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Has the World Bank Met its Targets for Sustainable Energy?

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Executive Summary

In July 2013, the World Bank Group (WBG) released the report *Toward a Sustainable Energy Future for All: Directions for the World Bank Group's Energy Sector* (Energy Directions Paper) which outlines commitments for securing affordable, reliable, and sustainable energy supplies needed to end extreme poverty and promote shared prosperity. The approach closely mirrors the objectives of the Sustainable Energy for All Initiative - achieving universal access, accelerating improvements in energy efficiency, and doubling the global share of renewable energy by 2030.

This analysis examines whether the public sector side of the WBG (IDA/IBRD) has fulfilled the major commitments set out in the Energy Directions Paper. Specifically, we seek to answer 1) does the Bank have corporate indicators sufficient to measure its success; and 2) has the Bank met or is it on pace to meet its Energy Directions targets?

The World Bank (Bank) has made progress towards achieving some of its Energy Directions commitments. It has phased out direct support and public finance for coal power. It made moderate progress in increasing support for large-scale renewables. It continued supporting projects for off-grid distributed renewables, electrification of rural communities, and access to clean cooking and heating. The Bank also scaled up support for natural gas, a commitment rationalized as a "bridge fuel" to replace coal. While this may have been accepted by some in 2013, the realities of gas and oil co-development, and of gas leakage, along with declining costs of renewable energy, undermine any justification of such efforts as climate-friendly or sustainable.[1]

At the same time, our research reveals less progress in universal energy access, plus internal issues related to Bank practices for monitoring and disclosure of critical information. This, and insufficient performance on disbursements, raise serious concerns as to whether the Bank is meeting its goals or aligning with the SEforAll initiative. Accordingly, we recommend that the World Bank:

1. **Close the gap between approvals and disbursements,** especially in low income countries.

1 See e.g. Union of Concerned Scientists, The Climate Risks of an Over-reliance on Natural Gas for Electricity, Oct. 15, 2013; Infographic: The Climate Risks of Natural Gas, Feb 3, 2014; and Environmental Impacts of Natural Gas, June 19, 2014 (accessed 6/16/20).

2. **Expand the scope of the exclusion list for DPLs** to cover all programs promoting thermal coal and upstream oil and gas operations.
3. **Monitor and report key energy performance indicators** and progress in meeting Energy Directions commitments.
4. **Phase out natural gas finance,** while linking residual gas projects to corresponding increases in clean energy development.
5. **Scale up global engagement on progressive carbon pricing mechanisms.**

One way the Bank might integrate these efforts is through a new Energy Directions Paper that takes into account not only these recommendations, but the many changes in context since 2013.

Other World Bank issues, such as project database ease of use, accessibility, and general formatting of project information were found to present major obstacles for efficient collection and analysis of data. On this, the Bank should work to enable stakeholders to better navigate, access, and evaluate projects, so that lessons can be learned and guide future action. Addressing the data gaps for the scorecard in Annex 2 is a place to start. [End summary.]

Methodology

For the analysis, we compared the Bank's energy portfolio FY 2010-13, before the Energy Directions Paper, to a comparable post-Energy Directions Paper period, FY 2014-17. Utilizing the World Bank's IBRD and IDA online project database, we collected data by applying relevant filters (Specific Date Range, Sector, Theme)[2] and reviewing publicly available World Bank document disclosures, which include the Project Information Document (PID), the Project Appraisal Document (PAD), and the Implementation Status and Results Report (ISR).[3]

The findings using this methodology are therefore limited by the amount and quality of the information made public by the World Bank on its project database web portal. We found discrepancies between the data on the project summary page and in the ISR. In such cases, we used the information presented in the project summary page since the summary is designed to cover all Bank sources.[4]

Finally, by examining only projects included in the IBRD and IDA database, our analysis excludes the significant energy finance flowing through the WBG's private sector entities — the International Finance Corporation and Multilateral Investment Guarantee Agency (MIGA).We chose to focus our attention on the World Bank as it is a major source of concessional finance, and was the major focus of the Energy Directions Paper. That said, World Bank Group private sector operations merit their own study, and have been found in other reviews to have continued significant levels of investment in fossil fuels.[5]

The Energy Directions Paper enumerates five central themes in its Executive Summary which form the basis for our organization of the commitments discussed below. These themes are:

1) Expand Renewable Energy; 2) Focus on the Poor - Universal Access; 3) Create an Enabling Environment; 4) Global Policy & Advocacy; and 5) Accelerate Efficiency Gains. Under these categories, the commitments were each organized and evaluated according to quantitative indicators wherever available, drawn from language in the Energy Directions Paper. We then applied a 0-4 rating system (0 = no or no data; 1-3 = gradations of partially achieved commitments; 4 = yes, fully met or exceeded commitment) to the results of these commitments and recorded these scores in Annex 3. The scoring system is designed to compare Bank performance to its own commitments.

The Energy Directions Paper also discusses operational Implications such as "long-term system-wide planning," a "multi-stakeholder, inclusive approach," "a tailored approach" for each country, and "regional approaches." While we recognize these as important elements for how the Bank carries out its work, our methodology focused on what was quantifiable at the project level and thus did not include an assessment of these aspects.

2 For project dates, the main filter/criterion was the two four-fiscal year periods we were comparing. For disbursements, we looked through 2019. Sector filters used were energy and its sub-sectors including both fossil fuels (coal, oil, natural gas) and renewable energy and specific technologies: wind, solar, concentrated solar, geothermal, biomass, biogas, hydro, (clean) cook stoves, etc. Themes included those used in the ED Paper and listed in Annex 2, as well as specific policies, notably feed-in tariffs and carbon pricing. Results for each are reflected in the bar graphs that precede the annexes to this paper.

3 For more information, see World Bank Project Cycle.

4 In several cases, we found summaries were not updated. For these, we referred to the relevant Implementation Status and Results Report (ISR).

5 See Heike Mainhardt, World Bank Group Financial Flows Undermine the Paris Climate Agreement: The WBG contributes to higher profit margins for oil, gas, and coal, Table 1. IFC's Fossil Fuel Equity Investments, Urgewald, March 2019. See also Urgewald press release, Revealed: World Bank Pumps Billions into Fossils, 18 Oct. 2019, paras. 9-10 re MIGA.

Results

THEME 1: EXPAND RENEWABLE ENERGY

Alongside its commitment to expand renewable energy, the Bank stated that it would support greenfield coal power generation projects only in rare circumstances.

On ending support for thermal coal: The Bank, based on our review of its project portfolio,[6] has phased out greenfield coal power in its investment lending portfolio. Its last approved funding for a coal-fired power plant in 2010, in South Africa, occurred despite lack of support from the United States, the Netherlands, the United Kingdom, and others over environmental concerns. However, other research indicates that large amounts of public finance is being used to maintain coal through budget support which undermines the transparency of the Bank's financial streams.[7]

The 2013 Energy Directions Paper policy stated that it would provide financial support for greenfield coal power only in rare circumstances. Those rare circumstances were largely limited to situations in which the imperative to meet basic energy needs could not be feasibly met through alternatives to coal. One such case garnered significant attention as the World Bank weighed its options to meet the energy challenges of Kosovo through the development of a 500-megawatt (MW) coal-fired power plant. Ultimately, civil society advocacy resulted in the Bank withdrawing support, citing the recent declines in costs for renewables making them the more affordable alternative.

