The Lab
The Global Innovation Lab for Climate Finance

Debt Fund for Prepaid Energy Access

Phase 2 Analysis Summary

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GOAL

To bring renewable energy to more than five million off-grid homes in five years.

CURRENT STAGE

Early development

SECTOR

Distributed Energy and Rural Development

PRIVATE FINANCE TARGETS

Institutional investors, commercial banks, and private equity

GEOGRAPHY

For pilot phase: Sub-Saharan Africa
In the future: Expand to Asia and/or Latin America and eventually have a Global Fund

The Lab is a global initiative that supports the identification and piloting of cutting edge climate finance instruments.

It aims to drive billions of dollars of private investment in developing countries.

Acknowledgements

Information included in this report is based on high-level preliminary analysis, subject to changes based on the more in-depth analysis that would be performed during Phase 3 of The Lab assessment, provided Lab Advisors select this instrument.

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Sector	Energy, Industry
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SUMMARY

Almost 600 million people in Sub-Saharan Africa still lack access to electricity. Prepaid off-grid renewable energy systems have the potential to significantly reduce this number over time. However, access to working capital is a key barrier preventing this technology from reaching full-scale.

The Debt Fund for Prepaid Energy Access would address this barrier by providing the necessary working capital to energy service providers in Sub-Saharan Africa. The Debt Fund incorporates three innovative design features to reduce risks around customer default, making it uniquely attractive to potential investors. First, it would provide asset-securitized working capital — whereby the loans would be secured against deployed assets and the Debt Fund itself would have priority access to customer revenue. Second, it would develop industry-wide credit ratings of the customer pool to provide enhanced information about the consumer portfolio for investors, and to define a quality standard that future service providers would need to meet, thus enabling the sector to grow against clearly defined metrics. The working capital would enable energy service providers to expand successful deployments of prepaid off-grid renewable energy systems in well-defined territories.

The initial pilot of $50 million would allow energy service providers to meet the current estimated project pipeline across Sub-Saharan Africa. Should the $50 million pilot be successful, there is potential to increase the size of the Debt Fund to $500 million by 2020 and provide access to low-carbon energy for several million households across Sub-Saharan Africa. The Debt Fund could also be expanded to other emerging markets where households lack access to electricity.

There is interest from private investors and development banks to invest in such a fund, and from energy service providers to access such a fund. However, the Debt Fund first needs strong institutional support to carry out several outstanding tasks including the development of an implementation plan and credit metrics, and the engagement of a fund manager to overcome implementation challenges.

INSTRUMENT DESCRIPTION

By providing working capital to prepaid energy service providers in Sub-Saharan Africa, the Debt Fund will accelerate the deployment of clean energy and deliver basic power on a commercial basis to the 599 million people who currently lack access to grid-based electricity.

The Debt Fund for Prepaid Energy Access is a structured stand-alone fund, with an initial capitalization of $50 million. The Debt Fund lends working capital ($2-5 million with a loan tenor of up to four years) to energy service providers of prepaid solar home system (SHS) products and services. Service providers install SHS for consumers who periodically make advance payments for using the services.

The Debt Fund would be financed through private equity and debt from institutional investors and international financial institutions. It provides asset finance and consumer debt and gives investors priority access to consumer payments and deployed energy assets. Consumer payments are typically greater than the corresponding loan amount[1], providing a degree of over-collateralization of the amount lent.

A key innovation of the Debt Fund is credit ratings of the consumer pool of energy service providers. This will provide enhanced information about the consumer portfolio for investors and define a quality standard that energy service providers must meet, enabling the sector to grow against clearly defined metrics.

The Debt Fund also provides two further de-risking measures: a 10-15% private equity or public first-loss tranche, and either sub-ordinated debt or loan guarantees.

