



Funding Clean Energy Access for the Poor: Can the World Bank Meet the Challenge?

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Executive Summary

In its 2013 Energy Directions Paper, the World Bank Group (WBG) reported that an estimated 1.2 billion people still did not have access to electricity and 2.8 billion were without clean cooking fuels and technologies. Access to affordable and reliable energy is fundamental to reducing poverty. This is because it is essential for the provision of clean water and healthcare, as well as the provision of reliable lighting, heating, cooking, transport and telecommunication services.¹

Furthermore, the Bank reports that the poor are the hardest hit by climate change impacts and that climate change threatens current and future poverty eradication.² Given that the energy sector is the largest contributor to greenhouse gas (GHG) emissions, it is paramount to poverty reduction and global climate change goals that the energy sector equitably transitions to non-GHG emissions fuels and technologies.

In full recognition of this dual development objective, i.e., poverty reduction and climate change goals, the Energy Directions Paper confirms the WBG's "energy practice will be centered on contributing to the achievement of the three [2030] goals under the UN Sustainable Energy for All initiative" (SEforAll), which include:

1. **Achieve universal access to modern energy services,**
2. **Double the historic global rate of improvement of energy efficiency, and**
3. **Double the share of renewable energy in the global energy mix.**

Unfortunately, recent tracking by the World Bank and the International Energy Agency (IEA) report that not nearly enough progress is being made and **if the current inadequate rate of progress persists the SEforAll energy goals will not be met.**³

Given energy development is not on track to meet the SEforAll energy goals, the following paper takes a closer look at the approach put forward in the WBG's Energy Directions Paper (ED Paper) to determine if more could be done by the WBG to improve progress towards the SEforAll goals. This paper focuses on two of the three SEforAll goals – those addressing universal access and renewable energy and does not cover the goal on energy efficiency. Furthermore, within universal access, this paper focuses on access to electricity and does not cover access to clean cooking solutions.

Main Findings

- **Critical New Tools.** By committing the WBG's energy practice to be centered on achieving the SEforAll energy goals, the ED Paper prompted the creation of several important new WBG tools that are critical steps in addressing the many challenges correctly highlighted by the ED Paper. Among others, two important new tools include:
 - » **Global Tracking Framework (GTF)** – The GTF was created to specifically track global progress on the three SEforAll energy goals. In addition to tracking electrification rates, the GTF will utilize the Multi-Tier Framework, which tracks the quality and affordability of energy services across incremental levels of access: basic human needs, productive uses, and modern society needs.
 - » **Regulatory Indicators for Sustainable Energy (RISE)** – RISE is a suite of indicators that assesses the legal and regulatory environment for investment in access and clean energy. RISE provides specific regulatory measures needed to address many of the main challenges to energy access and renewable energy (e.g., off-grid solutions for rural communities, affordability of the poor, financial incentives for renewable energy, etc.).

Although the WBG is involved in many initiatives which contribute to the SEforAll energy goals, the WBG needs to do more to shore up the current inadequate progress. To begin, this assessment found several shortcomings in the WBG's Energy Directions Paper, including:

¹ IEA, 2016. World Energy Outlook, 2016. International Energy Agency, 2016. Available at: <http://www.worldenergyoutlook.org/resources/energydevelopment/energyaccessdatabase/>

² See <http://www.worldbank.org/en/topic/climatechange/overview>

³ World Bank & IEA, 2017. Sustainable Energy for All, Global Tracking Framework 2017: Progress Toward Sustainable Energy. International Bank for Reconstruction and Development. The World Bank and the International Energy Agency (IEA), 2017. http://gtf.esmap.org/data/files/download-documents/eegp17-01_gtf_full_report_for_web_0516.pdf

- **Lacking WBG SEforALL targets.** The ED Paper does not provide clear WBG targets to ensure WBG contributions are adequate to achieve the SEforALL goals. For example, the WBG consistently points out that the availability of finance is one of the biggest challenges to addressing energy access. Yet the WBG's own share of energy access financing continues to be inadequate. In FY2016, the WBG dedicated only 13 percent of its energy budget towards "improving energy access".⁴ Likewise, there are no SEforAll-reflective sector-wide targets for policy lending operations (e.g. Development Policy Finance and technical assistance).
- **No tracking of WBG progress on SEforALL goals.** The ED Paper does not require the WBG to track and report its own annual progress on SEforALL goals. While the GTF tracks annual country-level progress on the SEforALL goals, it does not track annual WBG progress. For example, the WBG does not report annual contributions to new electricity connections or the overall share of renewable energy in the final energy mix. Furthermore, the ED Paper does not require the WBG to track and report fossil fuel financing, which is necessary to understanding the WBG's contribution to the overall share of renewable energy.
- **No guidance on ensuring access before exports.** The ED Paper does not provide adequate guidance on the need to provide energy access to the poor ahead of considerations for energy exports. The WBG needs to heed the warning of the IEA's Africa Energy Outlook (2014)⁵ – If energy finance in sub-Saharan Africa continues to focus on exporting fossil fuel resources instead of meeting domestic energy needs, there is a real risk that universal energy access will not get the financing it so desperately requires.
- **No target to reduce/phase out WBG fossil fuel contributions.** The ED Paper does not recognize that the continuation of the WBG to provide high levels of public finance for fossil fuel investments (ranging from \$2 billion to over \$3 billion annually) is at odds with achieving the SEforALL goal on doubling the share of renewable energy, including renewable off-grid solutions for rural electrification. The WBG's annual fossil fuel investments are still equal to or larger than WBG renewable energy investments,⁶ and thus, significantly diminish the WBG's net contribution to the goal of doubling the share of renewable energy in the final energy mix. Most importantly, the ED Paper does not provide a target to reduce/phase out WB public finance for fossil fuels.
- **Inadequate requirements for policy support.** The ED Paper does not propose any energy access or renewable energy requirements of WBG policy support to the energy sector, i.e., Development Policy Finance (DPF) and technical assistance.⁷ A recent assessment of current DPF operations involving the energy sector in four countries found that the DPF operations largely did not include energy access measures (i.e., no Prior Actions aimed at energy access) and had only a few of the renewable energy RISE indicators, mainly feed-in tariffs and bidding processes. As indicated by RISE, many other elements are essential in making a comprehensive regulatory framework.
- **No energy access or renewable energy requirements for PPP frameworks.** The ED Paper does not provide guidance on how to integrate energy access for the poor, especially in rural areas, or renewable energy, especially off-grid solutions, into the WBG's overall promotion of Public Private Partnership (PPP) investment frameworks. Moreover, it is not clear that large-scale PPP projects in the energy sector are well suited to address energy access because the World Bank has not provided any guidance on how to align the private sector objectives, i.e., aimed at profits, with government objectives to provide energy access to the poor.
- **No indicators for natural gas "benefits".** The ED Paper does not require the WBG to track or report energy access benefits of natural gas projects. One study of fossil fuel projects analyzed across four multi-lateral development banks (including the WBG) found that only five percent of fossil fuel finance was linked to energy access objectives.⁸ This indicates that natural gas projects rarely provide energy access to the poor. In addition, the ED Paper does not recognize

⁴ On July 12, 2017, the World Bank's Energy Overview webpage (<http://www.worldbank.org/en/topic/energy/overview>) reported in FY16, WBG financing in the energy sector totaled \$11.5 billion and on the results page it reported that the WBG dedicated \$1.5 billion towards "improving access" in FY16. These figures have since been removed from the webpage. The \$1.5 billion for energy access is also referenced as a WBG funding amount for "recent years" in a summary provided at: <https://ieg.worldbankgroup.org/evaluations/world-bank-group-support-electricity-access>

⁵ http://www.iea.org/publications/freepublications/publication/AEO_ES_English.pdf

⁶ For 2014, Oil Change International reports the World Bank Group provided \$3.3 billion to oil, gas and coal projects and for renewable energy and energy efficiency combined provided \$1.9 billion (not including \$2.3 billion for large hydropower, large hydropower is not considered to be a climate-safe solution). <http://priceofoil.org/content/uploads/2015/04/world-bank-april-2015-FINAL.pdf>

⁷ DPF operations include Poverty Reduction Support Credits (PRSP) and Program for Results (PforR).

⁸ Sierra Club, 2016. Still failing to solve energy poverty: International public finance for distributed clean energy still gets an "F". Sierra Club and Oil Change International, Washington, DC. April 2016. https://www.sierraclub.org/sites/www.sierraclub.org/files/uploads-wysiwig/1281%20Energy%20Scorecard_06_web.pdf

that methane leakage across the supply chain of natural gas production and distribution can offset the perceived climate benefits of gas relative to coal.

- **Natural gas is not advancing renewable energy integration** – The ED Paper does not provide specific measures to apply to WBG-financed natural gas projects to advance the integration of grid-connected renewable energy. An initial review of WBG natural gas projects in Africa from 2014 to 2017 did not provide any evidence that the WBG is utilizing natural gas to specifically advance the further integration of renewable energy sources.⁹

Recommendations

This assessment makes it clear that the WBG's Energy Directions Paper needs to be reviewed and updated to reflect new information and tools, as well as more specific guidelines on how to integrate these tools directly into WBG energy operations. Moreover, the ED Paper needs to provide a pro-active approach in order for the WBG to truly center its energy practice on achieving the SEforALL goals. Given the inadequate progress to date, the ED Paper needs to adopt WBG-specific annual targets aimed at accelerating progress towards the 2030 SEforALL goals.

To begin, the WBG's Energy Directions Paper should be revised to reflect the following:

WBG Targets

- » **Funding Target – at least \$5.75 billion for energy access annually.** Given a fivefold increase in finance is needed to reach universal access by 2030,¹⁰ the WBG should direct at least 50 percent of its annual energy sector budget or around \$5.75 billion to clearly defined energy access projects and programs.¹¹ According to the IEA, at least 65 percent of this funding should be for off-grid energy solutions.¹²
- » **Energy Access Target – 15 million people gain electricity access annually.** Given approximately 156 million people need to gain electricity access annually to reach universal access by 2030¹³, the WBG should set a target of directly contributing to at least 15 million people gaining electricity annually.¹⁴
- » **Phase out Support to Fossil Fuels by 2020.** Using limited public finance to prop up the further development of fossil fuels needs to come to an end. In order to increase progress towards the SEforAll renewable energy target and access to affordable clean energy for all, the WBG should phase out support to fossil fuels by 2020. Until then, the WBG's financial support for renewable energy¹⁵ should be at least double the financial support for fossil fuel energy.
- » **Access before Exports.** Ahead of any WBG support for fossil fuel exports,¹⁶ the WBG must first ensure support for annual increases in electrification rates are taking place at an adequate rate to meet universal access by 2030 and that any domestic energy supply shortages are being addressed.¹⁷

Policy Support

- » **SEforALL Sector-wide Outcomes.** For all Development Policy Finance (DPF) operations involving the energy sector and infrastructure investment frameworks, the WBG should track and report pre- and post-DPF operation rate of electrification; mix for final energy consumption; and mix of energy sector investments (e.g., funding amounts to renewable energy, off-grid solutions, fossil fuel operations).

