large hydropower projects should consider and account for these net life-cycle GHG emissions.

Second, the documents’ claims that hydropower can boost climate change adaptation efforts are dubious at best. The draft strategy states that hydropower “reduces risks associated with water and climate-related disasters and shocks to the economy.”¹⁹⁴ At the same time, however, a 2011 World Bank study recognizes that “heavy reliance on hydropower creates significant vulnerability to climate change and is a feature that many low- and middle-income countries have in common.”¹⁹⁵ This same 2011 report predicts that climate change will impact hydropower in three major ways: reduced firm energy, increased variability, and increased uncertainty,¹⁹⁶ which will in turn affect system reliability and transmission needs. Ultimately, the report acknowledges that an “adaptation response may require a policy decision to diversify away from hydropower.”¹⁹⁷ Many countries dependent on hydropower are already experiencing drought-related energy shortages, often accompanied by economic repercussions. From 2004-2005, Uganda experienced a 50-MW reduction in hydropower generation due to drought, costing the country an estimated 3.29% of their gross domestic product.¹⁹⁸ WBG studies on drought indicate that over the past two decades, East Africa and the Horn of Africa have increasingly experienced significant rainfall shortages.¹⁹⁹ Notwithstanding these findings, the draft strategy states that hydropower is a “viable way to meet a large share of the present and future demand for electricity” in Africa.²⁰⁰

Third, the draft strategy and Directions document fail to acknowledge the risks that resettlement poses to affected communities, nor the added project costs needed to address resettlement. The magnitude of hydropower’s human toll was a central finding of the 2000 World Commission on Dams (WCD) report, which the WBG commissioned in response to widespread criticism of the institution’s support for hydropower.²⁰¹ The WCD found that an estimated 40-80 million people were physically displaced due to dams during the second half of the 20th century²⁰² and that “the poor, vulnerable groups

186. IEG (2010), *supra* note 108, at 24.

187. *Id.* at 16. From 2003-2009, the WBG invested 3.7 billion in hydropower. WBG (2009), *supra* note 185.

188. IEG (2010), *supra* note 108, at 24.

189. The draft merely nods to such lessons when it states that “the WBG has learned many lessons from past experience and has also benefitted from debates and discussions around the report of the World Commission on Dams, its follow-up Dams and Development Project . . . , and the International Hydropower Association’s Sustainability Assessment Protocol.” WBG (2011), *supra* note 4, at ix. It does not discuss these “lessons” nor does it explain how it has changed its lending practices to avoid repetition of documented failures.

190. *Id.* A 2009 World Bank report indicates increased investment in hydropower, stating, “building on its strong increase in lending over the last five years, the World Bank Group will continue to help governments maximize the value of hydropower investments, in an environmentally and socially sustainable manner, through lending and strengthening the basic foundations of the sector.”

191. WBG (2013), *supra* note 6, at 22.

192. Pinguelli Rosa et al. (2004), *supra* note 29.

193. *4% of Global Warming Due to Dams, Says New Research*, INTERNATIONAL RIVERS (May 9, 2007), <http://www.internationalrivers.org/resources/4-of-global-warming-due-to-dams-says-new-research-3868>.

194. WBG (2011), *supra* note 4.

195. JANE EBINGER & WALTER VERGARA, WORLD BANK GROUP, CLIMATE IMPACTS ON ENERGY SYSTEMS, KEY ISSUES FOR ENERGY SECTOR ADAPTATION 93 (2011).

196. *Id.* at 48.

197. *Id.* at 64.

198. STEPHEN KAREKEZI ET AL., ENERGY, ENVIRONMENT, AND DEVELOPMENT NETWORK FOR AFRICA, LARGE SCALE HYDROPOWER, RENEWABLE ENERGY ADAPTATION AND CLIMATE CHANGE: CLIMATE CHANGE AND ENERGY SECURITY IN EAST AFRICA AND THE HORN OF AFRICA 28 (2009), available at <http://www.hbfha.com/downloads/RenewableEnergyandAdaptationtoClimateChangePublication.pdf>.

199. *Id.* at 25.

200. WBG (2011), *supra* note 4, at 56.

201. The goal of the WCD was to “review the development effectiveness of large dams and assess alternatives for water resources and energy development, and to develop internationally acceptable criteria, guidelines and standards, where appropriate, for the planning, design, appraisal, construction, operation, monitoring and decommissioning of dams.” WORLD BANK GROUP, THE WORLD BANK AND THE WORLD COMMISSION ON DAMS REPORT Q&A 1 (2001), available at <http://siteresources.worldbank.org/INTWRD/903857-1112344791813/20424164/WB&WCDQ&A.pdf>.

202. WORLD COMMISSION ON DAMS, DAMS AND DEVELOPMENT, A NEW FRAMEWORK FOR DECISION-MAKING: THE REPORT OF THE WORLD COMMISSION

and future generations are likely to bear a disproportionate share of the social and environmental costs of large dam projects without gaining a commensurate share of the economic benefits.²⁰³ The report also found that the WBG systematically underestimated these costs during all stages of project life and failed to prevent further impoverishment of resettled people.²⁰⁴ A 2010 IEG review found that although 30% of World Bank projects involved potential resettlement impacts, WBG staff and management were unable to provide any information on the number of people adversely affected or displaced.²⁰⁵ The IEG was forced to estimate the figure, which it very conservatively calculated at over one million poor that at any given time were affected by involuntary resettlement.²⁰⁶