After adopting its coal policy, the Bank scaled up its approvals of downstream gas projects from $2 billion in FY10-13 to $6.1 billion (over 203 percent) in FY14-17, and its disbursements from $1.2 billion in FY 10-13 to $4.2 billion (up 259 percent) for 14 projects in FY14-17. The purported intent was to assist countries with developing national and regional gas markets and to use natural gas to avoid being locked into oil and coal infrastructure.[8] [9]

However, natural gas and oil development are not mutually exclusive. Often it is not possible to support gas without supporting oil as well. Consider the Sankofa Gas Project, located within the Offshore Cape Three Points (OCTP) block in Western Ghana. Approved in FY2016, this project received $700 million in IBRD/IDA guarantees plus an IFC $235 million loan to Vitol Sankofa. This project was critical for securing financial support for the adjoining Sankofa Oil Fields which hold an estimated 500 million barrels of oil. The Project Appraisal Document explicitly states the intent to use the gas project as a springboard for oil development. This contradicts the narrative of gas as a transition fuel from fossil fuels generally.[10]

In December 2017, the Bank pledged to end new financing of upstream oil and gas after 2019. The Bank did state that in exceptional circumstances, it will consider financing upstream gas in the poorest countries where there is a clear benefit in terms of energy access for the poor, and the project fits within the country's Paris Agreement commitments. Our review of the 2020 investment project pipeline has not identified new financial commitments for upstream gas. However, evidence suggests financial streams continuing to flow for upstream gas through development policy loans which support general budget needs.[11]

On support for large-scale renewables:[12] The Bank has made moderate progress in achieving its stated goals. For geothermal investments, we found these increased by 4½ times from a low base in FY10-13 to FY14-17, with 10 projects approved in the latter period totaling nearly $1.1 billion. Concentrated Solar Power (CSP) is another area where the Bank has expanded support, given CSP's suitability in places with year-round solar resources and corresponding bulk-energy thermal storage capacity.

Through the Clean Technology Fund, the Bank

6 Our assessment is limited to the World Bank project pipeline (excluding IFC/MIGA). The World Bank has also provided a lot of money to State development funds that act as financial intermediaries - so there are limitations to the public finance being addressed in our report.

7 Other types of coal projects have been recipients of World Bank project finance, including: 1.) IBRD $69 million loan (September 2014) to Industrial Waste Management and Cleanup Project in Montenegro for the clean-up of coal ash disposal facility in Pljevlja; and 2.) IBRD $100 million loan (May 2015) to Huainan Mining Area Rehabilitation Project in China for the rehabilitation and clean-up of coal mining sites. An additional $105 million in loan and equities from the IFC supported other types of coal.

8 According to Urgewald (op. cit,), a significant portion of gas finance supports Liquefied Natural Gas (LNG) which is considered a high GHG fossil fuel.

9 The Bank has never shown a clear case of where gas investment displaced coal or oil

10 For a fuller treatment of arguments against development of gas reserves as a bridge fuel, see http://priceofoil.org/2019/05/30/gas-is-not-a-bridge-fuel/, In sum, extracting more gas isn't in line 1.5C or 2C global warming scenarios. The arguments against public finance investing in, and effectively subsidizing, expansion are even greater.

11 See Urgewald Report (op. cit.), pg. 7 on Development Policy Loans.

12 Our research on renewables was limited by difficulties in accessing data on World Bank renewable energy finance since projects funding renewable energy technologies are not uniformly labelled as such. We were also unable to address every technology since these too are not uniformly labelled or coded.

supported the development of the $2.6 billion, 582MW Noor Ouarzazate CSP plant (the world's largest), approving a total of $600 million during the two periods analyzed. Component II (FY11) was approved for a $200 million loan from the IBRD, but this was cancelled as part of a May 2015 restructuring, contemporaneously with the effectiveness of a new IBRD loan for $400 million (FY14). The new loan as of end-year 2019 had disbursed only $167 million.[13]

Wind power has seen considerable declines in costs over the past decade.[14] In many countries it is becoming one of the cleanest, least-cost options for renewable energy development.[15] As such, the Bank has centered its efforts around strengthening transmission systems to facilitate an accelerated development of wind power plants. Within the implementation period reviewed (FY14-17), the Bank committed a total of $307 million towards supporting these initiatives and disbursed $225 million.[16] By comparison, during FY 10-13 the Bank approved a single $70 million project[17] supporting transmission infrastructure development and disbursed $58 million.

Other larger-scale renewable energy efforts include Biomass and Biogas.[18] The Energy Directions Paper lacks specifics on how these technologies will complement or support countries' existing energy mix. It states (twice) merely that "Biogas and biomass-based energy also play useful roles." In FY 14-17, the Bank approved a total of $162 million for biogas and biomass projects and has disbursed $118 million as of May 2020. This marks a slight increase over FY 10-13, when the Bank approved $150 million and disbursed $116 million. This supported a large biomass project in China, the Shandong Energy Efficiency Project, which uses crop residue from agriculture production to fuel power production.

In addition to the foregoing, we searched for Bank projects promoting ocean power (wave, tidal, ocean currents, etc.) as another emerging source of renewable energy, though not explicitly targeted in the Energy Directions Paper. We found no Bank projects related to these technologies during either period (FY10-13, FY14-17). It would seem appropriate for the Bank to support research and development of this technology, or associated infrastructure, where conditions are favorable and there is public or private sector demand.

THEME 2: FOCUS ON THE POOR - UNIVERSAL ACCESS

The Bank has asserted a strong commitment in the Energy Directions Paper to reducing poverty traps and boosting economic growth through:

1. supporting off-grid distributed renewables;
2. improving electrification rates of rural communities; and
3. expanding access to clean cooking and heating.

Access to power is a critical element of poverty reduction schemes. Both grid and off-grid distributed renewable solutions are vital for achieving universal access. Towards that end, the Bank has maintained support for these initiatives. An example is the Power to the Poor Program (P2P) piloted by the Rural Electrification Project (Phase 1 and 2) in Lao PDR. This enables beneficiaries to start in-home businesses, diversify income-producing activities, and use modern technologies. Post-implementation of the Energy Directions Paper (FY14-17), the Bank approved 26 projects for a total of $3 billion. As of end-year 2019, however, recorded disbursements stood at only $1.1 billion. If this gap isn't greatly reduced, then the impact of this effort will be substantially weakened.

The Bank also failed to share information for these projects on: 1) number of communities benefiting; 2) percent of local hires; and 3) financial benefits attained by micro-, small, and medium-sized enterprises through electrification. While the Bank's continued investment in supporting rural populations is sorely needed, the scope of monitoring for these projects should be expanded to better capture the impact electrification has on spurring growth and improving the standard of living. Otherwise, it has no means to conclusively determine the success or failure of these initiatives.

In 2015, the Bank released its Africa Clean Cooking Energy Solutions Initiative (ACCES) alongside the

13 Link to project summary page: https://projects.worldbank.org/en/projects-operations/project-detail/P131256

14 Elizondo Azuela, Gabriela, and Rafael Ben. "Implementing On-shore Wind Power Projects." The World Bank, October, 2014. http://documents.worldbank.org/curated/en/556561468337209595/pdf/881840BRI0Live00Box385205B00PUBLIC0.pdf

15 "Mapping the World's Wind Energy Potential." The World Bank, November 28, 2017. https://www.worldbank.org/en/news/press-release/2017/11/28/mapping-the-worlds-wind-energy-potential.