⁹ Mainhardt, H. 2017. "The Role of International Financial Institutions in Oil and Natural Gas Development in Developing Countries." Unpublished internal report for Oxfam America. Please contact Thomas Damassa at thomas.damassa@oxfam.org for access to the report.

¹⁰ World Bank & IEA, 2017. Sustainable Energy for All, Global Tracking Framework 2017: Progress Toward Sustainable Energy. International Bank for Reconstruction and Development / The World Bank and the International Energy Agency (IEA), 2017. http://gtrf.esmap.org/data/files/download-documents/eegp17-01_gtf_full_report_for_web_0516.pdf

¹¹ \$5.75 billion is 50 percent of \$11.5 billion or the WBG's FY2016 energy sector budget. The \$5.75 billion figure is substantially less than the GTF suggested necessary fivefold increase, i.e., a fivefold increase for the WBG would be from \$1.5 billion in FY2016 to \$7.5 billion.

¹² According to World Bank staff, about half of the WBG's Last Mile Portfolio already consists of off-grid solutions. The WBG did not offer figures on funding amounts or new electricity connections for the Last Mile Portfolio. [Personal communication]

¹³ This figure is based on 1.06 billion people not having access in 2014 (GTF, 2017) divided by 15 (or number of years from 2015 to 2030), which equals 70,666,667 people. Plus accounting for population growth, which stands at 85.5 million per year, brings the total to 156 million people.

¹⁴ The 15 million people target represents roughly 10 percent of the overall annual total needed. This is in alignment with the WBG funding target of \$5.75 billion annually for energy access, which represents a little more than 10 percent of the \$48 billion the IEA estimates is needed annually to reach universal energy access by 2030.

¹⁵ Excluding large hydropower, defined as >10 MW.

¹⁶ Including associated infrastructure and policies.

¹⁷ This recommendation is for the interim period until the WBG phases out support for fossil fuels in 2020.

- » **RISE Indicators in DPF Operations.**¹⁸ In DPF operations involving the energy sector and infrastructure investment frameworks, the WBG should adopt a comprehensive regulatory approach based on multiple RISE indicators, i.e., RISE indicators are comprehensively incorporated into Prior Actions.

Public-Private Partnerships

- » **PPP Investment Frameworks & Energy Access.** PPP projects are subsidized projects.¹⁹ As such, energy PPP projects should be designed to contribute to either energy access for the poor or renewable energy, preferably both. Thus, all WBG energy operations that support PPP investment frameworks must integrate requirements for energy access for the poor, especially in rural areas, and/or renewable energy, especially off-grid solutions.

Pricing (Fossil Fuel Subsidies)

- » **Comprehensive End to Fossil Fuel Subsidies.** Recognizing that fossil fuel subsidies provided as investment incentives represent barriers to scaling up clean renewable energy and off-grid solutions needed for energy access, the WBG needs to ensure it does not create new fossil fuel subsidies in any policy support it provides (e.g., Development Policy Finance, PPP-investment frameworks, etc.).

Increased Accountability for Natural Gas Investments

Until the WBG phases out support to fossil fuels by 2020:

- » **Investment Requirements for Natural Gas.** The WBG should adopt natural gas project investment requirements that directly address energy access for the poor; advance the integration of grid-connected renewable energy, and implementation of best international practices in methane abatement.
- » **Policy Support Requirements for Natural Gas.** The WBG should adopt natural gas-specific policy measures to be implemented by DPF operations for advancing integration of grid-connected renewable energy and strong methane abatement regulations for the oil and gas sector.

Further recommendations on clearly defining what counts as direct WBG contributions to energy access as well as tracking and reporting on progress across the SEforAll goals are included in the main paper.

¹⁸ DPF operations include Poverty Reduction Support Credits (PRSP) and Program for Results (PforR). This recommendation could also apply to technical assistance and advisory services.

¹⁹ By definition there is always a public component to a Public-Private Partnership (PPP). The form the public component takes depends on the project and can range from direct financial support and tax breaks, to in-kind support (such as provision of land), to contingent support (such as guarantees). No matter what form the public support takes it is a form of subsidy.

Introduction

Universal energy access and climate change: In its 2013 Energy Directions Paper, the World Bank Group reported that an estimated 1.2 billion people still did not have access to electricity and 2.8 billion were without clean cooking fuels and technologies. Access to affordable and reliable energy is fundamental to reducing poverty. This is because it is essential for the provision of clean water, sanitation and healthcare, as well as the provision of reliable lighting, heating, cooking, mechanical power, transport and telecommunication services.²⁰

Furthermore, the World Bank reports that the poor are the hardest hit by climate change impacts and that climate change threatens current and future poverty eradication.²¹ Given that the energy sector is the largest contributor to greenhouse gas (GHG) emissions, it is paramount to poverty reduction and global climate change goals that the energy sector equitably transitions to non-GHG emissions fuels and technologies.

In full recognition of this dual development objective, in 2012 the United Nations General Assembly embraced the Sustainable Energy for All (SEforALL) initiative's three global interlocking energy objectives for 2030:

1. **Achieve universal access to modern energy services,**
2. **Double the historic global rate of improvement of energy efficiency, and**
3. **Double the share of renewable energy in the global energy mix.**

The World Bank Group's Energy Directions Paper. In July 2013, the World Bank Group published "Toward a Sustainable Energy Future for All: Directions for the World Bank Group's Energy Sector" or the Energy Directions Paper (ED Paper). The ED Paper states that the WBG's central objective in the energy sector is to secure "the affordable, reliable, and sustainable energy supply needed to end poverty and promote shared prosperity." The ED Paper further commits that the **WBG's energy practice "will be centered on contributing to the achievement of the three global goals under the UN Sustainable Energy for All initiative."**

Sustainable Development Goals and Paris Climate Agreement. In September 2015, the global community adopted the Sustainable Development Goals (SDGs) for 2030. SDG 7 builds on the foundation of SEforALL, adopting targets for energy access, energy efficiency, and renewable energy. SDG 7 extends the SEforALL framework, in particular by specifying that universal access to energy be affordable and reliable. In December 2015, during COP21 countries from around the world committed to the historic Paris Climate Agreement, which included the global goal not to exceed 2 degrees of warming and the Nationally Determined Contributions, in which many countries linked to progress on the SEforALL goals.

WBG Climate Action Plan. In April 2016, the WBG unveiled its new Climate Action Plan 2016-2020 (CAP), which put forward several specific renewable energy and energy efficiency targets to be reached by 2020. It should be noted that BIC and SSNC plan to commission an assessment in the next year of the CAP, so the adequacy of these 2020 targets are not covered here. It is important to point out that the CAP states that "the SE4All Initiative and the WBG's Energy Sector Directions Paper form the cornerstone of the WBG energy objectives."²² Thus, the activities supported in the CAP are consistent with the ED paper.

Not on Track to Meet Sustainable Energy Goals: Much to its credit, the World Bank Group has worked with partners to develop important energy access analytical tools and monitoring products. In order to specifically track progress on the three SEforAll goals, the World Bank and the International Energy Agency (IEA) jointly produce the Global Tracking Framework or GTF.²³ Unfortunately, the findings of the most recent GTF 2017²⁴ report clearly indicate that the current rate of progress falls short of what is needed to meet the global objectives by 2030. Of the three sustainable energy pillars, energy efficiency is advancing at the closest to the pace of change required to meet the 2030 objective. Energy efficiency is the one area where progress accelerated from 2012-2014.²⁵

However, overall the findings are worrying, including:

Universal access

- » The number of people without electricity worldwide—the global access deficit—fell only slightly, by 1 million a year, from 1.063 billion in 2012 to 1.061 billion in

²⁰ IEA, 2016. World Energy Outlook, 2016. International Energy Agency, 2016. Available at: <http://www.worldenergyoutlook.org/resources/energydevelopment/energyaccessdatabase/>

²¹ See <http://www.worldbank.org/en/topic/climatechange/overview> This paper reflects the contents of this World Bank webpage on March 14, 2016.

²² See paragraph 66 of the WBG's Climate Action Plan. <https://openknowledge.worldbank.org/bitstream/handle/10986/24451/K8860.pdf?sequence=2&isAllowed=y>

²³ GTF, funded by the Energy Sector Management Assistance Program (ESMAP) was produced jointly with the International Energy Agency (IEA) and in partnership with 20 partner agencies in the energy space including five United Nations Regional Economic Commissions – ECLAC, ESCAP, ESCWA, UNECA, and UNECE.

²⁴ World Bank & IEA, 2017. Sustainable Energy for All, Global Tracking Framework 2017: Progress Toward Sustainable Energy. International Bank for Reconstruction and Development / The World Bank and the International Energy Agency (IEA), 2017. http://gtf.esmap.org/data/files/download-documents/eegp17-01_gtf_full_report_for_web_0516.pdf

²⁵ According to the GTF (2017), investment in energy efficiency still needs to increase by a factor of 3 to 6 from the current \$250 billion a year in order to reach the 2030 objective.

2014.²⁶ In 2014, access to electricity globally climbed to 85.3 percent, up only slightly from 85.0 percent in 2012, representing a slowdown from previous years.

- » Electricity access advanced faster in urban than rural areas, adding 0.16 percentage points to the urban access rate but only 0.05 percentage points to the rural access rate each year. The urban access rate was 96.3 percent in 2014, and the rural rate 73.0 percent.
- » The number of people without access to clean fuels and technologies for cooking rose slightly to 3.04 billion.²⁷
- » At the current rate of progress, it is estimated that only 91 percent of the world will have electricity access in 2030 (less than a 6 percent increase from current 85.3 percent), while only 72 percent will have access to clean cooking.²⁸

Renewable energy²⁹

- » The share of renewable energy in the world's total final energy consumption increased only slightly from 17.9 percent in 2012 to 18.3 percent in 2014.
- » Despite advances in technology and falling prices in the renewable energy sector— particularly for solar and wind— progress is nowhere near fast enough to double renewable energy's share to 36 percent in 2010–30 as envisaged by the SEforALL objective. The current rate of progress will see the share of renewables only reach 21 percent by 2030.^{30,31}

Overall, the GTF concludes that **IEA modeling projections indicate that the SEforAll and WBG Energy 2030 objectives will not be met if current trends persist or even if energy goals of COP21 are met.**³²

Focus of this Paper: Given the current rate of progress will not meet the sustainable energy goals and that these three goals are intended to be at the center of the WBG's energy practice, the following paper takes a closer look at the approaches put forward in the WBG's Energy Directions Paper. Furthermore, this paper focuses specifically on the two goals of universal energy access and a doubling of

renewable energy's share in the global energy mix as these two goals have less progress than energy efficiency. Within universal access, this paper focuses on access to electricity and does not cover access to clean cooking solutions.

The first section of the paper discusses the salient characteristics and challenges of energy access and scaling up renewable energy. The next section of the paper assesses how adequately the WBG's Energy Directions Paper addresses the two goals on universal access and renewable energy. Lastly, the paper concludes with a summary of the main findings and recommendations.