Beyond resettlement, dams often impose high costs on downstream economies and livelihoods. For example, a Strategic Environmental Assessment report commissioned by the Mekong River Commission found that the 11 proposed hydropower dams on the Mekong would affect the livelihoods and food security of around 30 million people.²⁰⁷ It estimated that the dams would result in a fishery loss of 26-42%, costing around \$500 million per year.²⁰⁸ The impact on agricultural production would amount to a net loss of approximately \$35 million per year.²⁰⁹ Unfortunately, these costs are often ignored during project planning.²¹⁰

Despite the salience and importance of these risks, the draft strategy and Directions document disregard them. The draft strategy commits to adopting the WCD's recommendation for benefit sharing and multipurpose projects only "where appropriate,"²¹¹ and the Directions document neglects to even mention the WCD. In combination with their failure to acknowledge the potentially adverse climate impacts of some large hydropower projects in the tropics, the documents' disregard for the WCD's findings foreshadows promotion of unsound hydropower that does not build on important scientific findings and lessons from past failures.²¹²

ON DAMS 103-04 (2000), available at http://www.unep.org/dams/WCD/report/WCD_DAMS%20report.pdf.

203. *Id.* at 98.

204. *Id.* at 103.

205. INDEPENDENT EVALUATION GROUP, WORLD BANK GROUP, SAFEGUARDS AND SUSTAINABILITY POLICIES IN A CHANGING WORLD: AN INDEPENDENT EVALUATION OF THE WORLD BANK GROUP EXPERIENCE 20 (2010), available at http://siteresources.worldbank.org/EXTSAFANDSUS/Resources/Safeguards_eval.pdf.

206. *Id.*

207. INTERNATIONAL RIVERS, FORETELLING THE MEKONG RIVER'S FATE: KEY FINDINGS OF THE MRC'S STRATEGIC ENVIRONMENTAL ASSESSMENT ON MEKONG MAINSTREAM DAMS 3 (2011), available at http://www.international-rivers.org/files/attached-files/sea_factsheet_eng.pdf.

208. *Id.*

209. *Id.*

210. WORLD COMMISSION ON DAMS (2000), *supra* note 202, at 113.

211. WBG (2011), *supra* note 20, at ix. The WCD report set recommendations, including 26 guidelines for projects, which represented a consensus among 12 independent experts who assessed 125 dams over 2.5 years. WORLD COMMISSION ON DAMS (2000), *supra* note 202, at viii.

212. The July 2013 Directions document contemplates substantial increases in WBG hydropower investment without limits on reservoir size or mention of methane emissions risks or resettlement safeguards. WBG (2013), *supra* note 6, at 18-19.

E. And the Poor?

Despite the WBG's central mandate to alleviate poverty, the draft strategy and the Directions document fail to establish measurable energy access benchmarks for the poor in developing nations. Although they state that access expansion is a WBG priority,²¹³ they do not set targets for energy access expansion or define metrics for measuring institutional progress. Instead, the draft strategy "projects" that the institution's new energy support will connect 25-30 million new users in 2012-2015, so long as the "lending patterns" and "client demand" estimates underlying these projections are correct.²¹⁴ Indeed, even though it provides a range projection of 25-30 million to account for understandable uncertainties, the draft strategy further qualifies that the projections are based on "large uncertainties," technologies, the composition of new consumers, and average consumption, among others. These hedges disconnect the draft strategy from any accountability for meeting these vague projections. Even if these were unconditional commitments, the numbers themselves are modest and the draft strategy proposes no metrics for tracking progress.²¹⁵ In a similar fashion, the Directions document states that "[i]n countries or areas within countries with low access, the WBG will give priority to securing access to reliable energy entailing investments along the energy supply chain" and sets the goal of achieving "universal access to both electricity and clean cooking and heating facilities."²¹⁶ However, it does not establish any benchmarks for meeting such a challenging objective. Instead, the document lists pro-poor access projects that it is *already* supporting without specifying whether or not such support will continue or increase.²¹⁷ At the national level, about one-half of all developing countries have set electricity access targets for national, rural, and urban levels.²¹⁸ The WBG should do the same

213. The draft strategy also states that "the WBG will continue placing the expansion of energy coverage at the top of its agenda." WBG (2011), *supra* note 4, at 74. The Directions document provides that "[i]n countries or areas within countries with low access, the WBG will give priority to securing access to reliable energy entailing investments along the energy supply chain." WBG (2013) *supra* note 6, at 20.

214. *Id.* at 24-26.

215. Despite these cagey statements, the WBG does not want for clear indicators in its press statements. See *World Bank Group Reiterates Focus on Green Energy*, THE WORLD BANK (Oct. 7, 2010), <http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:22726351-pagePK:64257043-piPK:437376-theSitePK:4607,00.html>.

Improving access to energy for the poor is about more than declarations in a document. Millions of people worldwide have benefited from World Bank Group energy financing. They know that they can now keep their medicines cool in a refrigerator, they can read and study at night, they can keep working at a factory that otherwise would be closed, and that they are on a path out of poverty. That is the true measure of the Bank's work.

216. WBG (2013), *supra* note 6, at 20.

217. *Id.* (explaining that "[t]he WBG supports rural electrification programs in Bangladesh, Djibouti, India, Indonesia, the Lao People's Democratic Republic, Mali, Nepal, Pacific island countries, Rwanda, Senegal, and the Republic of Yemen, among others," but failing to report any results or to set any targets for future improvements or expansion of these initiatives).