STRUCTURE

There are two options for the structure of the Debt Fund. Option A assumes private equity can be attracted for 10% of the Debt Fund, forming a first-loss cushion for the remaining 90% of senior private debt, which is additionally covered by a partial credit guarantee from a development finance institution (DFI). Option A is more optimistic in terms of the potential to attract private sector capital. The alternative, option B, assumes that international private investors will be more risk averse, given the nascent nature of the market. Therefore, the Debt Fund may have to start with option B, which includes 15% public first-loss and 25% of subordinated debt from DFIs, as two de-risking measures for the 60% senior private debt. Under both options, loans are secured against the deployed assets and the Debt Fund has priority access to customer revenue. Also under both options, the required debt finance is approximately 50% of the expected gross customer revenue. This provides an overcollateralization

1 In case of the proponent, payments are typically 50% of more higher than the corresponding costs

Figure 1: Debt Fund Flow Chart -Option A

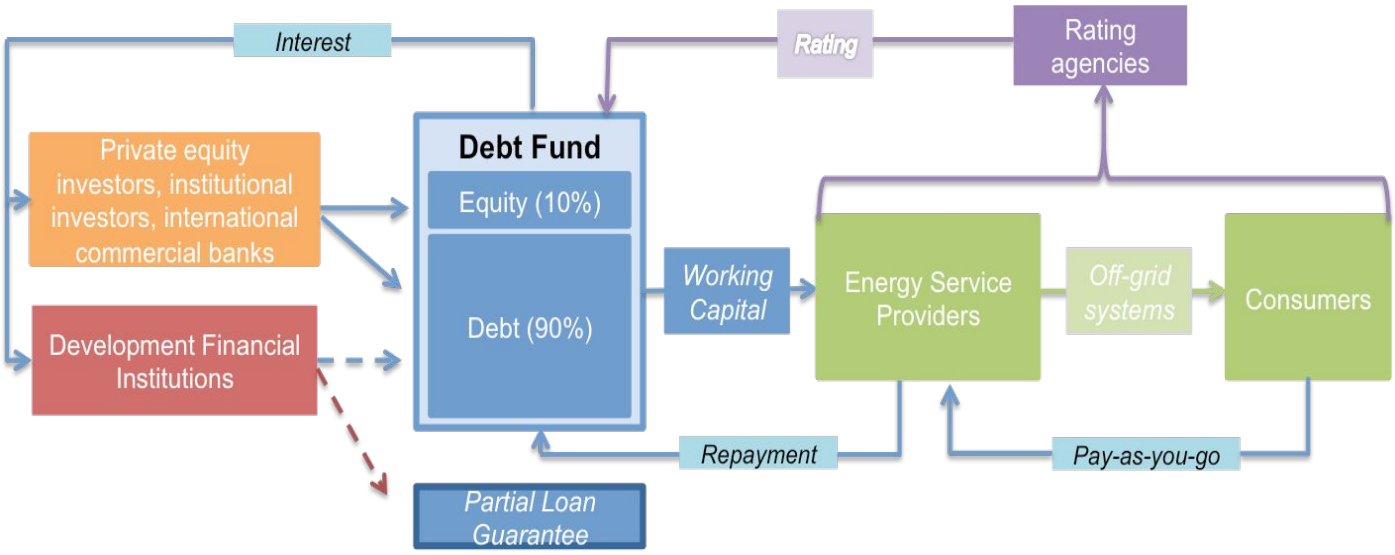
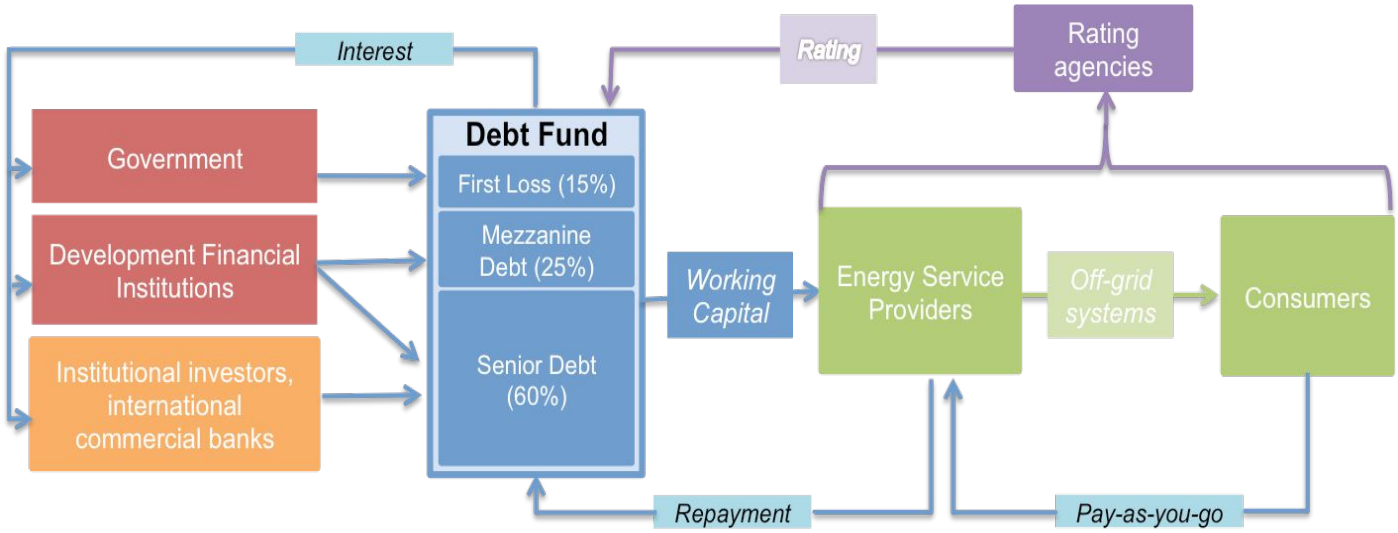