Characteristics and Challenges

Looking at some key characteristics and challenges of increasing energy access and share of renewable energy in the global energy mix will help to understand what kinds of targeted efforts offer the best prospects for accelerating global progress in coming years and to detect potential shortcomings of approaches in the WBG's Energy Directions Paper. Recent energy access initiatives and analyses by the World Bank and IEA have identified several challenges associated with three overarching categories: rural communities, availability of finance and affordability for the poor.

Rural Communities

Electrification, which stands globally at 85.3 percent, varies widely across countries and locations within those countries.³³ More than 95% of those living without electricity are in countries in sub-Saharan Africa and developing Asia.³⁴ By far the most severe challenge is in Sub-Saharan Africa, with access for only 37 percent of its population in 2014 (GTF, 2017). Out of the 20 countries with the highest energy access deficit (i.e., highest number of people without access), 16 are located in Sub-Saharan Africa (Page 15 in GTF, 2017). As such, this paper pays special attention to Sub-Saharan Africa.

In addition, as noted above, electricity access advanced

²⁶ 86.5 million people a year gained access to electricity, or only slightly above the global population increase of 85.5 million a year.

²⁷ In 2014, access to clean fuels and technologies for cooking climbed to 57.4 percent, up slightly from 56.5 percent in 2012. 3.04 billion people lived without access to clean cooking, which was actually slightly higher than the deficit in 2012.

²⁸ The IEA's New Policies Scenario, reflecting the latest policy pledges (including COP21), estimates that by 2030 access rates will stand at 91% for electricity (figure 1) and 72% for clean cooking (figure 2). [IEA Z-modeling excludes the use of coal and kerosene for cooking, which World Health Organization databases include.]

²⁹ The WB's GTF divides RE into traditional biofuels and modern renewable energy (which includes large and small hydropower and liquid biofuels).

³⁰ Results of recent global energy modeling, by the IEA and others, confirm the view that current efforts will not reach the targets set by the international community for 2030, even after taking into account new policy commitments made under COP21 and favorable technology trends like the steep reduction in the costs of solar PV (photovoltaic).

³¹ This coincides with recent country work by the International Renewable Energy Agency (IRENA), which finds that without substantially exceeding current commitments, the world is likely to reach a renewable energy share of just 21% by 2030.

³² Note: This is on the basis of recently enhanced policy commitments made under COP21. Source: World Bank & IEA, 2017. Sustainable Energy for All, Global Tracking Framework 2017: Progress Toward Sustainable Energy. The World Bank and the International Energy Agency (IEA), 2017. http://gtf.esmap.org/data/files/download-documents/eegp17-01_gtf_full_report_for_web_0516.pdf

³³ GTF, 2017. According to the GTF (2017), in 2014 Central Asia has already achieved universal access and Latin America, Asia-Pacific, and the Arab Region had access rates around 90 percent.

³⁴ IEA, 2016. World Energy Outlook, 2016. International Energy Agency, 2016. Available at: <http://www.worldenergyoutlook.org/resources/energydevelopment/energyaccessdatabase/>

faster in urban areas compared to rural areas from 2012 to 2014.³⁵ In fact, urban areas across the world already have close to universal access at 96.3 percent, while the rural rate globally stands at only 73 percent. From 2012 to 2014, only 0.05 percentage points were added to the rate of access in rural areas. Overall, of the 1.06 billion without access to electricity, 80 percent live in rural areas.³⁶ **Clearly more needs to be done to ensure that rural areas are receiving more attention and funding.**

Given rural communities are typically distant from central electricity grids, there is expert consensus that much greater investment is needed in off-grid solutions³⁷ (e.g., mini-grids and standalone systems), mostly powered by renewable energy.³⁸ For universal energy access to be achieved, the IEA has previously projected³⁹ that approximately 64 percent of the required additional investment in energy access will need to go to mini-grid and off-grid energy solutions. In 2011, the IEA estimated that a cumulative investment of \$1 trillion or an average of \$48 billion per year was needed to achieve universal access to modern energy by 2030.⁴⁰

Renewable energy is an attractive option for off-grid electricity supply as it does not require regular fuel deliveries and is cost-competitive with diesel generators.⁴¹ It can also provide electricity at different scales, from solar lights and small home solar systems to mini-grids powered by solar photovoltaics (PVs), wind turbines, biomass plants, or small hydropower plants. In addition, off-grid renewable energy options are typically not associated with any local pollution impacts.

Given the goal of doubling the share of renewable energy in the global energy mix is complementary to meeting universal energy access, the WBG should ensure that it specifically does all that it can to prioritize policies and projects that target both goals.

Availability of Finance

According to the Energy Directions Paper,⁴² the annual investments required to achieve the three energy goals are calculated to be at least US\$600–800 billion over and above the current investments, which involves a doubling or tripling of recent financial flows.⁴³ The bulk of those investments are associated with energy efficiency and renewable energy, with access-related expenditures representing a relatively small percentage of the incremental costs at an estimated \$48 billion per year.

According to the recent GTF report (2017), in order to meet the SEforALL objectives, renewable energy investment would need to increase by a factor of 2 to 3, and energy efficiency investment by a factor of 3 to 6. It further states that “Investments in energy access are less well understood, but estimates suggest that a fivefold increase would be needed to reach universal access by 2030.

The web-site for the World Bank-managed Lighting Africa initiative, which promotes off-grid solar solutions, argues that access to finance is the most significant challenge to the off-grid solar market in sub-Saharan Africa.⁴⁴ Even when the program addresses other barriers, a lack of financing causes bottlenecks all along the supply chain.⁴⁵ Although there has been increased attention to off-grid solutions, a large amount of energy access funding still tends to be directed primarily toward large-scale electricity infrastructure. **The IEA states that such large-scale infrastructure does not always reach the poorest households.**⁴⁶

Africa energy investments need to shift from exports to domestic energy needs. The IEA’s Africa Energy Outlook (2014)⁴⁷ finds that although Africa’s energy resources are more than sufficient to meet the needs of its population, it fails to do so because of underdevelopment and an

³⁵ Although sustaining high access rates remains a challenge in the rapidly growing cities of Africa and Asia-Pacific.

³⁶ IEA, 2016. World Energy Outlook, 2016. International Energy Agency, 2016. Available at: <http://www.worldenergyoutlook.org/resources/energydevelopment/energyaccessdatabase/>

³⁷ The term “off grid” is broad and refers to not using or depending on electricity provided through main grids and generated by main power infrastructure. “Off-grid systems” cover both mini-grids and standalone systems for individual appliances and/or users, and they can be used for residential or commercial purposes (IRENA 2015)

³⁸ See: GTF, 2017 and IOREC 2015 International Off-Grid Renewable Energy Conference: Key Findings and Recommendations; and REN21, 2016. Renewables 2016: Global Status Report. Renewable Energy Policy Network for the 21st Century (REN21). http://www.ren21.net/wp-content/uploads/2016/05/GSR_2016_Full_Report_lowres.pdf

³⁹ http://www.worldenergyoutlook.org/media/weowebsite/energydevelopment/weo2011_energy_for_all.pdf

⁴⁰ IEA, 2011. World Energy Outlook, 2011. International Energy Agency, 2011. Available at: http://www.worldenergyoutlook.org/media/weowebsite/energydevelopment/weo2011_energy_for_all.pdf

⁴¹ IIED, 2016. Unlocking climate finance for decentralized energy access. International Institute for Environment and Development, 2016.

⁴² See paragraph 9.

⁴³ The Energy Directions Paper provided that global investment in 2010 in the three areas covered by the UN goals has been estimated at about US\$400 billion.

⁴⁴ <https://www.lightingafrica.org/what-we-do/access-to-finance/>

⁴⁵ According to Lighting Africa – Importers, retailers, and distributors need significant working capital to purchase and import inventory and build a sustainable business. Consumers who wish to purchase products also face financing constraints – despite lower lifecycle costs – especially when trying to buy larger solar home systems. Meanwhile, commercial debt markets, particularly at the local level, remain largely out-of-reach to most market players. Given its nascent status, the off-grid solar industry as a whole is perceived as risky. The limited track record, lack of profitability, liquidity needs, and challenging market conditions render off-grid products unbankable in the eyes of most lenders. When national lenders do offer loans, they typically do so only at very high rates of interest, which may be prohibitive for many firms.

⁴⁶ http://www.worldenergyoutlook.org/media/weowebsite/energydevelopment/weo2011_energy_for_all.pdf

⁴⁷ http://www.iea.org/publications/freepublications/publication/AEO_ES_English.pdf

imbalance of energy investments towards exports and not enough towards domestic energy needs. The report points out that although investment in new energy supply is on the rise, two out of every three dollars put into the sub-Saharan energy sector since 2000 have been committed to the development of resources for export. If energy finance in sub-Saharan Africa continues to focus on exporting fossil fuel resources instead of meeting domestic energy needs, there is a real risk that universal energy access will not get the financing it so desperately requires.

Phase out fossil fuel subsidies. In addition to unclear government policies and a lack of financial options, the World Bank's State of Electricity Access report (2017) lists one of the biggest obstacles to energy access solutions and scaling-up renewable energy as high fossil fuel subsidies:⁴⁸

The problem is that these subsidies distort the true costs of energy and encourage wasteful spending and increased emissions. They also present a barrier to scaling up clean energy by: (i) decreasing the costs of fossil fuel-powered electricity generation, thereby blunting the cost competitiveness of renewables; (ii) creating an incumbent advantage that strengthens the position of fossil fuels in the electricity system; and (iii) creating conditions that favor investments in fossil fuel-based technologies over renewables. Fossil fuel subsidies were estimated to be over \$490 billion in 2014, compared with subsidies of only \$135 billion for renewables (IEA n.d.). Policy design should financially discourage investments in fossil fuels and nuclear, while also removing risk from investments in renewable energy.⁴⁹ **This is crucial for scaling up renewables, which can help close the energy access gap.**

Affordability

The ability of the poor to pay for electricity is a concern across many countries. The Energy Directions Paper⁵⁰ reports that many countries in Sub-Saharan Africa face electricity costs as high as US\$0.20–0.50 per kilowatt-hour, against a global average closer to US\$0.10. Such high electricity costs are a barrier to further electrification.

The ED Paper further states that sound pricing and tariff policy should be backed by strengthened social protection. Where subsidies are retained, they need to be sharply targeted to the poor. With regards to tariffs, in the Multi-Tier Framework, affordability is defined as basic energy service costing less than 5 percent of household income (GTF, 2017). In addition, the GTF report (2017) found that new connection fees are often the most significant affordability issue for the poor.

Regulatory Frameworks

All of the documents reviewed for this section identify that in order to advance access in rural communities, incentivize finance solutions, and create the enabling environment for renewable energy, there has to be an adequate and enabling regulatory framework covering many fronts (e.g., subsidies).

In the case of off-grid systems, the GTF states:

Where many countries appear to lag is on the regulatory framework to support off-grid access through solar home systems and other distributed resources. Regulations that clarify market entry and exit, define minimum quality standards, and target subsidies and duty exemptions should be considered for supporting off-grid solutions and enabling countries to benefit from the plummeting costs of decentralized solutions based on solar photovoltaics.