218. IEA (2010), *supra* note 1, at 269.

and make explicit its objectives and benchmarks for energy access expansion.

While its commitment to measurable access outcomes is ambivalent, the draft strategy's focus on large infrastructure projects is decisive. The draft strategy explicitly prioritizes large projects over smaller micro-grid and off-grid projects that have a well-recognized potential for increasing energy access. This potential is especially true for rural areas where roughly 87% of the energy-poor reside.²¹⁹ As a rationale for its large-project focus, the WBG points to its own skewed internal institutional incentives and culture, including the need to "reinforce WBG operational efficiency," the high ratio between preparation and supervision cost and total project size, and an inadequate budget and insufficient staff numbers to prepare and supervise small projects.²²⁰ However, a realignment of WBG staff incentives is an essential component of any durable improvement in WBG support for RE and EE. Two WBG reports conclude that the social benefits of rural electrification investment outweigh the costs and point to underperformance by the institution in light of this opportunity.²²¹ The draft energy strategy admits this contradiction when it acknowledges that its centralized, large-project focus is "somewhat at odds with the goal of scaling up activities in areas where many potential projects—such as solar, wind, micro-hydro-power . . . and energy efficiency—tend to be small."²²² The draft text then, by way of afterthought, references the *possibility* of aggregating smaller projects.²²³ In short, rather than focusing on the needs of its purported clients, the institution prioritizes its own interests.

The draft strategy's stated mechanism for reaching the poor is as dubious as its focus on large projects. Without offering any evidence, the draft claims that "general economic growth" as well as "income generation activities enabled through actions in the energy sector" will

generate positive access outcomes.²²⁴ The draft strategy goes on to suggest that the WBG will continue to lend to projects that supply the "better-off consumers such as industrial, commercial, and middle and upper-income residential customers" on the theory that expanding the tariff revenue base will ultimately enable expansion of access to the poor.²²⁵ This "trickle-down" approach has an irregular track record in countries where governments are not committed to improving the livelihoods of poor citizens and ensuring wealth is equitably distributed. For example, a recent study pointed out that growth and energy access do not necessarily march in lock-step. Citing evidence from five developing countries, the authors conclude that because new sources of electricity are often monopolized by those who already have access, government must prioritize access to ensure that new growth actually reaches energy-poor populations.²²⁶ China and Chile were to able expand access by 12% and 7%, respectively, between 2005 and 2009 while India and Botswana barely made a dent in access expansion during that same time period, notwithstanding substantial overall growth in electricity generation.²²⁷

Indeed, at a more general level, the WBG's mega-project orientation has failed to prioritize energy access expansion. According to the WBG's assessment of "access-oriented" energy projects from 2003 to 2010, 22% of the WBG's energy-sector finance focused on access for the poor.²²⁸ In FY 2010, energy-access projects only accounted for 8% or \$1 billion of a total \$13 billion in energy lending. In FY 2009 and FY 2010, no fossil fuel projects targeted energy access for the poor.²²⁹ More specifically, the commitment of the institution's private-sector lending arm, the IFC, to the poor remains ambiguous. A recent IEG report found that only 13% of IFC projects had objectives with an explicit focus on addressing the needs of poor people.²³⁰ Only 43% of projects included at least one type of mechanism that addressed distributional design or implementation issues.²³¹ Moreover, private investment has grown selectively and has gone to a handful

219. *Id.* at 56, 255.

While grid extension plays a role in urban areas or rural areas with high concentrations of energy users, [g]rid extension in rural areas is often not cost effective. Small, stand-alone renewable energy technologies can often meet the electricity needs of rural communities more cheaply and have the potential to displace costly diesel-based power generation options.

Furthermore, reaching these populations would require investments in mostly off-grid or micro-grid technology. *Id.* at 246. The draft strategy acknowledges that "[e]ven in rural areas, grid, mini-grid and off-grid options are all needed." WBG (2011), *supra* note 4, at 4. And that these options "often start small and require comparable resources to those of larger projects in order to scale up." *Id.*

220. WBG (2011), *supra* note 4, at 28.

221. WORLD BANK & THE INSTITUTE FOR DEVELOPMENT POLICY AND MANAGEMENT RESEARCH FOUNDATION, INC. IN THE PHILIPPINES, RURAL ELECTRIFICATION AND DEVELOPMENT IN THE PHILIPPINES: MEASURING THE SOCIAL AND ECONOMIC BENEFITS (May 2002), available at http://siteresources.worldbank.org/INTPSIA/Resources/490023-1120845825946/philippines_rural_electrification.pdf; INDEPENDENT EVALUATION GROUP, WORLD BANK GROUP, THE WELFARE IMPACT OF RURAL ELECTRIFICATION: A REASSESSMENT OF THE COSTS AND BENEFITS (2008), available at siteresources.worldbank.org/EXTRURELECT/Resources/full_doc.pdf; accord WBG (2010), *supra* note 4, at 19.

222. WBG (2011), *supra* note 4, at 28.

223. *Id.* at 29.

224. *Id.* at 5.

225. *Id.* at 3.

226. Shakeb Afsah & Kendyl Salcito, *The World Bank's Coal Electricity Headache*, CO₂ SCORECARD (May 24, 2011), available at <http://co2scorecard.org/home/researchitem/19>. (More specifically, the authors point out that more electricity generation does not automatically translate to increased access for the poor. In India, for instance, net electricity generation has risen an average of 6% per year since 2005 . . . while the total population with access has improved by a paltry 0.5%. . . . Similar dismal numbers are true for Botswana, where half of the population has no access to electricity—a statistic unchanged between 2005 and 2009—and rural electrification lags 56% behind urban, resulting in one of the worst disparities in the world. South Africa is having its own power generation issues, but the country managed to increase exports to 14 million MWh in 2008, while 12 million South Africans remained in the dark.