16 Offshore wind was not included in this research as it has only recently become viable in markets outside of Europe and China. https://www.worldbank.org/en/topic/energy/publication/expanding-off-shore-wind-in-emerging-markets

17 Small rural development wind power projects were not included in this research. They represented a small fraction of the Bank's overall portfolio.

18 Biomass/Biogas research excludes small-scale projects (under $5 million) as well as any charcoal-based biomass.

Efficient, Clean Cooking and Heating Program, a Community of Practice (CoP), with the intent to share best practices of clean cooking and heating solutions. This was a significant milestone in promoting gender parity and mitigation of household pollutants stemming from traditional cooking stoves and heating methods. However, our research indicates that in the four years following publication of the Energy Directions Paper (FY14-17), the Bank only disbursed $4.5 million towards clean cooking/heating initiatives. These findings are consistent with data of the Energy Sector Management Assistance Program (ESMAP),[19] the Bank's energy technical assistance partnership.

In September 2019, the Bank established a Clean Cooking Fund (CCF) under the Energy Sector Management Assistance Program (ESMAP), with $30 million in pledges as of May 2020 and a goal of raising $100 million by the next UN Climate Action Summit. The launch of this fund has catalyzed an IDA project pipeline of more than $100 million in co-financing. The CCF intends to support 8-12 country programs within the first two years of operation.[20] This is a welcome development if brought to scale since it is consistent with SDG7, achieving universal, affordable, reliable, sustainable and modern energy access by 2030.[21]

THEME 3: CREATE AN ENABLING ENVIRONMENT

Under this theme, the **WBG pledged to support a long-term approach towards sector-wide planning** on a national, and where appropriate, regional scale in order to achieve optimal and cost-effective results. Our research determined that the Bank has not publicly reported key indicators needed to assess performance of the commitments under this theme. For example, the Bank pledged support for transitioning institutions towards a more sustainable energy mix through regulatory and policy analysis using its "System-wide Optimization and Integrated Resource Management (IRM)." However, comparing IRM policies/regulations/assessments evaluated with corresponding indicators (number of policies, regulations enacted, number of analyses completed), information reflecting these actions is sorely lacking. If "what gets measured gets done," then this is a failure.

The Bank also committed to better sequencing upstream interventions and project-specific support. This included assistance in creating the right policy, regulatory, fiscal and contractual frameworks; making certain that public utilities are creditworthy; and offering tailored guarantees where appropriate. Again, however, we found no information on indicators that could be used to measure these, e.g. number or funds for upstream power sector interventions, or for public utility guarantees.

The Bank further committed to the continuation of assistance towards ensuring efficient, financially sound sectoral performance and its contribution to equitable economic development. Under this commitment, it pledged support towards addressing revenue under-collections. To evaluate this, we sought to review data reflecting energy bill corrections and/or higher collection rates as a result of technical assistance from the Bank. No such information was accessible. As an alternative to those indicators, we reviewed projects explicitly designed to address the issue of under-collections. Between the two periods analyzed there was 215% increase in funding approvals to confront this issue. While this is significant, it does not address how many bills were corrected/ collected. This would have been established through indicators addressing the number and value of policies reformed as well as the value saved following implementation. But this information was unavailable. To address this shortcoming, the Bank needs to expand the scope of its monitoring and reporting.[22]

On Development Policy Loans:[23] In the Energy Directions Paper, the Bank committed to utilizing Development Policy Loans (DPLs) for promoting low-carbon energy development. Prior to the Directions Paper (FY 10-13), the Bank financed a total of $300 million in DPLs promoting low-carbon energy development. One of the projects, set in India and supporting inclusive green growth, was financed through $100 million in IBRD funding. The Bank expanded this effort during fiscal years 2014-17, approving $400 million in IBRD/IDA financing for DPLs promoting low-carbon energy in three separate

19 See Annex for general assessment of ESMAP

20 Source: ESMAP staff e-mail, 5/21/20.

21 In the process of conducting this research, indicators such as number of communities/people contacted and number of partnerships established was not easily determined. For these reasons, we encourage the Bank to improve its documentation and expand the scope of its project data collection and reporting.

22 In suggesting this, we are not endorsing energy bill corrections or higher collection rates as a policy goal or metric, especially where the burden of such efforts falls on the poor. The Bank needs to ensure in each case that utilities collecting from more customers contributes to equitable energy access and economic development, especially where the Bank is supporting privatization of utilities. Even in cases where broadening collections is justified, e.g. to reduce wasteful consumption, the Bank might consider a goal of using and structuring collections to expand electricity access and make it affordable to the poor.

23 Excludes projects from IFC, MIGA. Also excludes non-energy DPLs.

countries. For both periods analyzed, funds were disbursed in full.

However, a report in March 2019 by Urgewald, looking more broadly[24] at the Bank's use of DPLs, which ranged from $8 billion to over $20 billion[25] annually, identified $31 billion in DPLs over five years 2014-2018 that specifically targeted the energy sector.[26] Among these, Bank DPLs supported new oil and gas-targeted investment incentives in at least five countries and new large-scale coal operations in at least six countries, along with new upstream oil and gas operations.[27] While some DPLs have supported policies promoting low-carbon development,[28] the Bank's overarching approach has been and continues to be support for all forms of energy, which is inadequate for the energy transition needed.

THEME 4: GLOBAL POLICY AND ADVOCACY

On global engagement: The Bank's global engagement was most effectively expressed through its support for carbon pricing. The Bank committed to taking greater aim at accounting for global externalities more explicitly, namely through the use of carbon pricing mechanisms.

During fiscal years 2014-17, the Bank approved six carbon pricing projects for a total of $51 million, with $29 million disbursed to date. Through the Partnership for Market Readiness,[29] a multi-donor trust fund managed by the Bank, the Bank also (through FY18) supported 23 countries in development of carbon pricing instruments. Through the Carbon Pricing Leadership Coalition (CPLC), launched in 2015 at COP21 in Paris, the Bank helped provide some political momentum for carbon pricing, including in 10 of its client countries.

In April 2017, it launched the Climate Action Peer Exchange (CAPE), a capacity-building forum for peer-to-peer knowledge sharing and advisory support. This was reinforced by the establishment of the Coalition of Finance Ministers for Climate Action, which agreed in 2019 on principles including to "work towards measures that result in effective carbon pricing." Given the relative success of carbon pricing mechanisms in effectively incentivizing emissions reductions, we find the Bank's efforts encouraging on this critical front.

Still, global adoption of carbon pricing is not close, and significant room remains for scaling these efforts up,[30] especially as countries increase ambition of their Nationally Determined Contributions to align with the Paris Agreement. To achieve the goals of these various engagements, the World Bank would be more effective if it focused on promoting carbon pricing that 1) accurately reflect externalities,[31] 2) incorporate redistributive rebates to consumers, especially lower-income,[32] and 3) avoid exclusions or countervailing tax breaks for producers, refiners or importers, which would undermine their revenue-raising and climate mitigation effectiveness.