Assessment of the Energy Directions Paper: What will it take to improve progress on the SEforAll goals?

If the current trends in global energy development persist, the 2030 target of universal energy access will not be met. Neither will the 2030 target of doubling the share of renewable energy in the global energy mix. It is important to understand whether the WBG's energy guidance is adequately targeting funding and measures to accelerate global progress on the 2030 goals.

The WBG's current guidance contained in its Energy Directions Paper states that its energy practice will be centered on contributing to the achievement of the three 2030 goals on energy access, energy efficiency and renewable energy. To be clear, the WBG's energy practice is its energy portfolio. Thus its energy portfolio should reflect the aims of the ED Paper. The rest of this paper aims to better understand how, in specific terms, the approaches of the ED Paper support two of the 2030 goals, i.e., universal energy access and renewable energy. Furthermore, universal energy access in this paper focuses on access to electricity and does not cover access to clean cooking solutions.

This assessment is guided by several of the main challenges to universal access and renewable energy that have been identified by the WBG and the IEA as described above. As might be expected, the WBG's ED Paper recognizes the importance of addressing many of the main challenges and specifically discusses: 1. energy needs of rural communities, 2. the availability of finance, 3. fossil fuel subsidies and 4. affordability for the poor.

⁴⁸ World Bank, 2017. State of Electricity Access Report 2017. Available at: <http://documents.worldbank.org/curated/en/364571494517675149/pdf/114841-REVISED-JUNE12-FINAL-SEAR-web-REV-optimized.pdf>

⁴⁹ World Bank, 2017. State of Electricity Access Report 2017. Available at: <http://documents.worldbank.org/curated/en/364571494517675149/pdf/114841-REVISED-JUNE12-FINAL-SEAR-web-REV-optimized.pdf>

⁵⁰ See WBG Energy Directions Paper, paragraph 5.

To address these challenges, the Energy Directions Paper offers several main areas of WBG engagement, including:

- » **WBG Finance through Projects and Guarantees,**
- » **Policy and Institutional Support,**
- » **Pricing (Fossil Fuel Subsidies),**
- » **Scale up Financing through Public-Private Partnerships (PPP), and**
- » **An Increase in Natural Gas engagement**

Central Questions – The central questions are 1. What can be done at the WBG to accelerate progress in the coming years on the SEforAll goals? 2. Is the WBG doing all that it can? 3. How comprehensive is the WBG’s approach to addressing the specific challenges surrounding universal access and scaling up renewable energy? 4. Are there shortcomings in the WBG approach that can be strengthened?

Targets and Tracking

Does the ED Paper offer well-defined targets aimed at the WBG’s contribution to the SEforAll goals on universal access and renewable energy? Is the WBG tracking its progress to meet these SEforAll goals?

The Energy Directions Paper clearly commits the WBG to center its energy practice on contributing to the SEforAll goals. However, what the ED Paper does not provide are clear WBG targets to ensure WBG contributions are adequate to achieve the SEforAll goals. The ED Paper also does not provide clear definitions or indicators for the WBG of what should count as energy access contributions. The rest of this section explores what should be the targets and indicators to gage the WBG’s contributions to the 2030 goals on universal energy access and renewable energy.

SEforAll Indicators – The SEforAll initiative has two indicators to measure progress on the universal access goal and one indicator for the renewable energy goal:

- **Universal access:** the percentage of the population with access to electricity and the percentage of the population with access to non-solid fuels.⁵¹
- **Renewable energy:** the renewable energy share in total final energy consumption.

As noted previously, the World Bank has teamed up with the IEA to track global progress on the 2030 energy goals through the Global Tracking Framework (GTF), which currently uses the SEforAll indicators to measure progress on a country by country basis. In other words, the GTF is

an annual update on country-level progress on the 2030 sustainable energy goals. While the GTF often provides examples of WBG contributions to SEforAll, the GTF does not track annual WBG progress towards the goals.

With regards to developing a more consistent definition of modern energy access, the World Bank has improved upon the SEforAll/GTF indicators by developing the Multi-Tier Framework. This new methodology measures energy access along a continuum of five different tiers, based on an evaluation of seven dimensions of service quality (see Box 1. Measures of Energy Access). Importantly, the new Framework better reflects the SDG 7 emphasis on the need to be affordable and reliable. The GTF 2017 reports that the first results from a large-scale application of this new Framework are expected in 2018.

Unfortunately, the WBG does not measure or define its own energy access projects according to the SEforAll indicators or the Multi-Tier Framework. From the outside, it is difficult to establish WBG energy access activities and funding levels because the WBG does not provide a clear definition or requirements for what counts as energy access in its projects and policy support. For example, sometimes simply increasing electricity generation capacity, whether or not it reaches any poor households, is labeled as energy access. A key question is how many WBG energy operations are using the Multi-tier framework to measure progress?

Box 2 provides results from the most recent WBG energy access project in Mozambique and illustrates concerns over the type of activities and associated finance levels the WBG is counting as energy access. Even though the Bank’s Mozambique project clearly financed some energy access measures and increased electricity connections in Mozambique, the main criticism is that more energy benefits could have gone to the poor if energy services (e.g., substation upgrades) to the coal-exporting Provinces were not the main targets of the project. Mozambique and related WBG operations are clearly not adding new electricity connections at the rate needed to reach universal access by 2030. The WBG’s annual contributions during the project only represented 2.8 percent of the required increases. By the WBG continuing to prioritize energy for exports and extractive industries in Mozambique, it undermines the supply of electricity needed to serve the domestic population, especially the un-electrified poor.

Unfortunately, the Mozambique example indicates that the Energy Directions Paper did not provide adequate guidance in how to properly prioritize WBG energy finance towards universal energy access. The WBG needs to heed

⁵¹ This is in reference to clean cooking fuels and technologies, which is not covered in this paper.

Box 1. Measures of Energy Access

According to the IEA, there is no single internationally-accepted and internationally-adopted definition of modern energy access. However, the IEA and UN offer elements that are most common, including:

The International Energy Agency (IEA)¹ breaks down energy access into three main incremental levels of access: 1) basic human needs; 2) productive uses; and 3) modern society needs. According to the IEA, 'basic human needs' includes electricity for lighting, health, education, communication and community services. It also includes modern fuels and technologies for cooking and heating. It is important to note that the basic human needs level is the level that was used for forecasts of the financing needed to reach the goal of universal energy access.

The UN Secretary-General's Advisory Group on Energy and Climate Change (AGECC) argues that the productive uses level should also be included in measurements for universal energy access. According to the AGECC, productive uses include electricity, modern fuels and other energy services to improve productivity, such as for agriculture: (e.g., water pumping for irrigation, fertilizer, mechanized tilling), commercial activities (e.g., agricultural processing, cottage industries) and transportation (e.g., fuel).²

The WBG's new Multi-Tier Framework encompasses these different levels of energy access. The next GTF report in 2018 will provide the first results from utilizing the new Framework to measure energy access.³

¹IEA, 2009. World Energy Outlook 2009. International Energy Agency. www.worldenergyoutlook.org/docs/weo2009/WEO2009_es_english.pdf

²AGECC, 2010. Energy for a Sustainable Future: Summary Report and Recommendations. New York: The Secretary-General's Advisory Group on Energy and Climate Change (AGECC), April 28, 2010.

³The WBG's Multi-Tier Framework is described in the World Bank/ESMAP 2015 report Beyond Connections: Energy Access Redefined.

the warning of the IEA's Africa Energy Outlook (2014)⁵² – If energy finance in sub-Saharan Africa continues to focus on exporting fossil fuel resources instead of meeting domestic energy needs, there is a real risk that universal energy access will not get the financing it so desperately requires.

WBG Energy Portfolio Priorities. In reviewing the WBG's energy portfolio from FY12 to FY14, a recent assessment⁵³ found that while the World Bank Group's own financing for energy access has increased it remains relatively low as a priority of energy spending. The Bank's financing of projects that at least in part aimed to improve energy access increased from 6 percent of total energy lending in 2012 to 13 percent (\$1.3 billion) in 2014. Most recently in 2016, the WBG reported a contribution of \$1.5 billion towards "improving energy access" out of a total \$11.5 billion for the overall energy sector budget, which again was only 13 percent of the energy budget.⁵⁴

The WBG is not prioritizing enough of its own budget to finance energy access. The GTF 2017 report suggests a five-fold increase in finance for access is necessary. If the WBG

were to increase its energy access financing by fivefold it would go from \$1.5 billion in FY2016 to \$7.5 billion. In addition, the IEA estimates that at least \$18 billion a year should be coming from multilateral development banks (MDB).⁵⁵ Of the MDBs, the WBG should be shouldering at least a third of the MDB energy access contribution due to its comparatively large budget,⁵⁶ its poverty eradication mission, and its presence in the regions of Sub-Saharan Africa and Asia. Instead of dedicating only 13 percent of its energy budget, the WBG should aim to provide at least 50 percent until universal access is achieved or no less than \$5.75 billion (which would also equal close to a third of needed MDB contributions).

Furthermore, it was found that only 11 percent of WBG energy access projects in FY2014 supported off-grid solutions.⁵⁷ This potentially indicates that large-scale, centralized grids are still receiving the bulk of WBG energy access support, which may not be effectively reaching the poor (according to the IEA as noted previously). As indicated by the IEA, at least 65 percent of the WBG's energy access funding should be for off-grid energy solutions.

⁵² http://www.iea.org/publications/freepublications/publication/AEO_ES_English.pdf

⁵³ Sierra Club, 2016. Still failing to solve energy poverty: International public finance for distributed clean energy still gets an "F". Sierra Club and Oil Change International, Washington, DC. April 2016. https://www.sierraclub.org/sites/www.sierraclub.org/files/uploads-wysiwig/1281%20Energy%20Scorecard_06_web.pdf

⁵⁴ On July 12, 2017, the World Bank's Energy Overview webpage (<http://www.worldbank.org/en/topic/energy/overview>) reported in FY16, WBG financing in the energy sector totaled \$11.5 billion and on the results page it reported that the WBG dedicated \$1.5 billion towards "improving access" in FY16. These figures have since been removed from the webpage. The \$1.5 billion for energy access is also referenced as a WBG funding amount for "recent years" in a summary provided at: <https://ieg.worldbankgroup.org/evaluations/world-bank-group-support-electricity-access>

⁵⁵ IEA, 2011. World Energy Outlook, 2011. International Energy Agency, 2011. Available at: http://www.worldenergyoutlook.org/media/weowebsite/energydevelopment/weo2011_energy_for_all.pdf

⁵⁶ For example, the African Development Bank's annual total energy sector budget stands at approximately \$2.5 billion. Based on the fact that the AfDB has pledged to invest \$12 billion from its own resources over 5 years to the energy sector in Africa. Source: <https://www.afdb.org/en/the-high-5/light-up-and-power-africa-%E2%80%93-a-new-deal-on-energy-for-africa/>