227. Afsah & Salcito (2011), *supra* note 85.

228. MAINHARDT-GIBBS, *supra* note 100, at 5.

229. MAINHARDT-GIBBS ET AL., *supra* note 51, at 2.

230. INDEPENDENT EVALUATION GROUP, WORLD BANK GROUP, ASSESSING IFC'S POVERTY FOCUS AND RESULTS xviii (2011), available at http://ieg.worldbankgroup.org/content/dam/ieg/IFC/ifc_poverty_full_eval.pdf.

231. *Id.*

of large economies. In 2008, the top four IDA countries hosting IFC investments accounted for two-thirds of the IFC's overall investment in the poorest countries. This geographic bias is one more factor that calls into question the WBG's support for addressing energy poverty. In light of this history of neglect, the draft strategy must do much more to ensure the institution does, in fact, focus its energy lending on reducing energy poverty.

For example, the IFC-supported 4,000-MW Tata Mundra coal plant, which, as mentioned above, will emit over 25 million tons of CO₂, is justified as a pro-poor project.²³² However, a mere one-tenth of 1% of the plant's generated electricity is projected to go to households with no access.²³³ To be sure, given the scale of the project, this small percentage is not insignificant: 81,000 new households. But the miniscule percentage actually going to energy access does not merit the pro-poor label.

In contrast to the draft strategy, the Directions document does not rely on a trickle-down approach or emphasize large infrastructure per se. Instead, it makes more general observations that “affordability is attained through increasing the incomes of energy-poor consumers, which hinges on robust economic growth with shared prosperity”²³⁴ and that “[f]rom an institutional standpoint, there is no evidence for the superiority of any specific model for electrification.”²³⁵ If and how these statements will translate into WBG initiatives that actually increase energy access for the world's poor remains unclear. Unfortunately, the document provides no metrics for measuring the institution's progress toward its stated priority of universal access.

Thus, instead of hedging and conditioning its discussion of access to fall back on business-as-usual approaches that fail to assist the poor, the WBG should commit to outcome-oriented, pro-poor initiatives in the energy sector.

F. Fossil Fuel Subsidy Reform First, Not Second

The draft energy strategy explains in some detail the benefits of subsidy reform in the energy sector.²³⁶ However, as with other portions of the draft strategy, this acknowledgment does not foreshadow institutional action. The proposal to “provide assistance to countries to reform subsidies in the energy sector” is not sufficiently precise or detailed to provide the guidance and motivation countries need. It does not explicitly call for *reduction* of fossil

fuel subsidies, nor make any WBG commitment to put into effect a reduction as a factor in its energy lending. The draft strategy suggests only indirectly that the playing field should be “leveled” for renewables.²³⁷ More fundamentally, the draft lacks benchmarks and targets and proposes simply to support fossil fuel subsidy-reduction initiatives. The 2013 Directions document contains the largely same shortcomings.²³⁸

Fossil fuel subsidies can adversely affect both the environment and the energy-poor.²³⁹ While the initial intent of many subsidies is to assist poor consumers, most subsidies have not achieved these ends.²⁴⁰ In fact, as implemented, many subsidies have benefited wealthier consumers disproportionately, and, in some instances, made energy less available to poor consumers.²⁴¹ According to the World Bank, many fuel subsidies primarily benefit those who can already afford to pay, thus draining the power sector of tariff revenue.²⁴² Over time, this system undermines operational and financial viability and makes increasing service to the poor more difficult.²⁴³ At the same time, subsidized energy prices dampen the incentive for consumers to use energy efficiently, resulting in higher energy consumption and energy-related CO₂ emissions than would emerge if consumers were to pay for the full cost of energy.²⁴⁴ The IEG has reported that “high subsidizers” whose diesel prices are less than one-half the world market rate emit about twice as much per capita as other countries with similar income levels.²⁴⁵ Also, from a social development perspective, energy subsidies are tremendously costly in certain countries. Fuel subsidies alone are 2 to 7.5 times as large as public spending on health in a wide swath of poor countries, including

237. *Id.* at 8.

238. See WBG (2013), *supra* note 6, at 17 (“The World Bank will provide assistance to countries for pricing and tariff reform. . . . Where there is willingness, the World Bank will provide this assistance to address underpricing, minimize market distortions and disincentives for energy conservation . . .”).

239. *Id.* at 19; IEA (2010), *supra* note 1, at 55, 573, 574, 587.

240. IEA (2010), *supra* note 1, at 587.

Although the intent of many energy-consumption subsidies is to make energy services more affordable and accessible for the poor, studies have repeatedly shown them to be an inefficient and often ineffective means of doing so. The cost of these subsidies falls on the entire economy, but benefits are conditional upon the purchase of subsidised goods and thus tend to accrue disproportionately to middle and higher-income groups. Poor households may be unable to afford even subsidised energy or related services, or may have no physical access to them (for example, rural communities lacking a public transport network or a connection to an electricity grid).

241. For example, the IMF has estimated that 80% of the total benefits from petroleum subsidies in 2009 accrued to the richest 40% of households. COADY ET AL., PETROLEUM PRODUCT SUBSIDIES: COSTLY, INEQUITABLE, AND RISING 12 (2010), available at www.imf.org/external/pubs/ft/spn/2010/spn1005.pdf.