On establishing Communities of Practice (CoP): The Bank created several interactive platforms through which practitioners from around the world can share their knowledge, experiences, available resources, and emerging tools for increasing sustainability measures as well as creating gender parity. During the period analyzed, the Bank established the SE4All Energy Access Forum in addition to Gender and Energy. In this respect, it more than fulfilled this commitment. Such CoP forums are a low-cost way for the Bank to fulfill its role as a "knowledge bank," and also contribute to its efforts at stakeholder engagement.

THEME 5: ACCELERATE EFFICIENCY GAINS

On accelerating improvements in energy efficiency (EE): In the Energy Directions Paper, the Bank pledged to increase the efficiency of the existing energy infrastructure through rehabilitation, modernization, and adaptive management as a cost-

24 Urgewald's analysis time frame (FY14-18) overlaps with our own (FY14-17).

25 World Bank, 2016. 2015 Development Policy Financing Retrospective - Results and Sustainability. Operations Policy and Country Services, World Bank.

26 See Urgewald (op. cit.), Table 4.

27 See Urgewald (op. cit.) Appendix, Tables 3a and 3b.

28 The World Bank counts gas as a low-carbon energy

29 PMR transitioned to become the Partnership for Market Implementation (PMI) as of July 2020.

30 One promising proposal for this is from William Nordhaus, the Nobel prize-winning economist, for countries committed to addressing climate change to reach an agreed price and form a "climate club" that would place tariffs (or the like) on carbon-intensive goods of non-participants to reduce or eliminate the potential for free riding. See Climate Clubs: Overcoming Free-Riding in International Climate Policy, AMERICAN ECONOMIC REVIEW, VOL. 105, NO. 4, APRIL 2015 (pp. 1339-70).

31 The International Monetary Fund (IMF) has estimated that a global price of $75 per tonne is needed as a key policy to keep global warming below 2 degrees Celsius

32 A 100% rebate of carbon tax revenues distributed to residents equally per capita will have a progressive impact, since poorer consumers have in almost all cases a smaller carbon footprint than richer ones. See Citizens' Climate Lobby 2020 Household Impact Study for a US example. On the other hand, carbon pricing that lacks consumer rebates can exacerbate income inequality, which contravenes the World Bank's mission of reducing poverty and raising shared prosperity. It also adds risk of loss of political support (witness debates in Canada) and of mass protests (witness the gilets jaunes in France), which have caused policies to be repealed or significantly weakened.

effective means of delivering more energy, while reducing fuel consumption and GHG emissions. This included the exploration and distribution of storage technologies. Of particular note is the Bank's support for rehabilitating inefficient infrastructure. Prior to the Energy Directions Paper implementation (FY 2010-13), the Bank financed 18 projects for an approved total of $1.4 billion, although disbursements only reached $700 million. During fiscal years 2014-17, the Bank financed 20 rehabilitation projects designed to decrease overall energy costs for a total of nearly $3.3 billion. Disbursements, as of year-end 2019, stood at only $1.1 billion. While this still represents substantial growth from the earlier period, the disbursements lag in this area also represents missed opportunities.

We were unable to find data for key indicators needed to assess measures to increase energy efficiency. For example, we weren't able to determine the percent reduction in energy usage from customers served by modernized facilities when compared to an older facility of similar size and function. These concerns were compounded by a seemingly significant shortfall in investments for small-scale solar and wind energy storage. Since the IFC was cited as spearheading this effort, it is possible our research did not capture the WBG's full scale of investment. Lastly, we found no evidence of Bank support for adaptive energy management, to which it had committed.

Cross-cutting Issue: Disbursements

Throughout this review, we noted significant gaps between reported approvals and disbursements. Specifically, we found *Theme 5: Accelerating Efficiency Gains* to be the most prominent example of where we see a clear failure in disbursement of approved funds over the course of the fiscal periods analyzed (FY10-17). Looking at the data (see chart below), we see it clearly illustrated that less than 50 percent of the $14 billion in IBRD/IDA approved financing is reaching the clients who likely need it the most.

Theme 3: Create an Enabling Environment is another component of the Bank's Energy Directions Paper commitments where we see a significant variance between approvals and disbursements. Less than a quarter (23 percent) of the original commitments is actually disbursed. Commitments alone will not solve the world's energy access and poverty-related issues. Central to this analysis is the goal of discerning what accounts for the gap between approvals and disbursements at the IBRD/IDA — and more importantly, how can the Bank improve its transparency practices in order to clearly indicate how much aid is actually reaching the people who need it? We understand that valid reasons might exist for the difference in disbursement rates. Nevertheless, the Bank must be more forthright in addressing this issue since it plays a significant role in the overall impact it has in the international community.

Since we are aware that overall disbursement rates for IBRD stand at close to 80 percent, and for IDA close to 66 percent, one possibility is that the project level data that we examined was incomplete. If this is the case, it means that the Bank has a serious disbursement reporting problem. This is better than a disbursement problem per se, but still serious. How these disbursements are actually used once channeled through the project pipeline is, of course, an additional topic that merits further review.