⁵⁷ Sierra Club, 2016. Still failing to solve energy poverty: International public finance for distributed clean energy still gets an "F". Sierra Club and Oil Change International, Washington, DC. April 2016. https://www.sierraclub.org/sites/www.sierraclub.org/files/uploads-wysiwig/1281%20Energy%20Scorecard_06_web.pdf

Given both the electrification rate and the amount of funding for energy access is not taking place at the levels required to achieve universal access by 2030, the Energy Directions Paper should be revised to reflect the following:

Funding Target – at least \$5.75 billion for energy access annually. Given a fivefold increase in finance is needed to reach universal access by 2030,⁵⁸ the WBG should direct at least 50 percent of its annual energy sector budget or around \$5.75 billion to clearly defined energy access projects and programs. According to the IEA, at least 65 percent of this funding should be for off-grid energy solutions.⁵⁹

Energy Access Target – 15 million people gain electricity access annually. Given approximately 156 million people need to gain electricity access annually to reach universal access by 2030⁶⁰, the WBG should set a target of directly contributing to at least 15 million people gaining electricity annually.⁶¹

Access before Exports. In order to ensure energy access is properly prioritized, before any public finance from the WBG is used to support fossil fuel exports,⁶² the WBG must first ensure support for annual increases in electrification rates are taking place at an adequate rate to meet universal access by 2030 and that any domestic energy supply shortages are being addressed ahead of any support for exports.⁶³

Well-defined Energy Access Performance Indicators: The WBG should use the same energy access definitions and performance indicators as the GTF and the Multi-Tier Framework. The WBG should track and report the activities of its energy portfolio broken down according to the energy access performance indicators contained in the Multi-Tier Framework, starting with the number of individuals/households or percentage of the population gaining access to electricity, as well as the number of households

⁵⁸ World Bank & IEA, 2017. Sustainable Energy for All, Global Tracking Framework 2017: Progress Toward Sustainable Energy. International Bank for Reconstruction and Development / The World Bank and the International Energy Agency (IEA), 2017. http://gtf.esmap.org/data/files/download-documents/eegp17-01_gtf_full_report_for_web_Q516.pdf

⁵⁹ According to World Bank staff, about half of the WBG's Last Mile Portfolio already consists of off-grid solutions. The WBG did not offer figures on funding amounts or new electricity connections for the Last Mile Portfolio. [Personal communication]

⁶⁰ This figure is based on 1.06 billion people not having access in 2014 (GTF, 2017) divided by 15 (or number of years from 2015 to 2030), which equals 70,666,667 people. Plus accounting for population growth, which stands at 85.5 million per year, brings the total to 156 million people.

⁶¹ The 10 million people figure represents 6 percent of the overall annual total needed. This is in alignment with the WBG funding target of \$5 billion annually for energy access, which represents a little more than 10 percent of the \$48 billion the IEA estimates is needed annually to reach universal energy access. In addition to direct contributions for electricity connections, WBG access funds will also be used for clean cooking solutions and policy support (e.g., Development Policy Finance).

⁶² Including associated infrastructure and policies.

⁶³ This recommendation is for the interim period until the WBG phases out support for fossil fuels in 2020.

Box 2. Mozambique: The World Bank's Energy Development and Access Project

According to the GTF (2017), Mozambique is one of the 20 least electrified countries in the world with 21 percent of its population having access leaving approximately 22 million people without access. From 2012 to 2014, the rate of access only improved by 1 percent.

The World Bank's most recent project targeting energy access in Mozambique is the Energy Development and Access Project (from March 2011 to June 2017) with a stated aim to install 1,200 solar PV systems. A review of the project's Implementation Status and Results Reports (ISRR, December 2016¹ & June 2017²) reveals some concerns.

Increases in Electricity Connections – The Bank reports that the project resulted in 540 new solar PV installations at rural health centers and schools. This was less than half of the stated aim of 1,200. The project also provided 6 km of new transmission lines and 256 km of new distribution lines. This resulted in an estimated 242,538 people gaining household grid connections. While of course this is a positive step forward, it falls well short of the necessary electrification pace. Based on the fact that 22 million people lacked access in 2014, in order to reach universal access by 2030, Mozambique needed to connect on average approximately 1.7 million people per year (not including population growth). This five-year WB operation resulted on average connecting 48,500 people per year. The WBG's contribution represented only 2.8 percent of the required increase. In order to meet the SEforAll goals, it is clear the WBG will need to increase its own direct contributions to new electricity connections.

Funding Allotment Prioritized for Coal-producing Provinces – According to the ISRR report, out of \$71.3 million, only \$18 million supported "Investments in Rural and Renewable Energy", i.e., solar PV systems. By far the majority of WB funding, \$49.3 million, supported "Existing Grid and Grid Extensions". Under the Existing Grid designation, the project upgraded the Nampula Province substation, including new transformers "aimed at boosting power supply in the Nacala Corridor, where energy demand is increasing rapidly largely due to growth in coal production/export." The only two Provinces the Bank report lists for improvements to electricity loss rates and interruptions are Nampula and Tete. These two Provinces are where the coal boom is concentrated, coal mining in the case of Tete and coal transport in the case of Nampula.

As such, it is important for the World Bank to address how much of the project is truly energy access for the poor versus how much is facilitating energy access for the coal exporting industry? While it is positive that there are measures to increase electricity connections for individuals and some rural locations, the Bank's latest Energy Access Project in Mozambique appears to continue the previous trend of catering to the export and extractive industries at the expense of focusing more on the energy supply needs of the domestic poor population.

¹ <http://documents.worldbank.org/curated/en/175341482940025608/pdf/ISR-Disclosure-P108444-12-28-2016-1482940014255.pdf>

² <http://documents.worldbank.org/curated/en/683161498287327917/pdf/ISR-Disclosure-P108444-06-24-2017-1498287313893.pdf>

or percentage of the population gaining access to non-solid fuels that are directly attributed to the WBG's operations.

Confirmed Energy Access Outcomes. In order to determine if the WBG's energy access projects and programs are truly reaching the poor, expected energy access outcomes need to be confirmed and revised according to the World Bank's Implementation Status and Results Reports (ISRR).

Renewable Energy

While the World Bank Group is commended for greatly increasing its support for renewable energy over the last decade, it has not reduced any funding for fossil fuel projects consistently providing between \$2.2 and over \$3 billion annually.⁶⁴ Oil Change International reports that in FY2014 the World Bank Group provided \$3.3 billion to oil, gas and coal projects and for renewable energy and energy efficiency combined the WBG provided \$1.9 billion (not including \$2.3 billion for large hydropower).⁶⁵

For FY2016, the WBG reports "about \$2.9 billion was for renewable energy and energy efficiency projects and programs," out of \$11.5 billion for the energy sector in total.⁶⁶ The WBG does not report annual funding for fossil fuel investments. Renewable energy is also not separated from energy efficiency. This may be because often WBG projects involve both activities (although the Bank should be able to indicate how funding is allotted). It is also uncertain what is included in the WBG's renewable energy figures. The Global Tracking Framework includes both large⁶⁷ and small hydropower and liquid biofuels.

It is important to recognize that the SEforAll goal is based on doubling the share of renewable energy to achieve a 36 percent share of renewable energy in the global final energy consumption. The IPCC's Fifth Assessment Report (2014) found that even though renewable energy growth globally was stronger than anticipated – the climate benefits were negated by the tremendous growth in GHG emissions from fossil fuels.

In order to double the share of renewable energy in the global energy mix by 2030, it is necessary to both increase the level of investments in renewables as well as reduce investments in fossil fuels. The WBG's annual fossil fuel investments still can be larger or equal to WBG renewable

energy investments.⁶⁸ Thus, the WBG's fossil fuel investments significantly diminish the WBG's net contribution to the SEforAll goal of doubling the share of renewable energy in the final energy mix. Unfortunately, the ED Paper does not provide a target to reduce/phase out WBG public finance for fossil fuels.

Furthermore, the ED Paper does not recognize that the continuation of the WBG to provide high levels of limited public finance for fossil fuel investments (ranging from \$2 billion to over \$3 billion annually) largely comes at the expense of renewable energy and rural electrification investments. As previously noted, the WB's State of Electricity Access report recognized that providing public assistance to fossil fuel projects is a barrier to scaling up renewables and that you need to design policies that financially discourage investments in fossil fuels.⁶⁹

With regards to supporting low-GHG emissions projects, the Energy Directions Paper provides the **Conceptual Framework for Assessing Project Alternatives**. Paragraph 32 states:

"Within the context of long-term system-wide optimization, the WBG will address the global need to slow the growth of climate pollutant emissions by using a conceptual framework that can guide how to approach alternatives. ... The framework is intended to assist the WBG in exercising selectivity in financing projects."

The Paper goes on to say that the **Conceptual Framework for Assessing Project Alternatives** captures five possible illustrative scenarios from scenario 1 low cost-low emissions, which the WBG will give priority, down to scenario 5 high cost-high emissions, which there is no case for which the WBG will provide support.

Overall, the Conceptual Framework is too general and is not required to be followed. Most importantly, it does not provide clear priority to projects that directly contribute to the SEforALL goals. In the costs to GHG emissions scenarios, there is no recognition of locking in GHG-intensive infrastructure and the long-term costs of doing so. The Conceptual Framework is not a pro-active approach for WBG added value. It is a passive approach that says if a project happens to provide any energy access then that would give it positive points towards Bank support. Given

⁶⁴ See <http://priceofoil.org/2016/04/14/world-bank-still-funding-the-search-for-new-fossil-fuels-despite-climate-commitments/>

⁶⁵ <http://priceofoil.org/content/uploads/2015/04/world-bank-april-2015-FINAL.pdf>

⁶⁶ <http://www.worldbank.org/en/topic/energy/overview#3>

⁶⁷ Large hydropower is defined as greater than 10 MW.

⁶⁸ For 2014, Oil Change International reports the World Bank Group provided \$3.3 billion to oil, gas and coal projects and for renewable energy and energy efficiency combined provided \$1.9 billion (not including \$2.3 billion for large hydropower, most large hydropower is not considered to be a climate-safe solution). <http://priceofoil.org/content/uploads/2015/04/world-bank-april-2015-FINAL.pdf>

⁶⁹ World Bank, 2017. State of Electricity Access Report 2017. Available at: <http://documents.worldbank.org/curated/en/364571494517675149/pdf/114841-REVISED-JUNE12-FINAL-SEAR-web-REV-optimized.pdf>

the Energy Directions Paper commits the WBG's energy practice to being centered around the goals of SEforAll, **the added value of the WBG's intervention should be squarely on providing access to energy for the poor and lowering GHG emissions.**

In the case of Mozambique, the WBG's Poverty Reduction Support Credits 9-11 (2013-2016), and Mining and Gas Technical Assistance Project (2013-2020) involve significant focus on policies and infrastructure to promote the export of coal and natural gas.⁷⁰ The WBG contends these projects are in line with poverty reduction goals because the Bank's activities aim to "broaden the distribution of the benefits of Mozambique's natural resource wealth."⁷¹ Mozambique has one of the lowest electrification rates in the world (see Box 2 above) and is highly vulnerable to the impacts of climate change. How is coal not considered to be a high cost, high emissions option in the case of Mozambique? Neither, the coal or the natural gas is slated to provide energy access to the poor in Mozambique. Specifically, the WBG's policy-based operations do not include regulatory frameworks aimed at energy access, off-grid solutions, or advancing renewable energy integration.