242. WORLD BANK GROUP, SUBSIDIES IN THE ENERGY SECTOR: AN OVERVIEW (2010), available at http://siteresources.worldbank.org/EXTESC/Resources/Subsidy_background_paper.pdf; see also IEA (2010), *supra* note 1, at 573, 574 (“Although energy subsidies are often intended to help redistribute income to the poor, the greatest benefit typically goes to those who consume the most energy, i.e. who can afford to own motor vehicles, electrical appliances, etc.”).

243. *Id.*

244. IEA (2010), *supra* note 1, at 392.

245. IEG (2009), *supra* note 38, at xix.

232. Afsah & Salcito (2011), *supra* note 85.

233. *Id.*

The Indian government has calculated that a person requires 73 kWh per person per year to meet basic energy needs—mostly lighting at night (source: WEO 2007). With envelope-back math, a fourth-grader could tell you that the scale of Tata Mundra power plant's electricity output is capable of meeting the basic needs of the 400 million Indians currently without power . . . 81,000 new households are promised power from this plant.

234. WBG (2013), *supra* note 6, at 4.

235. *Id.* at 21.

236. WBG (2011), *supra* note 4, at 20.

Bangladesh, Ecuador, Egypt, India, Indonesia, Morocco, Pakistan, Turkmenistan, Venezuela, and the Republic of Yemen.²⁴⁶ Politically, fossil fuel subsidies encourage inefficient, carbon-intensive use of energy and build constituencies for this inefficiency.²⁴⁷

The IEA 2010 World Energy Outlook report predicts that a universal phaseout of all fossil fuel consumption subsidies by 2020 would reduce CO₂ emissions by 5.8%.²⁴⁸ To keep CO₂ levels below 450 ppm, all major developing economies except those in the Middle East should phase out fossil fuel subsidies by 2020.²⁴⁹ Since roughly two-thirds of fossil fuel subsidies exist in the developing world,²⁵⁰ worth some \$250 billion per year, opportunities for positive WBG intervention abound. The draft strategy makes clear that subsidy reform can increase the attractiveness of RE (thereby decreasing the amount of international finance needed to incentivize its implementation), increase incentives for energy conservation and efficiency, reduce government budgetary burdens, and spur investment.²⁵¹ The removal of fossil fuel subsidies is a central policy reform in IEA's projected means for reducing GHG emissions²⁵² and both the G-20 and the Asia-Pacific Economic Cooperation (APEC) have committed to phaseouts.²⁵³ Even developing countries with the most-extensive subsidy regimes are making strides toward reducing harmful subsidies. India, which spends over \$21 billion on subsidies each year,²⁵⁴ has been actively reforming its energy-pricing policy to reduce the fiscal burden on the state budget.²⁵⁵ In 2010, the government implemented natural gas pricing reform and made major changes to pricing arrangements for refined oil products, with a focus on those used disproportionately by wealthier consumers.²⁵⁶ Similarly, Indonesia, with an estimated subsidy rate of \$12 billion per year, has set a goal of a 40% reduction in spending on energy subsidies by 2013 and elimination by 2014.²⁵⁷ To lessen the adverse impact of these reforms on the poor, the government plans to increase targeted assistance to low-income groups.²⁵⁸

246. *Id.*

247. *Id.*

248. IEA (2010), *supra* note 1, at 56.

249. *Id.* at 387.

250. Most subsidies—\$252 billion of the \$312 billion global total—exist in developing countries, most of which are WBG borrowers. IEA (2010), *supra* note 1, at 260. More specifically, subsidies in countries with low access to modern energy at the household level (i.e., electrification rates less than 90% or access to modern cooking fuels of less than 75%) amounted to some \$71 billion. Subsidies to kerosene, LPG and electricity in countries with low access to modern energy at the household level were less than \$50 billion. *Id.*

251. WBG (2011), *supra* note 4, at 8.

252. IEA (2010), *supra* note 1, at 697.

253. Members of the G-20, the 20 largest industrialized and emerging-market countries, committed in September of 2009 to “rationalize and phase out over the medium term inefficient fossil-fuel subsidies that encourage wasteful consumption” over the “medium term.” Following in the G-20 footsteps, the APEC forum made a similar pledge to phase out fossil-fuel subsidies, extending the commitment to an additional 11 countries.

254. IEA (2010), *supra* note 1, at 593.

255. *Id.*

256. *Id.*

257. *Id.*

258. *Id.*

Several unarticulated options are available to the WBG. First, targeted and increased policy lending conditioned on fossil fuel subsidy reform should be a key element of the draft strategy. Second, proper sequencing of WBG lending conditioned on subsidy reductions could promote speedy reform.²⁵⁹ For example, requiring countries to reduce or eliminate fossil fuel subsidies before approving additional energy loans could motivate positive reform. Such conditions are especially warranted in light of the high level of commitment by the heads of state of developed countries in the G-20 to reducing energy subsidies. Similarly, linking the WBG's RE and EE support to fossil fuel subsidy reductions could provide another incentive for subsidy reform. It would ensure that RE and EE are operating on a more level playing field before the WBG and host governments commit new funds for the expansion of these climate-friendly energy sources. Moreover, to guarantee that subsidy elimination does not result in adverse impacts on the poor, the WBG should outline in its strategy key elements of a subsidy-reduction framework that includes measures for addressing distributional impacts. Finally, key metrics for measuring success should be made explicit so that countries and the WBG can ensure policy reform efforts are generating positive outcomes within domestic energy markets.