Mind the Gap! WB Energy Sector Approvals vs. (Reported) Disbursements

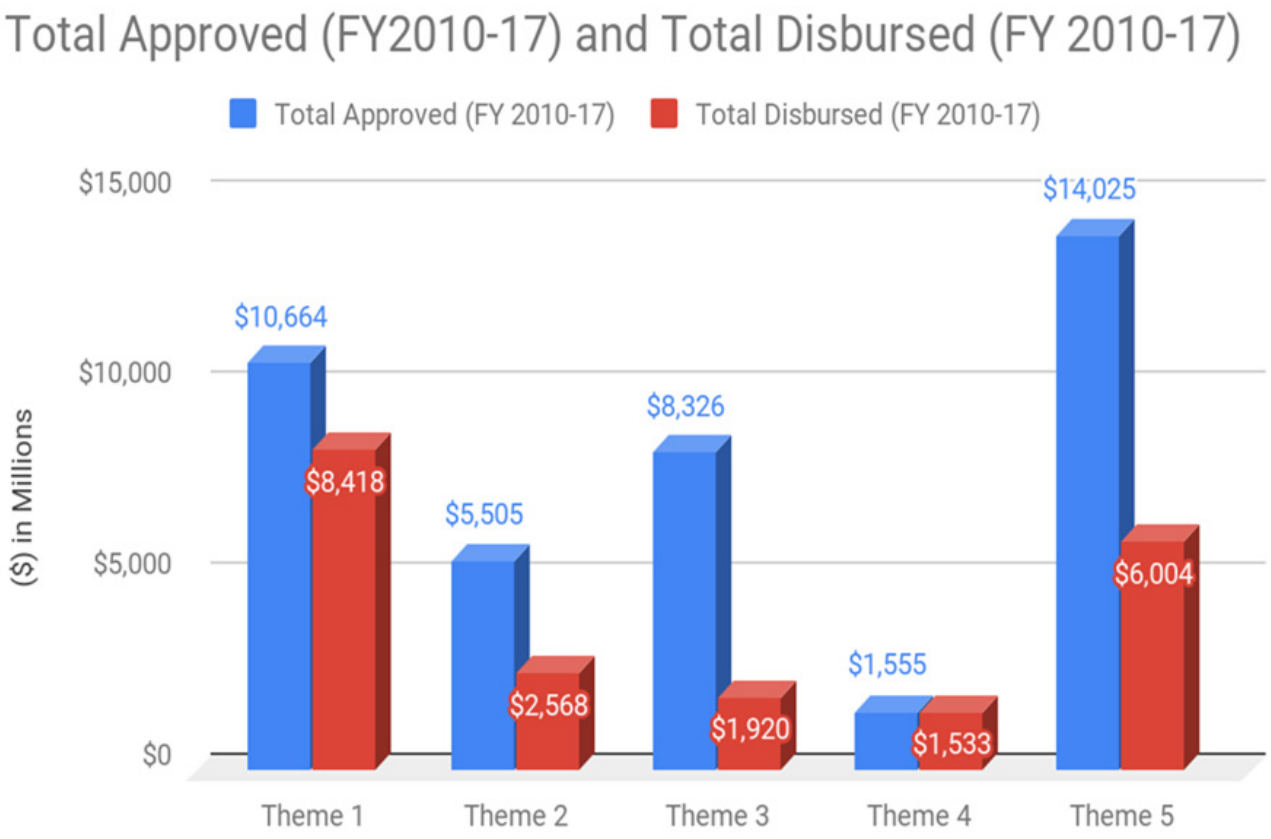


Figure 1: Cross-cutting Issue: Disbursements (FY10-17). This chart displays the differences in World Bank energy sector approvals vs. disbursements.

Conclusion: Some progress... with serious gaps

The Energy Directions Paper pledges a great deal towards promoting shared prosperity and transforming the energy sector in World Bank client countries. Our review shows progress in 1) accelerating energy efficiency gains, 2) supporting distributed off-grid technologies, and 3) fostering the growth of large-scale renewables. While these programs contribute to shared climate and energy goals, our review finds that the Bank has ignored some of its energy commitments and is inadequately monitoring others. This is best illustrated through the scoring system we applied to the commitments we evaluated.

In total, we evaluated 30 commitments from the Energy Directions Paper. Only 18 had data available to apply a score using the 0-4 system we developed.[33] A score of 3 or higher indicates that the Bank met its commitment. On the commitments with data, the average score was 2.3 (see Annex 3).[34] But when comparing the Bank's score total (41) to the full set of commitments (30), the average score declined to a 1.4. Scores varied by theme. Theme 1, for which all commitments had data, had an average score of 2.67. In Theme 2, 3 out of 5 commitments had data with an average score of 2.0. Theme 3 had minimal data and achieved the lowest average score, 1.6. Theme 4 had few commitments, but out of those with data it scored well, earning an average of 3. Finally, Theme 5 had data on 3 out of 5 commitments with an overall

33 Our scoring system ranges from 0-4 with "0" indicating no information or data available for the commitment and a "4" indicating that the commitment should meet or exceed the proposed target in a robust fashion. See Annex 3 for more details.

34 This score indicates a general inadequacy on the part of the World Bank in meeting its targets for the set of commitments we found available data on.

average score of 2.67. Collectively, these scores indicate one of two major issues — either the Bank has failed substantially in meeting its commitments or it has inadequately disclosed the full scope of its efforts. Evidence from prior studies suggests the former to be true.

Considered more qualitatively, the Bank has made progress on some fronts in the energy sector.[35] In Theme 1, the Bank scaled up geothermal exploration and development. As a whole, however, the Bank only committed $1.9 billion over four years towards expanding renewable energy which is insufficient for leading the energy transformation needed. In Theme 2, universal access, we see the Bank's support for this goal grew from $2.1 billion to $3.4 billion. While this contributes to "securing adequate, reliable, and sustainable" energy for some, it is not adequate to "catalyze the transformation" needed to reach the SE4All goal of universal access by 2030. Theme 3 is characterized by a particularly high level of investment designated for addressing revenue under-collections in order to support financially sound sectoral performance. For those commitments we had data on, the Bank financed $3.1 billion in projects aimed at improving the financial, operational, and institutional environment of countries' energy sectors. Theme 4 is largely characterized by the Bank's success in establishing additional Community of Practice platforms which are useful knowledge banks for cross-pollination of ideas. Theme 5, focused on energy efficiency, allocated significant resources towards rehabilitating and modernizing inefficient infrastructure. Overall, the Bank approved $5.8 billion towards accelerating efficiency gains in client countries.

We also identified critical weaknesses in Bank practices that undermine the full impact of these efforts. Themes 1 and 5 largely address the flow of finance for renewable energy and energy efficiency (RE/EE). Together they received $7.7 billion in financing following the implementation of the directions paper (FY14-17). By comparison, our research reveals that other Bank energy investment projects for FY14-17 totaled $12.5 billion, including $5.9 billion for natural gas. While the progress towards enhancing engagement in RE/EE is acknowledged, the fact that non-RE/EE financing exceeded RE/EE by more than 60 percent leads one to question Bank priorities in this sector.

The commitments under Theme 2, while adequately supported through Bank finance, suffered from a significant lack of data. This is best illustrated through the dearth of information on entrepreneurial capacity development in rural electrification projects. At a community level, it is important to track the percentage of local hires and overall value gained by micro-, small, and medium enterprises (MSME). But that information wasn't available. If the Bank and its external stakeholders are to effectively assess progress, transparency and consistent monitoring must be strengthened for these commitments.

Theme 3 (Create an Enabling Environment) fell short the most in terms of available data. In particular, the Bank offers no public information pertaining to long-term system-wide planning. Under this commitment, we should have been able to collect data identifying policies implemented supporting tools such as Integrated Resource Management.[36] The Bank also pledged to address large technical and commercial energy losses. Yet, based on the project data, the Bank directed financing elsewhere post-implementation. Similarly, we found that the Bank has used DPLs as vehicles to support new oil and gas-targeted investment incentives, which directly contradicts the Bank's climate pledges. These discoveries drive home the need for the Bank to correct these actions and more explicitly exclude all forms of fossil fuel finance through a Presidential Directive or a Board-approved list of prohibited investments.

Recommendations: What needs to happen now?

To begin to address some of these issues, the Bank should:

1. **Close the gap between approvals and disbursements:** Irrespective of the reasons behind these gaps, the Bank must be fully transparent about how much of the aid it commits is effectively reaching the people who need it.[37] An inconsistent flow of finance is less likely to be effective, especially for the low-income borrowers that IDA supports. The Bank should coordinate with external stakeholders on steps towards improving these practices while simultaneously conducting an internal review aimed at identifying the core reasons behind the Bank's shortfall in disbursements.
2. **Expand the scope of the exclusion list for DPLs:** Development Policy Loans, Technical

35 The following references the Tables found in Annex 2,3

36 See Annex 2 and 3 for more information

37 See BIC's report on approval/disbursement gaps in World Bank Group financing.

Assistance, and Advisory Services all need to be incorporated into the Bank's climate and energy pledges. The Bank should have an Excluded Expenditures list for Development Policy Finance proceeds (e.g. budget support) that covers all programs supporting thermal coal and upstream oil and gas operations. The Bank should likewise create a system of pre- and post-disbursement tracking and reporting for all DPLs affecting the energy sector. This would effectively pull back the curtain and allow the monitoring of DPLs' impact on final energy consumption.

3. **Monitor and report key energy performance indicators** and progress in meeting Energy Directions commitments: Establish a consistent set of definitions and performance indicators aimed at tracking and reporting project-level information for the Bank's energy portfolio. ESMAP's Multi-Tier Framework for measuring energy access[38] is one way the Bank can reliably measure global energy access progress and enable a stronger alignment with SDG7 and the Paris Agreement. Such an approach would provide reliable data on the Bank's energy sector that can meet the needs of multiple stakeholders, including governments, regulators, civil society organizations, developmental agencies, and academia.