The Conceptual Framework is a business-as-usual approach for WBG intervention. It does not change any of the existing practices of the Bank. As such, the WBG will continue to contend that fossil fuel export projects are in line with a low-income country's poverty reduction priorities because the project will bring in revenue and jobs. The Energy Directions Paper does not provide adequate guidance on the need to provide energy access to the poor ahead of any considerations for energy exports.

The Energy Directions Paper does not offer any WBG specific renewable energy targets. The WBG's new Climate Action Plan (2016) does provide such targets for 2020. The adequacy of the CAP targets towards achieving SEforAll goals will be assessed in a forthcoming study. In addition, the ED Paper does not provide a target to reduce the WBG's fossil fuel investments and does not require the WBG to track or report on annual fossil fuel finance and the energy access outcomes of such finance.

The Energy Directions Paper should be revised to reflect the following:

Phase out support to fossil fuels by 2020. Using limited public finance to prop up the further development of fossil fuels needs to come to an end. In order to increase progress towards the SEforAll renewable energy target, the WBG should phase out support to fossil fuels by 2020.

SEforALL-reflective Renewable Energy Target. In support of doubling the share of renewable energy in the global energy mix⁷² and until the 2020 fossil fuel phase out, the WBG's financial support for renewable energy⁷³ should be at least double the financial support for fossil fuel energy (including all support for fossil fuel-associated infrastructure, e.g., pipelines and refineries).

Track and Report Fossil Fuel Finance. Towards a 2020 phase out and in order to gauge WBG progress on the SEforAll renewable energy goal, the ED Paper should require the WBG to track and report annual financial support to fossil fuel energy, including all associated infrastructure (e.g., pipelines and refineries)⁷⁴ and support provided through financial intermediaries, Development Policy Finance and technical assistance. In addition, if GHG-intensive projects are going to receive public finance, it is important to understand the end users and intended beneficiaries. Thus, WBG fossil fuel finance should be broken down by energy access contributions, and export- and exploration-associated activities.

Policy and Institutional Support

The WBG provides policy and institutional support mainly through Development Policy Finance, technical assistance, and advisory services. Scattered throughout the Energy Directions Paper are statements and examples of supporting the SEforAll goals through policy and institutional support.⁷⁵

The 2017 Global Tracking Framework reports "most countries perform well on designing and monitoring electrification plans, though these plans often miss important elements such as service level targets, geospatial mapping, off-grid solutions, and inclusion of community and productive uses. "

The Energy Directions Paper rightly points to the use of policy support to get at a sector-wide approach that potentially can have greater impact than a project-by-project approach towards scaling up investments in energy access

⁷⁰ BIC, 2017. World Bank Development Policy Finance Props Up Fossil Fuels and Exacerbates Climate Change: Findings from Peru, Indonesia, Egypt and Mozambique. Bank Information Center, January 2017. <http://www.bankinformationcenter.org/wp-content/uploads/2017/01/Exec-Summary-1.11.17-2.pdf>

⁷¹ <http://www.bankinformationcenter.org/wp-content/uploads/2017/03/BIC-response-to-World-Bank-Comments-Final-2.pdf>

⁷² With a 2030 goal of 36 percent.

⁷³ Excluding large hydropower, defined as >10 MW.

⁷⁴ The SEforAll goal is based on doubling the share of renewable energy to achieve a 36 percent share of renewable energy in the global final energy consumption. Export, exploration and refinery projects and supporting policies are critical to what energy sources reach final consumption.

⁷⁵ For example, paragraph 35 and paragraph 56.

and renewable energy. Unfortunately, the Energy Directions Paper does not provide the critical elements that need to be included in a Policy/Regulatory Framework.

However, since the publishing of the Energy Directions Paper, the WBG has done just that. In 2014, the World Bank put forward Regulatory Indicators for Sustainable Energy (RISE). According to the Bank, RISE is a suite of indicators that assesses the legal and regulatory environment for investment in clean energy and access (see Box 3).⁷⁶ RISE indicators provide guidance on a host of the main challenges identified for access and renewable energy – covering off-grid solutions for rural communities, targets for electrification rates, productive uses & services for the poor, affordability of the poor (e.g., funding support for consumer connections), financial incentives for renewable energy, geospatial mapping and a host of others.

It is important for the WBG to share with the public exactly how well the WBG's development policy finance and technical assistance operations are addressing RISE indicators such as: regulatory frameworks to support off-grid access; regulations that clarify market entry and exit, minimum quality standards, and targeted subsidies and duty exemptions for supporting off-grid solutions. The public needs to better understand how the WBG is enabling countries to benefit from the plummeting costs of decentralized solutions such as solar photovoltaics.

A recent assessment of current DPF operations involving the energy sector in four countries (Mozambique, Peru, Egypt and Indonesia) found that the DPF operations largely did not include energy access measures (i.e., no Prior Actions aimed at energy access) and only a few of the renewable energy RISE indicators, mainly feed-in tariffs and bidding processes. This is not an adequate regulatory framework for renewable energy investments to take off in a country. As indicated by the RISE indicators, many other elements are essential in making a comprehensive regulatory framework.

Sliding progress on both renewable energy and energy access demands a comprehensive sector-wide approach:

Globally, renewable energy investments grew slower in 2016 compared to 2015. This was especially true for developing and emerging market countries – the targets of WBG interventions – where renewable energy investment

fell by 30 percent compared to 2015.⁷⁷

From 2012 to 2014, the vast majority of incremental energy access (92 percent) was achieved in urban areas, providing 81 million people with access. In contrast, only 6 million people in rural areas gained access.⁷⁸

Going forward, the ED Paper needs to be updated to utilize the guidance provided by RISE, make these elements a policy priority and for the WBG to comprehensively incorporate RISE into WBG Development Policy Finance (DPF) operations, as well as country planning tools such as the Country Partnership Frameworks (CPF) and Strategic Country Diagnostic tool (SCD). In addition, as noted WBG policy interventions are directed at a sector-wide approach, thus WBG DPF operations should be measured against SEforALL sector-wide outcomes as suggested below:

SEforALL Sector-wide Outcomes: For all Development Policy Finance (DPF) operations involving the energy sector and infrastructure investment frameworks, the WBG should track and report pre- and post-DPF operation rate of electrification (broken down by urban, peri-urban and rural); mix for final energy consumption; and mix of energy sector investments (e.g., funding amounts to renewable energy, off-grid solutions, fossil fuel operations).

RISE Indicators in DPF Operations: In DPF operations⁷⁹ involving the energy sector and infrastructure investment frameworks, the WBG should adopt a comprehensive regulatory approach based on multiple RISE indicators, i.e., RISE indicators are comprehensively incorporated into Prior Actions. The ED Paper should require the WBG to track and report on the number of RISE indicators contained as Prior Actions.

Scale up financing through Public-Private Partnerships (PPP)

The WBG's Energy Directions paper argues that in order to meet the energy sector goals and financing needed to build infrastructure, the Bank needs to leverage scarce public funds through public-private partnerships (PPP).⁸⁰ As such, new PPP investment frameworks are the focus of many World Bank DPF operations.

However, the ED Paper does not provide guidance on how to integrate energy access for the poor, especially in rural

⁷⁶ See: <http://rise.esmap.org/indicators> and World Bank Group. 2014. *RISE - Readiness for Investment in Sustainable Energy: A Tool for Policy Makers*. Washington, DC. <https://openknowledge.worldbank.org/handle/10986/20598>

⁷⁷ http://www.ren21.net/wp-content/uploads/2017/06/Press-Release_ENGLISH.pdf

⁷⁸ World Bank & IEA, 2017. *Sustainable Energy for All, Global Tracking Framework 2017: Progress Toward Sustainable Energy*. International Bank for Reconstruction and Development / The World Bank and the International Energy Agency (IEA), 2017. http://gtf.esmap.org/data/files/download-documents/eegp17-01_gtf_full_report_for_web_0516.pdf

⁷⁹ DPF operations include Poverty Reduction Support Credits (PRSP) and Program for Results (PforR). This recommendation could also apply to technical assistance and advisory services.

⁸⁰ See Energy Directions Paper, paragraph 9.

areas, or renewable energy, especially off-grid solutions, into the WBG's overall promotion of PPP investment frameworks. Although there are existing cases where PPP frameworks were successfully applied to provide energy access to the poor (such as the Solar Home Systems Program in Bangladesh⁸¹), the ED Paper does not provide examples and detailed measures to be followed. Moreover, it is not clear that large-scale energy PPP projects are well suited to address energy access because the ED Paper and the WBG more broadly do not provide guidance on how to align the private sector objectives, i.e., typically aimed at profits, with government objectives to provide energy access to the poor.⁸²

For example, recently three countries (Mozambique, Indonesia, and Peru) were assessed with active Bank DPF operations focused on new PPP investment frameworks. The PPP frameworks supported by the Bank's DPF operations were not tied to providing energy access to the poor or to supporting climate-smart renewable energy projects.⁸³ Instead, the energy sector PPP projects being supported by new World Bank-assisted PPP investment frameworks were predominantly oil, gas and coal projects. The PPP investment frameworks provided subsidies to these fossil fuel projects but did not require any measures to ensure energy access for the poor, any GHG emissions reduction measures, or links to integrating more renewable energy sources. Furthermore, the PPP projects on offer in Mozambique were significantly aimed at coal and gas export infrastructure in a country where only 21 percent of the population has access.

It is important to understand that PPP projects are always subsidized projects. Governments provide subsidies through: project preparation costs, project finance and guarantees, tax breaks, low-cost land, etc. The degree to which a PPP project is subsidized can vary greatly depending on how many incentives are provided by the government. In return for getting government subsidies, PPP investment frameworks should specify energy access for the poor as a requirement of PPP benefits.

The Energy Directions Paper should be revised to reflect the following:

PPP Investment Frameworks & Energy Access. PPP projects are subsidized projects. As such, energy PPP projects

⁸¹ The SHS program is a form of PPP framework, however it was backed originally by the WB, many donors and involved 60 NGOs and social organizations. So this is not a typical PPP framework and not the type of PPP framework typically promoted through WBG Development Policy Finance operations. See <http://www.rahimafrooz-solar.com/index.php/product-and-services/2014-03-22-06-51-07/solar-home-system-shs>

⁸² "PPPs are controversial quite simply because of the inherent tension between the investors' need to make a profit and the public sector objectives." <http://www.financierworldwide.com/roundtable-infrastructure-and-project-finance/#.VMkjymctAal>

⁸³ BIC, 2017. World Bank Development Policy Finance Props Up Fossil Fuels and Exacerbates Climate Change: Findings from Peru, Indonesia, Egypt and Mozambique. Bank Information Center, January 2017.