G. Carbon Finance: A Quest for Credibility

The draft strategy calls for “scaling up carbon finance” by enhancing existing mechanism as well as developing new finance instruments that “offer unprecedented opportunities” to aid the transition to a low-emissions economy.²⁶⁰ Although carbon markets might have potential to catalyze RE, EE, and reduced GHG emissions overall, the draft strategy's assessment of their promise is overstated and overlooks needed key reforms. The 2013 Directions document is largely silent on carbon finance.

The WBG's history of involvement with the carbon market demonstrates that strong safeguards should be established before any market mechanism can generate emissions reductions. Between 2000 and 2010, the WBG established 13 Carbon Funds with contributions of donor countries to jumpstart the Kyoto Protocol's Clean Development Mechanism (CDM). In addition to purchasing and reselling “carbon credits” from CDM projects, these funds have developed methodologies for verifying carbon reductions in CDM projects and assisted in CDM project design. With WBG assistance, CDM projects have proliferated as European Union governments accepted CDM carbon credits to help meet their GHG reduction targets.

As mentioned above, the WBG also manages the \$7.2 billion CIFs, which provide grants and low-interest loans to developing countries for investments in clean and low-

259. U.S. Dept. of the Treasury (2011), *supra* note 184.

260. WBG (2011), *supra* note 4, at ix.

HFC 23s and World Bank Group Carbon Finance: GHG Destruction or Production?

There is one category of WBG carbon fund projects that accounted for nearly two-thirds of the carbon credits the WBG contracted to purchase through 2010, and three-quarters of all CDM Certified Emissions Rights (CERs), each representing one ton of CO₂ emissions: industrial gas projects, mainly factories in China and India that produce HFC 22, a gas used as a refrigerant and plastic feed stock.^a HFC 22 factories also produced the super GHG HFC 23 as a byproduct. One ton of HFC 23 is the equivalent of 11,700 tons of CO₂ in its global warming impact. The WBG has touted its pioneering role in jumpstarting the global carbon market for HFC 23 reductions. Because of the super GHG effects of HFC 23, under the rules of the CDM, huge quantities of tons of supposed GHG reductions—and of corresponding CERs—could be generated in a single project. Without carbon credits, the WBG claimed, there would be no incentive to destroy HFC 23 in the production of HFC 22.^b

A number of researchers, such as Stanford University Prof. Michael Wara, have pointed out that the WBG's (and CDM's) reasoning was incorrect: the cost of HFC 23 destruction was so little, that most producers in industrialized countries since the 1990s destroyed it voluntarily as a matter of course, without extra financial incentives.^c In fact, the WBG and the CDM may have created perverse incentives to increase HFC 23 production, since the value of the carbon credits issued for such projects was between 45 and 75 times the actual cost of abatement. As a result of the CDM, the profits from the climate-destroying byproduct may be multiples of the profits of selling HFC 22—in effect HFC 22 became the byproduct, and super potent global warming gases the product. Bank-supported Chinese HFC 22 factories may have increased their production of this most powerful of GHGs in view of obtaining massive carbon credit windfalls for its abatement.^d

The WBG's umbrella Carbon Facility contracted in 2006 to pay out over one billion dollars (775 million euros) to purchase nearly 130 million CERs from two Chinese HFC 22 plants to help pay for the destruction of HFC 23.^e It was the centerpiece of the WBG's carbon fund investments, both in terms of size and the claimed GHG abatement benefits. It was also a major contributor to, and catalyst of, what some called the “Biggest Environmental Scandal in History.”^f

Under growing international pressure and protest, the CDM Board suspended the carbon crediting for the two huge World Bank HFC 23 abatement projects in 2010.^g In January 2011, the EU ruled that post-2012, it would not accept any new CDM credits for HFC 23 abatement programs.

- a. WORLD BANK, INDEPENDENT EVALUATION GROUP, CLIMATE CHANGE AND THE WORLD BANK GROUP, PHASE II: THE CHALLENGE OF LOW-CARBON DEVELOPMENT xxvii, 77, 11, 31 (2010), available at http://siteresources.worldbank.org/EXTCCPHASEII/Resources/cc2_full_eval.pdf; WORLD BANK, 10 YEARS OF EXPERIENCE IN CARBON FINANCE 59, available at http://siteresources.worldbank.org/INTCARBONFINANCE/Resources/10_Years_of_Experience_in_CF_August_2010.pdf.
- b. World Bank, *10 Years of Experience in Carbon Finance*, *supra* note a, at 61.
- c. Working Paper, Michael W. Wara & David G. Victor, *A Realistic Policy on International Carbon Offsets* 11-12 (2008); Michael Wara, *Is the Global Carbon Market Working?*, 8 NATURE 445, 595-96 (Feb. 2007).
- d. See CDMWatch et al., CDM Panel Calls for Investigation Over Carbon Market Scandal, July 2, 2010, <http://www.cdm-watch.org/?p=1010> (last visited June 24, 2013); Environmental Investigation Agency, *Ethically Bankrupt: World Bank Defense of the HFC 23 Scandal*, Aug. 2010, available at <http://www.eia-global.org/PDF/Report--EBBriefing26August2010.pdf>.
- e. World Bank Carbon Finance Unit, China: Changshu 3F Zhonghao HFC-23 Reduction Project, UNFCCC Reference No. 0306; China: Jiangsu Meilan HFC-23 Reduction Project, UNFCCC Reference No. 0011; <http://wbcarbonfinance.org/Router.cfm?Page=ProjPort&ItemID=24702> (last visited June 24, 2013).
- f. John Heilprin, *U.N. Carbon Trading Scheme: \$2.7 Billion Market Could Be “Biggest Environmental Scandal in History,”* ASSOCIATED PRESS, Aug. 23, 2010, <http://www.activistpost.com/2010/08/un-carbon-trading-scheme-27-billion.html>.
- g. Michael Szabo, *World Bank Defends Controversial HFC Carbon-Cut Plants*, REUTERS, Aug. 23, 2010, <http://www.reuters.com/article/2010/08/23/us-hfc-bank-hfc-idUSTRE67M2CK20100823>.