Figure 2: Debt Fund Flow Chart - Option B



of twice the amount of the loan, which, when combined with title over the assets, gives security to the lender.

STAKEHOLDERS

Under both options, the main private stakeholders are private senior debt investors, energy service providers who deploy prepaid SHS and require working capital, a fund manager, credit rating agencies to assess the consumer pool, and consumers of SHS. Under option A, a private company or energy service provider could also be equity providers. On the public side, DFIs provide guarantees under option A and mezzanine under option B, and under both options they may also provide part of the senior debt. Finally, governments provide a grant for first-loss under option B, and could provide funding for technical assistance under either option, if required.

TARGET COUNTRIES

Target countries include countries within Sub-Saharan Africa, where Pay as-you-go (PAYG) energy service providers operate, such as Ghana, Kenya, Tanzania and Uganda.

IMPLEMENTATION AND EXPECTED TIMEFRAME

At least two years from now. As part of the implementation strategy, the following needs to be undertaken: identify and engage a fund manager; decide on the final structure, including the corporate structure, the location of the fund, and governance arrangements; and, attract public and private capital. The biggest uncertainty is the time required to reach the initial capitalization of $50 million, which may take up to 1.5 years.

TARGET TECHNOLOGIES

Target technologies include stand-alone SHS in the range of 2 to 20 watts, as they form the largest part of the PAYG market and their payback time (one to four years) fits the terms of the Debt Fund. Other technologies, such as smaller solar micro-grids, may be included later on, if they can provide similar payback times.

ROLE OF THE LAB

Through further discussions with experts, along with in-depth assessments, the Lab could develop a detailed implementation plan and basic credit rating criteria, and identify key stakeholders, such as a fund manager, investors (including public entities), and a shortlist of credit-worthy energy service providers.

CONTEXT

Prepaid off-grid renewable energy systems have the potential to provide energy to the 599 million people in Sub-Saharan Africa who lack access to electricity. However, in order for SHS to scale, energy service providers need access to working capital.

The deployment of prepaid (also know as PAYG) solar home systems (SHS)[2] (and to some extent, micro-grid systems based on renewables) has grown rapidly in Sub-Saharan Africa to more than 100,000 systems in the last 18 months (FiRE, 2014). However, this is only a tiny fraction of the market in Sub-Saharan Africa, which consists of 599 million people without access to electricity (IEA, 2013).

Given the lack of rural electricity through the national grid, these off-grid systems will provide rural households with a reliable and clean source of basic electricity. It is estimated that at least three million PAYG SHS will be sold globally over the next five years (CGAP, 2014), revealing the potential of PAYG models to transform the energy access sector.