Box 3 Regulatory Indicators for Sustainable Energy (RISE)

Indicators in each pillar are scored between 0 and 100 and are weighted equally to reach a score for the pillar. For each RISE indicator below, there are additional detailed sub-indicators provided by the World Bank.¹

Energy Access

1. Existence and monitoring of officially approved electrification plan
2. Scope of officially approved electrification plan
3. Framework of grid electrification
4. Framework for mini-grids
5. Framework for stand-alone systems
6. Consumer affordability of electricity
7. Utility transparency and monitoring
8. Utility credit worthiness

Energy Efficiency

1. National energy efficiency planning
2. Energy efficiency entities
3. Information provided to consumers about electricity usage
4. EE incentives from electricity rate structures
5. Incentives & mandates: large consumers
6. Incentives & mandates: public sector
7. Incentives & mandates: utilities
8. Financing mechanisms for energy efficiency
9. Minimum energy efficiency performance standards
10. Energy labeling systems
11. Building energy codes
12. Carbon pricing

Renewable Energy

1. Legal framework for renewable energy
2. Planning for renewable energy expansion
3. Incentives and regulatory support for renewable energy
4. Attributes of financial and regulatory incentives
5. Network connection and pricing
6. Counterparty risk
7. Carbon pricing and monitoring

Source: <http://rise.esmap.org/indicators>

¹ See: <http://rise.esmap.org/indicators> and World Bank Group. 2014. RISE - Readiness for Investment in Sustainable Energy: A Tool for Policy Makers. Washington, DC. <https://openknowledge.worldbank.org/handle/10986/20598>

should be designed to contribute to either energy access for the poor or renewable energy, preferably both. Thus, all WBG energy operations that support PPP investment frameworks must integrate requirements for energy access for the poor, especially in rural areas, and/or renewable energy, especially off-grid solutions.

PPP Project Preparation Assistance. The WBG often selects a few energy PPP projects that it directly helps a government to prepare (e.g., feasibility studies, contract preparation, promotion to investors, etc.). The ED Paper should require that the WBG's selection be based on PPP projects providing clean renewable energy, off-grid solutions, or significant, direct energy access benefits for the poor.

Pricing (Fossil Fuel Subsidies)

The Energy Directions Paper ⁸⁴ states that **“underpricing of energy is prevalent and impedes the shift to a more sustainable energy path, both financially and environmentally... Underpricing of fossil fuels stifles market solutions for efficiency improvement and innovation in technology, and invites additional subsidies to be offered for renewable energy, which are also facing fiscal sustainability challenges. The end result is market distortions, uneconomic choices, and uneconomic investment decisions across the sector.”**

The IEA's latest estimates indicate that fossil-fuel consumption subsidies worldwide amounted to \$493 billion in 2014.⁸⁵ Those subsidies were over four-times the value of subsidies to renewable energy.

As such, the ED Paper commits to reduce fossil fuel subsidies and support carbon taxes. However, the WB focuses only on price subsidies and undermines this pledge by introducing new subsidies for oil and gas investments in its policy lending operations, including inter alia: tax breaks, government guarantees, low-cost/free land, and project finance. For example, current Bank DPF operations in Indonesia, Egypt, and Mozambique all require the reduction of price subsidies for electricity and oil and gas.⁸⁶ However, these same DPF operations also include new laws with incentives/subsidies aimed at increasing oil, gas and coal investments. Thus, while reducing oil and gas subsidies at one end of the supply chain, i.e. price subsidies, the Bank is at the same time creating new subsidies at the beginning of the supply chain, i.e. investment subsidies.

As previously noted, the WB's State of Electricity Access⁸⁷ report highlighted that fossil fuel subsidies are a barrier to scaling up clean renewable energy and off-grid solutions. The report recommends “Policy design should financially discourage investments in fossil fuels, while also removing risk from investments in renewable energy.” In other words, by incentivizing investments/finance to go towards large-scale, fossil fuel projects it ushers the finance away from the off-grid renewable energy solutions needed for energy access.

The Energy Directions Paper should be revised to reflect the following:

Comprehensive End to Fossil Fuel Subsidies. Recognizing that fossil fuel subsidies provided as investment incentives represent barriers to scaling up clean renewable energy and off-grid solutions needed for energy access, the WBG needs to ensure it does not create new fossil fuel subsidies in any policy support it provides (e.g., Development Policy Finance, PPP-investment frameworks, technical assistance, etc.).

Increased Engagement in Natural Gas

The Energy Directions paper states that the WBG will increase its support for natural gas by addressing the barriers to commercializing natural gas and provide opportunities for private investment across the entire gas exploration, production, and downstream supply chain, including unconventional gas.

Overall, the ED Paper's main arguments in support of increasing WBG assistance for natural gas include:⁸⁸ It has half the carbon footprint of coal at the point of combustion.

Energy access: It is an affordable alternative to coal power as it provides both peak and base load power.

Renewable energy: It is well suited to enable grid-connected solar and wind power.

Low-GHG emissions questionable – The ED Paper puts natural gas forward as a low GHG-emissions energy source and as such it is included in the WBG's definition of “clean energy” and as an example of a low-cost, low-emissions alternative in the Conceptual Framework. This is worrisome because methane leakage is a problem across the value chain of natural gas production and distribution and can

⁸⁴ See Energy Directions Paper, paragraph 16.

⁸⁵ <http://www.worldenergyoutlook.org/resources/energysubsidies/>

⁸⁶ BIC, 2017. World Bank Development Policy Finance Props Up Fossil Fuels and Exacerbates Climate Change: Findings from Peru, Indonesia, Egypt and Mozambique. Bank Information Center, January 2017. <http://www.bankinformationcenter.org/world-bank-breaks-climate-pledges-by-financing-new-fossil-fuel-subsidies-undermining-forest-protection-and-exacerbating-climate-change/>

⁸⁷ World Bank, 2017. State of Electricity Access Report 2017. Available at: <http://documents.worldbank.org/curated/en/364571494517675149/pdf/114841-REVISED-JUNE12-FINAL-SEAR-web-REV-optimized.pdf>

⁸⁸ See Energy Directions Paper (2013), paragraph 52.

offset many of the perceived climate benefits of gas relative to coal.⁸⁹ Thus, the WBG will need to ensure low methane leakage rates throughout the supply chain and not just at the ‘point of combustion’. However, so far, the World Bank is only concentrating on reducing methane emissions associated with gas flaring. This is mainly through the World Bank-led Global Gas Flaring Reduction Partnership. Moreover, exported natural gas is associated with higher GHG emissions because it goes through the liquification and re-gasification processes, which are energy intensive processes, and additional GHG emissions associated with transportation.

No methane reductions required for WBG natural gas financing – Aside from recommending “good international practice”, the WBG does not have any specific restrictions or GHG emissions reduction measures applied to oil and gas sector financing. The WBG does support specific initiatives aimed at reducing gas flaring, including the Global Gas Flaring Reduction (GGFR) Partnership but does not require it to obtain finance.

In its own review of Bank actions to reduce short-lived climate pollutants,⁹⁰ only one individual project was referenced by the WB– Natural Gas Efficiency Project in Pakistan (2012). This \$200 million project aimed to reduce unaccounted-for gas in the natural gas distribution system by replacing and repairing pipes and improving the leak detection system.⁹¹

Natural gas is not advancing renewable energy integration – There is no evidence that the WB is utilizing natural gas to specifically advance the further integration of renewable energy sources. An initial review of WBG natural gas projects in Africa from 2014 to 2017 revealed that there are yet to be any measures put forth by the WBG aimed at developing gas specifically towards integrating more renewable energy.⁹² The ED Paper does not provide specific measures to apply to WBG-financed natural gas projects to advance the integration of grid-connected renewable energy.

Natural gas rarely advances energy access – The WBG does not have a good record on utilizing natural gas to advance energy access. From FY12 to FY14, project documents show that fossil fuel based projects analyzed across

four MDBs’ (including the WBG) energy portfolios rarely addressed energy access for the poor in any meaningful way. Just five percent of fossil fuel funding was clearly linked to energy access objectives.⁹³ The ED Paper does not track or report energy access benefits of natural gas projects.

Until the WBG phases out support to fossil fuels in 2020:

Investment Requirements for Natural Gas. The WBG should adopt natural gas project investment requirements that directly address energy access for the poor; advance the integration of grid-connected renewable energy, and implementation of best international practices in methane abatement.

Policy Support Requirements for Natural Gas. The WBG should adopt natural gas-specific policy measures to be implemented by DPF operations for advancing integration of grid-connected renewable energy and strong methane abatement regulations for the oil and gas sector.

Conclusions

The WBG’s pledge, contained in the Energy Directions Paper, to achieve the SEforAll energy goals has prompted the creation of several important new WBG tools, including the Global Tracking Framework (GTF), Regulatory Indicators for Sustainable Energy (RISE), and geospatial mapping of energy access. All of which are important first steps in addressing the many challenges correctly highlighted by the Energy Directions Paper.

Although the WBG is involved in many initiatives, including direct funding of projects, which contribute to the SEforAll energy goals, the WBG should be doing more to shore up the current inadequate progress. To begin, this assessment found several shortcomings in the WBG’s Energy Directions Paper, including:

Lacking WBG SEforALL targets. The ED Paper does not provide clear WBG targets to ensure WBG contributions are adequate to achieve the SEforAll goals. For example, the WBG’s own share of energy access financing continues to be inadequate. In FY2016, the WBG reported that it dedicated only 13 percent of its energy budget towards

⁸⁹ For example, see <http://www.yaleclimateconnections.org/2016/08/is-natural-gas-a-bridge-fuel/>. It should be noted that methane leakage rates are based on studies conducted in the United States, which may or may not be representative of leakage rates in developing countries.

⁹⁰ World Bank, 2013. Integration of short-lived climate pollutants in World Bank activities. <http://documents.worldbank.org/curated/en/972571468326204977/pdf/804810WP0G80Re00Box0379805B00OU0090.pdf>

⁹¹ It was estimated to result in reducing leakage of about 16 billion cubic feet of natural gas over five years.

⁹² Mainhardt, H. 2017. “The Role of International Financial Institutions in Oil and Natural Gas Development in Developing Countries.” Unpublished internal report for Oxfam America. Please contact Thomas Damassa at thomas.damassa@oxfam.org for access to the report.

⁹³ Sierra Club, 2016. Still failing to solve energy poverty: International public finance for distributed clean energy still gets an “F”. Sierra Club and Oil Change International, Washington, DC. April 2016. https://www.sierraclub.org/sites/www.sierraclub.org/files/uploads-wysiwig/1281%20Energy%20Scorecard_06_web.pdf

“improving energy access”.⁹⁴

No clear definition of what counts as energy access. The WBG does not have a clear or consistent definition of what counts as energy access with regards to WBG-financed activities. For example, sometimes simply increasing electricity generation capacity, whether or not it reaches any poor households, is labeled as energy access.

No tracking of WBG progress on SEforALL goals. The ED Paper does not require the WBG to track and report its own annual progress on SEforALL goals. While the GTF tracks annual country-level progress on the SEforAll goals, it does not track WBG annual progress.

No guidance on ensuring access before exports. The ED Paper does not provide adequate guidance on the need to provide energy access to the poor ahead of considerations for fossil fuel exports.