carbon energy, and conservation of forests as carbon sinks and adaptation to ongoing climate change.²⁶¹

261. WBG climate funds and CIF funds include the following: (1) the World Bank Carbon Finance Unit, which backed 250 projects through the purchase of carbon credits representing a monitored 141 million tons of GHG emissions; (2) the Climate Investment Funds, a trust-funded global partnership hosted by the World Bank, which assisted countries' transitions toward low carbon and climate-resilient development; (3) the World Bank Forest Carbon Partnership Facility, which mobilized \$165 million for capacity building and performance-based payments to pilot projects in forest and land management; (4) the Global Facility for Disaster Risk Reduction and Recovery, another trust-funded global partnership hosted by the World Bank, which promoted the integration of climate risk management into the WBG's development efforts; and (5) the Global Environment Facility, another trust-funded global partnership hosted in part by the World Bank since 1991, which assisted countries with environmental projects related to six areas: biodiversity, climate change, international waters, the ozone layer, land degradation, and persistent organic pollutants. Lattanzio (2011), *supra* note 63, at 5. The CIFs aim to be a transitional financial arrangement through 2013, pending the establishment of a larger, new UNFCCC “Green Climate Fund” for which the WBG may be the interim trustee. Richard K. Lattanzio, Congressional Research Service, *International Climate Change Financing: The Climate Investment Funds*

Unfortunately, the CDM has been fraught with deep-rooted problems that have yet to be addressed, including dubious emissions reductions, fraud, and harm to impacted communities. In 2010, the IEG found that WBG carbon fund projects produced fewer emission reductions than originally projected.²⁶² It pointed to criticism of the “environmental quality”—i.e., actual emissions reductions—of projects that represent the majority of CDM investment, including industrial gases, hydropower, and fossil (gas and coal) power plants, which “may well have been either profitable in themselves or were pursued primarily for the purpose of national energy diversification and security policies” rather than emissions reductions or clean technology promotion.²⁶³ The IEG also questioned

(CIF), 3 (May 5, 2011), available at <http://fpc.state.gov/documents/organization/168832.pdf>; *A Deal in Durban*, THE ECONOMIST (Dec. 11, 2011), <http://www.economist.com/blogs/newsbook/2011/12/climate-change-0>.

262. IEG (2010), *supra* note 108, at xxvii, 11, 31, 77.

263. *Id.* at xxvii.

the emissions reductions benefits of the WBG and CDM support for wind power and geothermal projects, which, together, accounted for over 13% of the WBG carbon funds' portfolio in 2011.²⁶⁴ According to the IEG, the size and economic returns of the typical hydropower, wind, and geothermal investments were such that the grant money that the WBG contributed in carbon credit purchases did not necessarily make an appreciable difference in the project's development.²⁶⁵ What is more, the global carbon market as a whole suffers from serious flaws. The U.S. Government Accountability Office (GAO) recently pointed out that every major financial stakeholder in the CDM system—sellers and buyers of carbon offsets as well as the verification companies—had a perverse incentive to pay little attention to, or ignore, “environmental integrity” (i.e., real GHG reductions).²⁶⁶ Transparency International researchers suggested that “bribes and kickbacks” were common among CDM participants.²⁶⁷ The draft strategy addresses none of these concerns.

Moreover, the draft strategy fails to exclude support for carbon-intensive energy projects from WBG carbon finance as well as from the WBG climate finance, i.e., the CIFs. Currently, the largest of the CIFs, the \$4.7 billion CTF, and the WBG's carbon funds include protocols for funding for more efficient, “ultra-supercritical” new coal-fired power plants.²⁶⁸ Other protocols contemplate support for new large hydroelectric projects, retrofits of existing coal-fired power plants, and gas-fired power plants, all of which have a demonstrated history of environmental and social risks. Moreover, substantial amounts of the CTF have been used to greenwash otherwise dirty WBG energy investments. For example, \$350 million of the CTF (over 7% of the total pledged funds over a multi-year period)²⁶⁹ supported wind and solar energy projects associated with the \$3.75 billion loan to

South African's Medupi coal plant discussed above. Thus, the CTF, rather than the project loans, bore the brunt of the burden for financing a relatively small renewable energy add-on for a project to fund one of the world's largest coal plants.

Finally, the draft does not address the social risks associated with carbon credit projects. Social conflicts associated with these carbon projects abound, including competition over resource rights and sharing of benefits. In Brazil, the Plantar Project, a eucalyptus forest plantation project funded by the WBG's Prototype Carbon Fund that aims to supply purportedly “sustainable” and “climate-neutral” charcoal fuel for pig iron production, was subject to numerous protests, legal actions, and congressional investigations.²⁷⁰ Plantar was accused of illegally resettling local people, drying up and polluting local water supplies, destroying jobs and livelihoods dependent on the land, depleting local soils and biodiversity, and exploiting labor.²⁷¹ Local farmers, whose land was affected by the eucalyptus plantations, alleged that the company had orchestrated death threats against those who opposed them.²⁷² These allegations suggest that these projects have a long way to go before they gain broad acceptance and deliver sustained benefits to local stakeholders.