Despite recent growth in the sector, the market is still in its infancy, and potential investors have too little information on which to base investment decisions. This, combined with underdeveloped capital markets, limits access to local debt financing for energy service providers in Sub-Saharan Africa, creating a major barrier to scaling these technologies.

Some national policies in Sub-Saharan Africa aim to increase access to SHS but have not yet catalyzed the scale up PAYG off-grid systems. Some other policies that promote electrification, high value-added taxes, and fossil fuel subsidies, actually undermine these efforts to increase access to SHS. While particular policies do not need to be in place for the Debt Fund to operate in a country, financial and energy sector regulations will likely influence the type of transaction model that is appropriate (CGAP, 2014).

At present, there are no funds of this kind that provide asset-securitized working capital to (exclusively) PAYG energy service providers in Sub-Saharan Africa. The Debt Fund complements the Shell ResponsAbility Fund, which is focused on providing short-term debt to suppliers of off-grid energy service products. The Shell ResponsAbility Fund does not use customer credit ratings, provides shorter-term capital that is secured against the balance sheet of energy service providers, goes beyond PAYG systems, and targets energy service providers worldwide, not just in Sub-Saharan Africa (Shell, 2014).

2 Prepaid energy relies on deploying consumer equipment that is paid for over a period of time.

INNOVATION AND BARRIER REMOVAL

The Debt Fund will aim to de-risk lending through the provision of asset-backed working capital and the development of credit metrics to assess the consumer pool.

INSTRUMENT INNOVATION

No other fund provides asset-securitized working capital for PAYG energy services in Sub-Saharan Africa or a credit rating of the customer pool. The two main innovations of the Debt Fund are securitization using access to consumer payments and energy assets for investors rather than the service providers' balance sheets, and credit ratings of the consumer pool, both of which reduce credit risks. Another innovation is longer maturity loans which are required for PAYG systems, as opposed to direct sales of off-grid systems to customers, which will be covered under the Shell ResponsAbility Fund. The Debt Fund instrument is therefore rated as moderate-to-high in terms of innovation.

BARRIERS ADDRESSED

Barriers directly addressed by the Debt Fund instrument include:

Access to capital. The major barrier to scaling the PAYG energy sector is access to working capital. Without access to working capital, energy service providers cannot maintain or increase the deployment of SHS.

Consumer credit risk. Given that the market is still in its infancy, investor concerns around default risk are another barrier. Public loan guarantees, subordinated debt, and first-loss could mitigate risk. The short pay-back time of PAYG systems and the credit rating of the companies' asset and consumer portfolio[3] are further risk mitigants. However, these risk mitigation instruments would only partially cover default risk.

Deal flow. The potential lack of deal flow[4] in the sector could affect future demand for the Debt Fund. While off-grid systems theoretically offer enough deal flow, the strength of the

3 A further risk mitigant is the equity base of energy service companies, which is however likely to be relatively small compared to the financing scale targeted by the fund.

4 Deal flow refers to the rate at which investment offers are presented to funding institutions.

distribution channels can be a barrier for scaling up.[5] Even when energy service providers can provide a pipeline, the bankability of the deal flow is a problem in that the underwriting criteria has to be reviewed against existing companies track records, which are often not adequate due to the nascent nature of the market (see Bardouille and Muench, 2014).[6] The planned credit rating of consumer pools partly addresses the need to improve the bankability of the deal flow, if investors perceive credit risks as mitigated through the rating.

BARRIERS NOT ADDRESSED

Barriers not or only partially addressed by the Debt Fund instrument:

Technical risks / shortage of technical skills. The Debt Fund does not directly address technical risks once installed (such as system malfunction) or technical skill shortage in local service providers. The development and maintenance of the distribution channels is a significant barrier. Expanding distribution networks and educating consumers is expensive and can take time (BNEF, 2014).[7] It is unclear whether the growth of the sector will create enough knowledge so that as companies expand, new companies are created and local banks and suppliers are appropriately acquainted with the technology.[8] The Debt Fund will aim to mitigate this risk through the development of a quality standard that energy service providers must meet, enabling the sector to grow against clearly defined metrics.