4. **Phase out natural gas finance, while linking residual gas projects to corresponding increases in clean energy development:** This report has shown that opportunities for Bank financing of renewable energy have been under-exploited, while financing of natural gas grew dramatically. Given its known GHG emissions and potential for methane leakage, the World Bank should exit financing of unabated fossil fuels, including gas, by the end of 2021 in alignment with the European Investment Bank's (EIB) policy.[39] In the interim, it is important that natural gas project investments be at a minimum balanced by those for renewable energy, so that reliance on gas or any fossil fuels can be sufficiently reduced at a pace which matches EIB's target, as it offers current best practice among the MDBs and the surest path to Paris Agreement alignment.

5. **Scale up global engagement on progressive carbon taxes and ending fossil fuel subsidies:** A bright spot in the Bank's engagement related to energy and climate has been its role as secretariat for groups such as CPLC and CAPE. These are relatively low-cost, high-return efforts that make effective use of the Bank's convening and knowledge leadership roles. We suggest expanding these to bring in more high-emitting, carbon-intensive countries and focusing on agreement on an economy-wide carbon tax applied internally and externally (through border adjustment fees) that would incentivize all countries to become part of the "climate club." Further, it is critical to structure such a tax so that it is pro-poor, e.g. by ensuring that carbon revenues are returned directly to households in the bottom half of the income distribution.[40] Backing by the Bank for such measures could trigger broader discussion and ideally adoption of a global application of this approach. Of course, a first step in this direction is for the Bank to work to remove fossil fuel subsidies and stop all its financing, direct or indirect (via budget support or technical assistance) for fossil fuels.

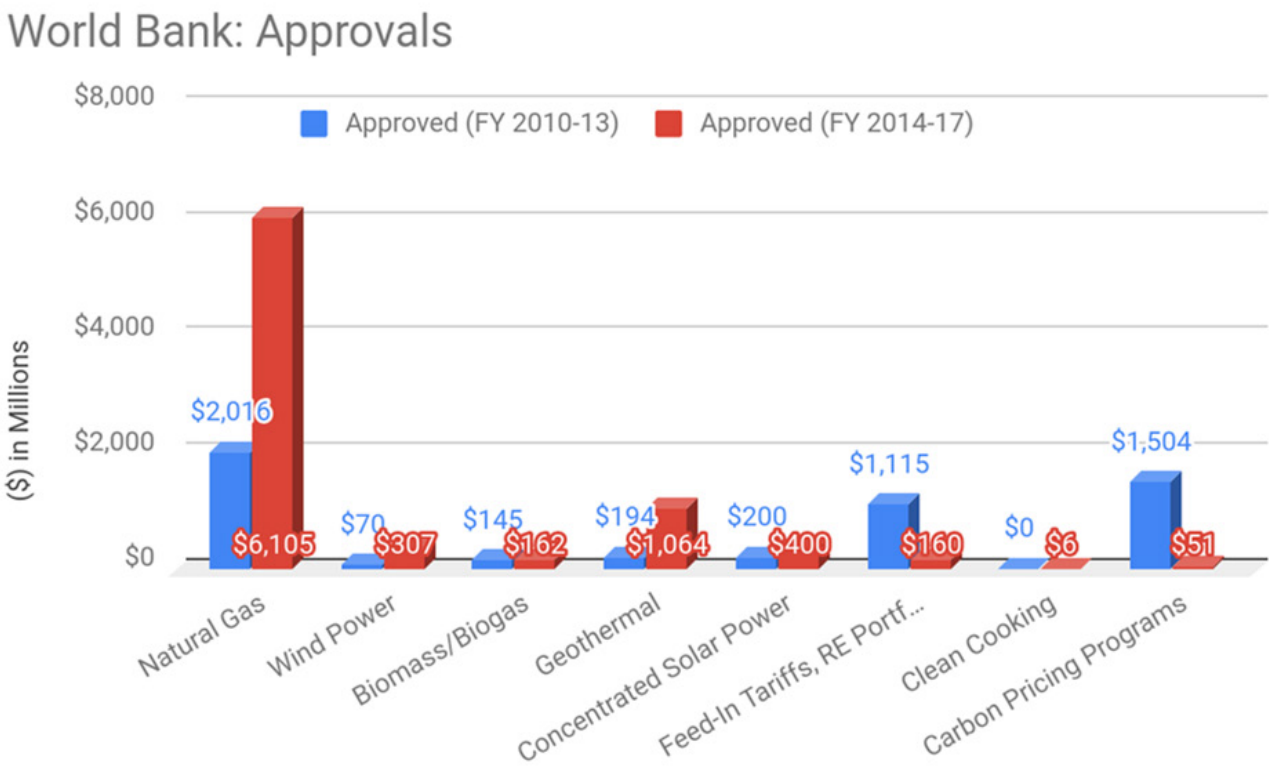
NewEnergyDirections?Whiletheserecommendations can each be addressed individually, they could be most effectively addressed if integrated in a new WBG energy sector strategy. Certainly the changes in context since 2013-- release of the IPCC's 5th Assessment Report (2014) approval of the Sustainable Development Goals and the UNFCCC Paris Agreement (2015), adoption of the Bank's own Climate Change Action Plans (2016, 2021), climate commitments in the final replenishment reports for IDA-18 (2017) and IDA-19 (2020), and the Bank's post-COVID goal to "build back better"-- more than warrant an energy sector strategy that responds to both the risks and opportunities that the world now presents.