III. Conclusion

As WBG President Kim has stated “[t]he solutions [to climate change] lie in . . . ensuring all our work, all our thinking, is designed with the threat of a 4° C world in mind.”²⁷³ For President Kim's declaration to be more than an empty pronouncement, the WBG's future energy lending must be based on a phaseout of all fossil fuel lending as well as unambiguous, specific, monitorable commitments to greatly increase financing for energy efficiency, renewable energy, and expanded energy access for the poor. These measures are complementary and mutually reinforcing. As the IEA has emphasized, renewable energy and energy efficiency can help meet energy needs in developing countries while accounting for 89% of the GHG reductions needed by 2020 to stabilize CO₂ at 450 ppm. Accordingly, the WBG should set aggressive targets for support of these critical aims. Throughout its energy portfolio, the WBG should incorporate GHG accounting linked to shadow pricing of carbon into the up-front cost-benefit analysis of all future energy-lending decisions. Furthermore, incentives and conditions to stimulate a speedy elimination of

264. CARBON FINANCE UNIT, WORLD BANK GROUP, CARBON FINANCE FOR SUSTAINABLE DEVELOPMENT: 2011 ANNUAL REPORT 7 (2011), available at http://siteresources.worldbank.org/INTCARBONFINANCE/Resource/2012_Carbon_Finance_2011_AR_WEB_OPT.pdf.

265. IEG (2010), *supra* note 108, at xxvii, 11, 31, 77.

266. U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-11-345, CLIMATE CHANGE ISSUES: OPTIONS FOR ADDRESSING CHALLENGES TO CARBON OFFSET QUALITY 14, 15 (Feb. 2011), available at www.gao.gov/new.items/d11345.pdf.

267. Nathaniel Gronewald, *Europe's Carbon Emissions Trading—Growing Pains or Wholesale Theft?*, N.Y. TIMES (Jan. 31, 2011), <http://www.nytimes.com/cwire/2011/01/31/31climatewire-europes-carbon-emissions-trading-growing-pai-74999.html?pagewanted=all>; Joshua Chaffin, *Carbon Trading: Into Thin Air*, FINANCIAL TIMES (Feb. 14, 2011), <http://www.ft.com/intl/cms/s/0/368f8482-387d-11e0-959c-00144feabdc0.html#axzz1yvcV8f6C>.

268. Protests from nongovernmental groups led to the U.S. Congress refusing to fund the CTF in 2009 because of its support for coal. Ama Marston, *US Congress Votes Against Funding World Bank Climate Fund*, BRETTON WOODS PROJECT (Apr. 17, 2009), <http://www.brettonwoodsproject.org/art-564193>; Joel Meister, *U.S. Congress Cuts Funds for World Bank's So-Called Clean Technology Fund*, GLOBAL DEVELOPMENT: VIEWS FROM THE CENTER BLOG (Feb. 25, 2009), <http://blogs.cgdev.org/globaldevelopment/2009/02/us-congress-cuts-funds-for-wor.php>.

269. World Bank, *Eskom Project Appraisal Document on a Proposed Loan in the Amount of US \$3,750 Million [sic] to Eskom Holdings Limited Guaranteed by Republic of South Africa for an Eskom Investment Support Project*, 29 (Mar. 19, 2010), available at http://www-wds.worldbank.org/external/default/WDSContentServer/WDS/IB/2010/04/12/000112742_20100412110336/Rendered/PDF/534250R20101005914.pdf (last visited July 12, 2013).

270. *Brazil: Plantar Sequestration and Biomass Use (Prototype Carbon Fund)*, CARBON FINANCE UNIT, THE WORLD BANK, <http://wbcarbonfinance.org/Router.cfm?Page=Projport&ProjID=9600>.

271. *A Gift From Scotland to Brazil: Drought and Despair*, THE SCOTSMAN (July 7, 2007), <http://www.scotsman.com/news/international/a-gift-from-scotland-to-brazil-drought-and-despair-1-908096>; *The Carbon Connection*, CARBON TRADE WATCH, <http://www.carbontradewatch.org/multimedia/the-carbon-connection-video.html>.

272. *A Gift From Scotland to Brazil: Drought and Despair*, *supra* note 271.

273. Jim Yong Kim, FORWARD, POTSDAM INSTITUTE FOR CLIMATE IMPACT RESEARCH AND CLIMATE ANALYTICS, *supra* note 8, at x.

fossil fuel subsidies in WBG borrowing countries should be preconditions of WBG energy and policy lending. WBG investments in renewable projects with substantial social risks, such as large dams, must win local community acceptance, learning from the WBG's troubled record of not dealing with the social impacts of infrastructure projects. Above all, the WBG must finally eliminate its perverse internal staff incentives that militate against these urgently needed changes to its energy lending.

Neither the 2011 draft energy strategy nor the 2013 Directions document contain these critical reforms. While the documents represent a small step forward, they are likely to perpetuate the WBG's harmful energy lending that threatens the climate and underserves the world's poor. Key opportunities for supporting low-carbon energy development and universal energy access have been missed. More change is needed from the WBG.