No target to reduce/phase out WBG fossil fuel contributions. The WBG’s annual fossil fuel investments are still equal to or larger than WBG renewable energy investments,⁹⁵ and thus, significantly diminish the WBG’s net contribution to the goal of doubling the share of renewable energy in the final energy mix. The ED Paper does not provide a target to reduce/phase out WB public finance for fossil fuels.

Inadequate guidance and requirements for policy support. The ED Paper does not include the essential elements that need to be consistently included in a policy framework to support energy access and renewable energy (e.g., off-grid solutions for rural communities). Furthermore, the ED Paper does not propose any energy access or renewable energy requirements of WBG policy support to the energy sector, i.e., Development Policy Finance (DPF) and technical assistance.

No energy access or renewable energy requirements for PPP frameworks. The ED Paper does not provide guidance on how to integrate energy access for the poor, especially in rural areas, or renewable energy, especially off-grid solutions, into the WBG’s overall promotion of Public Private Partnership (PPP) investment frameworks.

No indicators for natural gas “benefits”. The ED Paper does not require the WBG to track or report energy access benefits of natural gas projects. One study of fossil fuel projects analyzed across four multi-lateral development banks (including the WBG) found that only five percent of fossil fuel finance was linked to energy access objectives.⁹⁶ This indicates that natural gas projects rarely provide energy access to the poor. In addition, the ED Paper does not provide a WBG target for methane reduction in WBG-financed natural gas projects across the supply chain (e.g., pipelines). The ED Paper does not recognize that methane leakage across the supply chain of natural gas production and distribution can offset the perceived climate benefits of gas relative to coal.

Natural gas is not advancing renewable energy integration – An initial review of WBG natural gas projects in Africa from 2014 to 2017 did not provide any evidence that the WBG is utilizing natural gas to specifically advance the further integration of renewable energy sources.⁹⁷ The ED Paper does not provide specific measures to apply to WBG-financed natural gas projects to advance the integration of grid-connected renewable energy.

Recommendations

This assessment makes it clear that the WBG’s Energy Directions Paper needs to be reviewed and updated to reflect new information and tools, as well as more specific guidelines on how to integrate these tools directly into WBG energy operations. Moreover, the ED Paper needs to provide a pro-active approach in order for the WBG to truly “center its energy practice on achieving the SEforALL goals.” Given the inadequate progress to date, the ED Paper needs to adopt WBG-specific annual targets aimed at accelerating progress towards the 2030 SEforALL goals.

To begin, the WBG’s Energy Directions Paper should be revised to reflect the following:

WBG Targets

- Funding Target – at least \$5.75 billion for energy access annually. Given a fivefold increase in finance is needed to reach universal access by 2030,⁹⁸ the WBG

⁹⁴ On July 12, 2017, the World Bank’s Energy Overview webpage (<http://www.worldbank.org/en/topic/energy/overview>) reported in FY16, WBG financing in the energy sector totaled \$11.5 billion and on the results page it reported that the WBG dedicated \$1.5 billion towards “improving access” in FY16. These figures have since been removed from the webpage. The \$1.5 billion for energy access is also referenced as a WBG funding amount for “recent years” in a summary provided at: <https://ieg.worldbankgroup.org/evaluations/world-bank-group-support-electricity-access>

⁹⁵ For 2014, Oil Change International reports the World Bank Group provided \$3.3 billion to oil, gas and coal projects and for renewable energy and energy efficiency combined provided \$1.9 billion (not including \$2.3 billion for large hydropower, large hydropower is not considered to be a climate-safe solution). <http://priceofoil.org/content/uploads/2015/04/world-bank-april-2015-FINAL.pdf>

⁹⁶ Sierra Club, 2016. Still failing to solve energy poverty: International public finance for distributed clean energy still gets an “F”. Sierra Club and Oil Change International, Washington, DC, April 2016. https://www.sierraclub.org/sites/www.sierraclub.org/files/uploads-wysiwig/1281%20Energy%20Scorecard_06_web.pdf

⁹⁷ Mainhardt, H. 2017. “The Role of International Financial Institutions in Oil and Natural Gas Development in Developing Countries.” Unpublished internal report for Oxfam America. Please contact Thomas Damassa at thomas.damassa@oxfam.org for access to the report.

⁹⁸ World Bank & IEA, 2017. Sustainable Energy for All, Global Tracking Framework 2017: Progress Toward Sustainable Energy. International Bank for Reconstruction and Development / The World Bank and the International Energy Agency (IEA), 2017. http://gtf.esmap.org/data/files/download-documents/eegp17-01_gtf_full_report_for_web_0516.pdf

should direct at least 50 percent of its annual energy sector budget or around \$5.75 billion to clearly defined energy access projects and programs.⁹⁹ According to the IEA, at least 65 percent of this funding should be for off-grid energy solutions.¹⁰⁰

- Energy Access Target – 15 million people gain electricity access annually. Given approximately 156 million people need to gain electricity access annually to reach universal access by 2030¹⁰¹, the WBG should set a target of directly contributing to at least 15 million people gaining electricity annually.¹⁰²
- Phase out Support to Fossil Fuels by 2020. Using limited public finance to prop up the further development of fossil fuels needs to come to an end. In order to increase progress towards the SEforAll renewable energy target and access to affordable clean energy for all, the WBG should phase out support to fossil fuels by 2020. Until then, the WBG's financial support for renewable energy¹⁰³ should be at least double the financial support for fossil fuel energy.
- Access before Exports. Ahead of any WBG support for fossil fuel exports,¹⁰⁴ the WBG must first ensure support for annual increases in electrification rates are taking place at an adequate rate to meet universal access by 2030 and that any domestic energy supply shortages are being addressed.¹⁰⁵

WBG Tracking and Reporting

- Well-defined Energy Access Performance Indicators: The WBG should use the same energy access definitions and performance indicators as the GTF and the Multi-Tier Framework. The WBG should track and report the activities of its energy portfolio broken down according to the energy access performance indicators contained in the Multi-Tier Framework, starting with the number of individuals/households or percentage of the population gaining access to electricity, as well as the number of households or percentage of the population gaining access to non-solid fuels that are directly attributed to the WBG's operations.

- Confirmed Energy Access Outcomes: In order to determine if the WBG's energy access projects and programs are truly reaching the poor, expected energy access outcomes need to be confirmed and revised according to the World Bank's Implementation Status and Results Reports (ISRR).
- Track and Report Fossil Fuel Finance: Towards a 2020 phase out and in order to gauge WBG progress on the SEforAll renewable energy goal, the ED Paper should require the WBG to track and report annual financial support to fossil fuel energy, including all associated infrastructure (e.g., pipelines and refineries)¹⁰⁶ and support provided through financial intermediaries, Development Policy Finance and technical assistance.

Policy Support

- SEforALL Sector-wide Outcomes. For all Development Policy Finance (DPF) operations involving the energy sector and infrastructure investment frameworks, the WBG should track and report pre- and post-DPF operation rate of electrification; mix for final energy consumption; and mix of energy sector investments (e.g., funding amounts to renewable energy, off-grid solutions, fossil fuel operations).
- RISE Indicators in DPF Operations.¹⁰⁷ In DPF operations involving the energy sector and infrastructure investment frameworks, the WBG should adopt a comprehensive regulatory approach based on multiple RISE indicators, i.e., RISE indicators are comprehensively incorporated into Prior Actions. The ED Paper should require the WBG to track and report on the number of RISE indicators contained as Prior Actions.

Public-Private Partnerships

- PPP Investment Frameworks & Energy Access. PPP projects are subsidized projects.¹⁰⁸ As such, energy PPP projects should be designed to contribute to either energy access for the poor or renewable energy, preferably both. Thus, all WBG energy operations that support PPP investment frameworks must integrate

⁹⁹ \$5.75 billion is 50 percent of \$11.5 billion or the WBG's FY2016 energy sector budget. The \$5.75 billion figure is substantially less than the GTF suggested necessary fivefold increase, i.e., a fivefold increase for the WBG would be from \$1.5 billion in FY2016 to \$7.5 billion.

¹⁰⁰ According to World Bank staff, about half of the WBG's Last Mile Portfolio already consists of off-grid solutions. The WBG did not offer figures on funding amounts or new electricity connections for the Last Mile Portfolio. [Personal communication]

¹⁰¹ This figure is based on 1.06 billion people not having access in 2014 (GTF, 2017) divided by 15 (or number of years from 2015 to 2030), which equals 70,666,667 people. Plus accounting for population growth, which stands at 85.5 million per year, brings the total to 156 million people.

¹⁰² The 15 million people target represents roughly 10 percent of the overall annual total needed. This is in alignment with the WBG funding target of \$5.75 billion annually for energy access, which represents a little more than 10 percent of the \$48 billion the IEA estimates is needed annually to reach universal energy access by 2030.

¹⁰³ Excluding large hydropower, defined as >10 MW.

¹⁰⁴ Including associated infrastructure and policies.

¹⁰⁵ This recommendation is for the interim period until the WBG phases out support for fossil fuels in 2020.

¹⁰⁶ The SEforAll goal is based on doubling the share of renewable energy to achieve a 36 percent share of renewable energy in the global final energy consumption. Export, exploration and refinery projects and supporting policies are critical to what energy sources reach final consumption.

¹⁰⁷ DPF operations include Poverty Reduction Support Credits (PRSP) and Program for Results (PforR). This recommendation could also apply to technical assistance and advisory services.

¹⁰⁸ By definition there is always a public component to a Public-Private Partnership (PPP). The form the public component takes depends on the project and can range from direct financial support and tax breaks, to in-kind support (such as provision of land), to contingent support (such as guarantees). No matter what form the public support takes it is a form of subsidy.

requirements for energy access for the poor, especially in rural areas, and/or renewable energy, especially off-grid solutions.

- PPP Project Preparation Assistance. The WBG often selects a few energy PPP projects that it directly helps a government to prepare (e.g., feasibility studies, contract preparation, promotion to investors, etc.). The ED Paper should require that the WBG's selection be based on PPP projects providing clean renewable energy, off-grid solutions, or significant, direct energy access benefits for the poor.

Pricing (Fossil Fuel Subsidies)

- Comprehensive End to Fossil Fuel Subsidies: Recognizing that fossil fuel subsidies provided as investment incentives represent barriers to scaling up clean renewable energy and off-grid solutions needed for energy access, the WBG needs to ensure it does not create new fossil fuel subsidies in any policy support it provides (e.g., Development Policy Finance, PPP-investment frameworks, etc.).

Increased Accountability for Natural Gas Investments

Until the WBG phases out support to fossil fuels in 2020:

- Investment Requirements for Natural Gas. The WBG should adopt natural gas project investment requirements that directly address energy access for the poor; advance the integration of grid-connected renewable energy, and implementation of best international practices in methane abatement.
- Policy Support Requirements for Natural Gas. The WBG should adopt natural gas-specific policy measures to be implemented by DPF operations for advancing integration of grid-connected renewable energy and strong methane abatement regulations for the oil and gas sector.

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