Enabling environment. The Debt Fund does not encourage the development of policies to improve renewable energy access at scale. Nor does it explicitly encourage the participation of local energy service providers or local lenders. Involving local actors will be a key part of ensuring the longevity and success of the Debt Fund, as well as the growth and sustainability of the sector in emerging markets; however, it is less of an issue for the Debt Fund and the deployment of solar home systems than for other larger technologies.

Access to local currency debt. The Debt Fund does not encourage the development of local debt markets as it relies on USD-denominated finance. Dependence on foreign currency means there is a risk that the local currency depreciates or appreciates against the USD. Should this occur, the risk is ultimately borne by the consumers, as companies will adjust PAYG fees to reflect FX fluctuations. The FX risk is mitigated by the short payback time of supported SHS and the lower (and declining) costs of SHS compared to kerosene. For long-term scale up of clean energy access, it will be important to build up local debt markets for energy providers.

Political risks. The Debt Fund does not address political risks, such as political turmoil or warfare. This could be an issue in the proposed geographical area, but the risks are relatively small compared to on-grid investments. This could be mitigated through the use of political risk insurance if necessary.

IMPLEMENTATION AND RELATED CHALLENGES

Attractiveness for investors will depend on the final structuring of the Debt Fund and its manager. It is unclear whether there will be an adequate number of suppliers that will meet the credit requirements of the Debt Fund if it is increased beyond its initial $50 million pilot. Robust distribution channels are necessary to ensure growing demand for these systems over time.

While a preliminary structure has been proposed for the Debt Fund (option A), initial interviews suggest that private investors require greater risk mitigation, and public investors require a clearer view on their role. Undertaking formal interviews to further gauge investor interest would occur as part of Phase 3 analysis. From informal Lab interviews with international banks and DFIs, it appears that there is investor interest, but that the level of interest will depend on who the fund manager is and to which extent private investment is shielded by public risk mitigation (first-loss, subordinated debt, or guarantees). Substantial risk management is necessary if the Debt Fund wants to attract investors who would not ordinarily invest in such a market (e.g. institutional investors and banks with non-philanthropic aims).

As a next step, the structure of the fund, including target returns and the role of the public sector needs to be clarified. A decision should be made on whether the Debt Fund should adopt the option A or option B structure. Further, the role of the public sector needs to be clarified. Our interviews with international commercial banks and DFIs revealed mixed opinions on how best to incorporate public finance without crowding out private investment or adding administrative burden to the Debt Fund. The options are to have public equity/first-loss and subordinated debt (decreasing over time as private investors become more comfortable) as suggested in option B, or to provide partial loan guarantees for senior debt [9]such as

5 And with firms only seeking up to $10 million from investors, due diligence and support become expensive (BNEF, 2014).

6 Furthermore, the complexity of multinational operations can affect the bankability

7 There is also a risk that other firms selling cheaper products will ride on the success of reputable brands, eroding consumer confidence if the products perform poorly (BNEF, 2014).

8 It is likely that the scale up of PAYG companies may be challenging unless capacity building measures are undertaken.

9 Guarantees reduce the risk of crowding out private investment compared to direct public financing (World Bank, 2011) but several experts saw loan guarantees as not appropriate because of lengthy negotiations and unfavorable pricing in case of large risk coverage.

those provided by the IFC,[10] which cover full and timely debt repayment up to a predetermined amount.

Another risk lies in the choice of technology, with SHS being more suitable for working capital than micro-grids. SHS generally have a payback of 18 months - three years depending on the technology (CGAP, 2014), while micro-grids, depending on their size, generally require longer-term capital of up to 15-20 years. Therefore, it is recommended that the Debt Fund initially focus on stand-alone SHS with the option to expand to other off-grid renewable technologies that can offer similar pay-back times. [11]

A key determining factor for investors on whether to invest in the fund will be the choice of fund manager. It will be essential to select a fund manager who is familiar with the market and local environment and has the resources to assess the credit risk of energy service providers to ensure the credit requirements are appropriate. The key to success will be a balance whereby the credit requirements are adequate so that loans will be repaid but are not too onerous so as to deter suppliers. This will be particularly important in the early stage of the Debt Fund. The proposed instrument simplifies the due diligence of the fund manager by developing metrics to assess consumer risk, based on which credit rating agencies can rate the costumer portfolio of companies. Ensuring that customer payment systems are transparent and reliable to prevent gaming or circumvention by consumers will be important to recover debt.