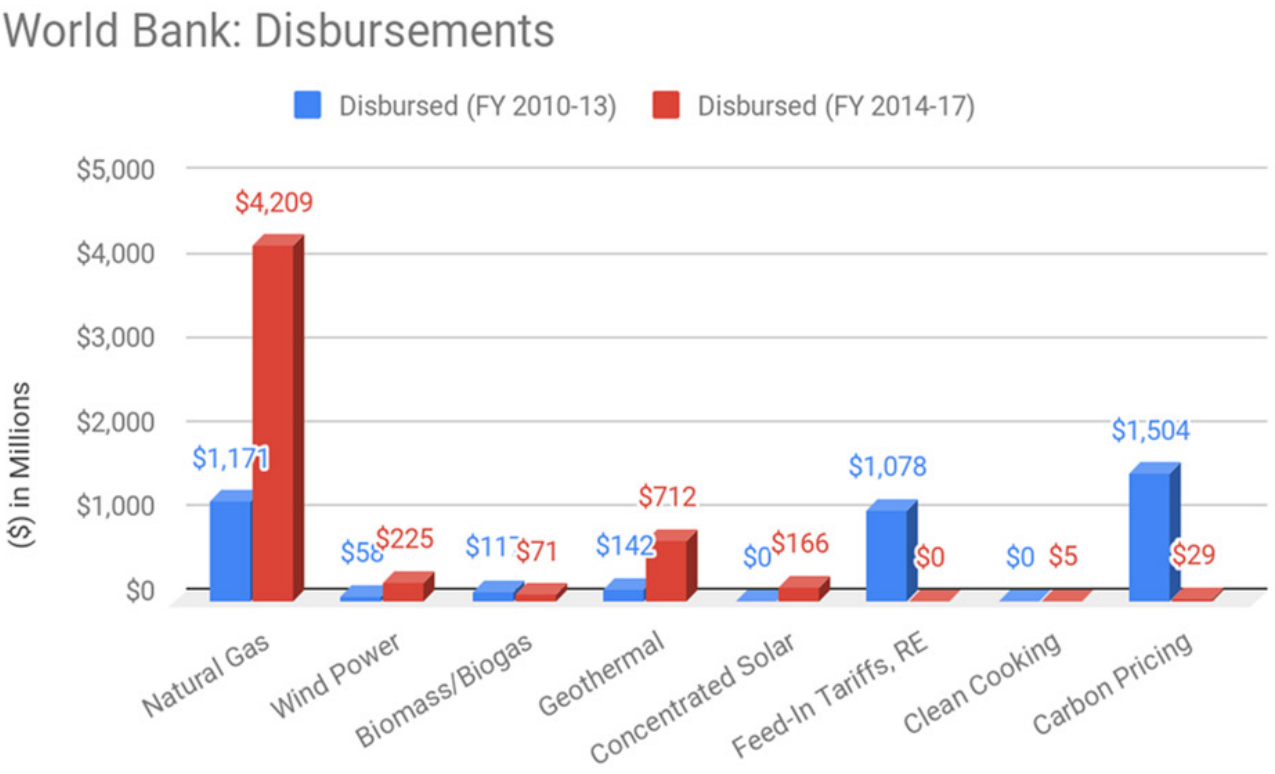
38 MTF redefines energy access from the traditional binary count to a multi-dimensional definition as "the ability to avail energy that is adequate, available when needed, reliable, of good quality, convenient, affordable, legal, healthy and safe for all required energy services". That is, having an electricity connection does not necessarily mean having access to electricity under the new definition, which also takes into account other aspects, as for example reliability and affordability. Energy access is measured in the tiered-spectrum, from Tier 0 (no access) to Tier 5 (the highest level of access). For further information, see: Beyond Connections: Energy Access Redefined.

39 The EIB's energy policy covers all EIB activities including advisory services, technical assistance and all intermediated operations (including through investment funds or commercial banks)

40 Even a carbon tax collected from fossil fuel producers and importers and rebated 100% to consumers on an equal per capita basis will be progressive because the poor have a smaller carbon footprint than their wealthier fellow citizens. See summary of impacts modelled for the U.S.

WB Energy Sector Approvals and Disbursements by Sub-Sector





ANNEX 1: Data Collection and Reporting Issues

Halfway through conducting this research, the Bank launched a new website project platform that created a host of issues. Most notably, on several occasions the CSV Data Download function was unresponsive or not accessible (unavailable). In addition, on the older website platform when filters were applied, only projects matching the parameters of the filters would be downloaded into a CSV file. Following the "update", irrespective of the filters applied, all projects matching the basic criteria of the search term were included in the downloaded file. As an example, a search for Natural Gas might result in 1,000 plus projects populating. But after applying filters, only 200 would remain. However, when one downloads that data into a CSV file all 1,000 projects are included without the filters having been applied. This results in significant added labor for the user who is now forced to sort, filter, and attempt to remove extraneous projects.

Other issues include search term configurations yielding different project results. A prime example of this is Feed-In Tariff. Different variations of this term would result in different projects populating (e.g. Feed-In Tariff, feed in tariff, Feed-In Tariffs, etc.). It is evident that the Bank does not consistently apply a uniform set of glossary terms. Because of these inconsistencies, the ability to locate relevant projects under a defined search term becomes exceedingly more challenging for the user. The Bank needs to apply a uniform coding standard to remedy this and maintain consistency in future reporting. The IFC's project website is even less user-friendly for research purposes. We recommend that the World Bank and IFC adopt a uniform website platform that follows a similar and consistent format. This would improve 'ease of use' and reduce needless barriers to accessing information for external review.

THE ENERGY SECTOR MANAGEMENT ASSISTANCE PROGRAM (ESMAP):

This is a knowledge hub for the cross-pollination of ideas among international energy professionals. It has developed Communities of Practice for: 1) Efficient Clean Cooking and Heating, 2) Gender and Energy, and 3) Sustainable Energy for All. This helps facilitate and monitor progress toward achieving Sustainable Development Goal 7 (SDG7). ESMAP's Activities page is thorough, user-friendly, and an exceptional platform for integrating and tracking gender dimensions across the World Bank portfolio. Establishing Community of Practice platforms such as this is important for engaging developing country counterparts, and even rural and marginalized populations, provided they have broadband access. These platforms should continue to be adapted to drive innovation, serve as a knowledge incubator, and facilitate mutual learning and collaboration among international partners. We hope that as technologies change, these platforms will also evolve and reinforce the diverse needs of partner countries.

ANNEX 2: World Bank Energy Direction Commitments

Commitments	Metrics	Indicators
Theme 1: *Expand Renewable Energy*		
Support greenfield coal power generation projects only in rare circumstances	Reduction of investment in greenfield coal projects	#/$/% of coal power projects/loans (goal=0)
Scale up engagement in Natural Gas[41]	Project developed/ supported	#/$/% projects
Support for Concentrated solar power (CSP) deployment at scale	Large concentrated solar power deployment projects	#/$/MW of CSP projects
Concessional finance for geothermal projects	Geothermal project financing	#/$ of geothermal projects
Wind Power - investment in transmission infrastructure	Infrastructure developed or reinforced	#/$ project
Biogas, Biomass	Infrastructure supported	#/$ project
Theme 2: *Focus on the Poor - Universal Access*		
Encourage community participation in rural electrification projects to spur localized economic development	Investment in entrepreneurial capacity development	#/% of local hires, #/$ MSME businesses supported
Empower women in energy sector through strategic partnerships; consult women, educate affected communities about gender-specific issues in projects	Women consulted, and affected communities educated, about gender-specific energy issues; Energy Sector Management Assistance Program (ESMAP) website gender forum	# energy partnerships engaging women, # women consulted, # ESMAP website forum interactions
Help client countries obtain reliable energy at lowest price; expand rural electrification projects	Rural electrification; reliable low(er)-cost energy provided	#/$ of projects/programs, # people/communities benefiting
Engagement: expansion of clean cooking, heating solutions	Effective promotion of clean cooking, heating solutions	# communities/individuals contacted, # partnerships established
“	Projects Financed	#/$ projects supported[42]

41 Inclusion of this commitment on this scorecard does not imply endorsement of development of any new gas power projects.
42 Does not reflect The African Clean Cooking Energy Solutions Initiative, Clean Stove Initiative.

Commitments	Metrics	Indicators
Theme 3: *Creating an Enabling Environment*		
Seek market solutions and help governments foster private sector participation and investment	Private sector participation/ investment in energy sector	#/$ value of PPPs/ pvt. investments supported
System-wide Optimization and Integrated Resource Management (IRM)- support the move toward a more sustainable energy mix through regulatory and policy analysis	IRM Energy Policies/Regulations/ Assessments conducted or evaluated	# policies, regulations enacted; # analyses completed
"...Technical and Advisory Services	TA/AS provided for IRM/sustainable energy	#/$ of TA/AS; # IRM frameworks established
"...Capacity Building	IRM/sustainable energy capacity	#/$ training; # sust. energy optimizations
"...financing and guarantees		# resources managed
Power Sector Reforms - address underpricing	Energy prices reflecting full costs	# policies reformed
"...Revenue under-collections	Energy bills corrected, collected	# policies reformed, $ saved, #/$ projects
"...Large technical and commercial losses	Com'l energy bills corrected, collected	# policies, $ saved, #/$ projects
"...Weak regulatory frameworks and capacity	Energy regulations reformed	# policies, # active partnerships
Assist countries in pricing and tariff reform; assess policies for energy subsidies	Energy price & subsidy reforms	# policies reformed
Better sequence upstream interventions, project-specific support. Help create the right policy, regulatory, fiscal, and contractual frameworks; ensure that public utilities are creditworthy; offer tailored guarantees where appropriate.	Timely (pre-investment project) support for policy, regulatory, fiscal, and contractual frameworks, public utility creditworthiness	#/$ of upstream power sector interventions; #/$ of public utility guarantees
Develop feed-in tariffs, renewable energy portfolios	Feed-in tariff and RE portfolio policies	# of policies implemented

Commitments	Metrics	Indicators
Theme 4: *Global Policy and Advocacy*		
Engage governments; greater accountability for global externalities - carbon pricing programs	Gov'ts. participating in carbon pricing programs that account for global externalities	#/$ projects/ # of partnerships/ govts. engaged
Develop platforms for international exchange of information	[Energy efficiency] Community of Practice established with internal/ external partners	# partners, # meetings (if applicable)
Theme 5: *Accelerate Efficiency Gains*		
Scale up efficiency improvement and demand management as cost-effective means of expanding supply while enhancing environmental sustainability	Energy efficiency (EE) increased, demand reduced	#/$ projects, # policies adopted; % drop in energy use/$GDP
"	[Energy efficiency] Community of Practice established with internal/ external partners	# CoP established, # partners, # meetings (if applicable)
Increase the efficiency of existing energy infrastructure through rehabilitation	Energy infrastructure rehabilitation increasing efficiency	#/$ projects; % reduction in energy usage from customers served by rehabbed facilities
Efficiency through modernization	Energy infrastructure modernization increasing efficiency	#/$ projects; % reduction in energy usage from customers served by modernized facilities
Efficiency through adaptive management	Adaptive energy management increasing efficiency	# new adaptive policies, % reduction in energy usage from customers using adaptive mgmt.

ANNEX 3: World Bank Energy Commitment Scores

To compare World Bank performance in terms of financing approved to its Energy Directions commitments across themes, we applied a 0-4 rating system.

0 No, or no information

1 Yes, but it is very limited, token, or one-off support, not part of a program

2 Yes, but it is not adequate to achieve target

3 Yes, and if trend lines continue, it could meet the proposed target

4 Yes, in a robust fashion that should meet or exceed the proposed target

N/A: The commitment is not primarily measurable on the basis of approved financing.

The results for the 18 commitments for which we have data are in the table below.

NB: Inclusion of a commitment on this scorecard does not imply BIC's endorsement of said commitment. This merely measures Bank financial follow-through.

Energy Commitments	Baseline Data (Amounts Approved)	Current Status (Amounts Approved)	Y/N (0-4) Assessment
THEME 1: Expand Renewable Energy			
Support greenfield coal power generation projects only in rare circumstances	0	0	4
Scale up engagement in Natural Gas	$2,000 M	$6,100 M	4
Support for Concentrated solar power (CSP) deployment at scale	$200 M	$400 M	2
Concessional finance for geothermal projects	$194 M	$1,064 M	3
Wind Power - investment in transmission infrastructure	$70 M	$307 M	2
Useful role for Biogas, Biomass	$145 M	$162 M	1
Wind Power - investment in transmission infrastructure	$70 M	$307 M	2
Useful role for Biogas, Biomass	$145 M	$162 M	1

Energy Commitments	Baseline Data (Amounts Approved)	Current Status (Amounts Approved)	Y/N (0-4) Assessment
Theme 2: Focus on the Poor - Universal Access			
Empower women in energy sector through strategic partnerships; consult women and educate affected communities about gender-specific issues in projects	$288 M	$349 M	N/A
Help client countries obtain reliable energy at lowest price; expand rural electrification projects	$1,800 M	$3,000 M	3
Engagement: expansion of clean cooking, heating solutions	$0	$6 M	1
Theme 3: Creating an Enabling Environment			
Seek market solutions and help governments foster private sector participation and investment	$2,545 M	$654 M	N/A
"...Revenue under-collections	$412 M	$1,298 M	2
"...Large technical and commercial losses	$1,266 M	$350 M	1
Assist countries in pricing and tariff reform; assess policies for energy subsidies	$311 M	$637 M	2
Develop feed-in tariffs, renewable energy portfolios	$1,115 M	$160 M	1
Theme 4: Global Policy and Advocacy			
Develop platforms for international exchange of information (CoPs)	1	2	N/A

Energy Commitments	Baseline Data (Amounts Approved)	Current Status (Amounts Approved)	Y/N (0-4) Assessment
Theme 5: Accelerate Efficiency Gains			
Scale up efficiency improvement and demand management as cost-effective means of expanding supply while enhancing environmental sustainability	$2,931 M	$1,113 M	1
Increase efficiency of existing energy infrastructure through rehabilitation	$1,364 M	$3,252 M	4
Efficiency through modernization	$281 M	$1,456 M	3

Score totals/averages:

Theme 1: Expand Renewable Energy: 16/6= 2.67

Theme 2: Focus on the Poor - Universal Access: 4/2= 2.00

Theme 3: Creating an Enabling Environment: 6/4= 1.50

Theme 4: Global Policy and Advocacy: N/A

Theme 5: Accelerate Efficiency Gains: 8/3= 2.67

5 themes **combined**: 34/15= **2.27**

DISCUSSION:

While our scoring system is somewhat subjective — seeking to balance both absolute and relative levels of effort — it provides a means of quantitative assessment of overall performance. The results show relatively good performance (B- or better, if equated to a Grade Point Average) in themes 1 and 5: Expand Renewable Energy and Accelerate Efficiency Gains. Theme 4, Global Policy and Advocacy, was not rated, since the metric that seemed most applicable was Communities of Practice established; this did increase from 1 to 2, so may be viewed as having been achieved. At the same time, what matters is how much these Communities contributed to sustainable energy solutions; this was beyond the scope of our assessment.

However, for themes 2 and 3, Focus on the Poor - Universal Access and Creating an Enabling Environment, results were not adequate to achieve their targets (C or below). These themes are critical in the context of the WB mission of reducing poverty and raising shared prosperity. And the overall score of 2.27 is barely a C+: not a failure, but leaving plenty of room for improvement.

Even this grade is inflated, if one considers the components of theme 1: "scaling up engagement in natural gas" grew to $6.1 billion, against only $1.9 billion combined for the four commitments to actual renewable energy sources. While the percentage growth in renewables finance was strong, it fell woefully short of what is needed to achieve sustainable energy for all.

Further, this assessment covers only the 18 commitments for which we were able to assemble data. Including the 12 (of 30) commitments with no data would bring down the overall average score to 1.4 out of 4.

FOR FURTHER INFORMATION ON THE ISSUES RAISED IN THIS REPORT, PLEASE CONTACT BANK INFORMATION CENTER AT:

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