In rural areas, there are risks of non-regularity of customer payments, as they are intermittent and largely driven by crop cycles. Extended payment cycles can lengthen capital repayment time, dependent on the crop cycle for a given year (but this is generally predictable). Therefore the major risk is consumer default risk. To deal with this risk, the Debt Fund proposes to develop metrics that will assess the customer pool, with the aim to provide enhanced information about the customer portfolio for investors. Payment performance will need to continue to be monitored by energy service providers to assess against the metrics and to minimize default, theft, and circumvention. According to CGAP (2014), PAYG companies often encourage early payment through discounts, or through the use of prepaid energy credits. Further, it will be important to diversify among energy service providers who target customers with differing revenue streams within their portfolios.

Foreign exchange volatility is also a risk for energy service providers who draw on the Debt Fund. Local households pay energy service providers in local currency, while the loan agreements with energy service providers would be in USD. While allowing flexibility in customer pricing will account for any volatility, it will be important to ensure that customers are aware of any price changes in line with responsible financing principles. Loans denominated in local currency (see e.g. REGMIFA, 2014) may be a solution that would require the involvement of local lenders and/or the use of FX hedging by the Debt Fund.

The success of the Debt Fund will depend in part on reliable distribution and maintenance of the technology across target markets. Suppliers will need to demonstrate this capability as a requirement for receiving the working capital. The service provider must have a reliable network and the technical expertise to fix any problems that arise and to meet the high servicing standards that are required for maintenance. In order to sustain growth in this sector, it will be important that distribution networks are reliable and grow rapidly to keep pace with demand. Providing technical assistance could be a potential solution to ensure new energy service providers have the necessary expertise.

Government policies and interventions may also pose challenges to implementation. While the Debt Fund can theoretically be offered without any supporting policy frameworks in place, widespread electrification, high fossil fuel subsidies, or import taxes would reduce the attractiveness of the promoted systems. Further, financial regulations may influence the type of transaction model offered by energy providers (e.g. lease or rent-to-own) (CGAP, 2014). There is the potential to delay implementation depending on administrative requirements and competitiveness of the technology versus conventional energy services. Energy service providers can also lose their markets if governments promote off-grid systems through other channels. It will therefore be important to engage the governments of the countries within which the pilot will be implemented.

The sustainability of the Debt Fund and long-term scale up of off-grid systems will rely on the ability to attract more private and local debt over time. This in turn will rely on a high rate of repayment and increased demand for working capital from the Debt Fund, which will depend on reliable distribution networks and maintenance providers. To ensure each of these requirements are met, local and international private lenders should be involved early on, so they can become familiar with the market, promoted technologies, and target companies. Developing partnerships with established companies and finance providers already operating in the market will be important to increase capacity and ensure sustainable growth in the market.

10 http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/structured+finance/products/partial+credit+guarantee

11 E.g. micro grids, which the fund also initially wanted to target. However, most micro grids seem to have much longer pay back times, so they do not fit the profile of working capital to be provided by the fund.

PRIVATE FINANCE MOBILIZATION POTENTIAL AND OTHER POSSIBLE IMPACTS

From its initial capitalization, the Debt Fund has the potential to mobilize $50-500 million by 2020, and the value of the PAYG energy sector may even reach several billion dollars by 2030 (assuming 5-10% market penetration per year). In addition to supporting greenhouse gas emission reductions, it would provide energy to millions of people, reduce indoor air pollution, and create jobs.

By 2020, prepaid energy access could reach several million households, but this will require several hundred million dollars of working capital: FiRe (2014) estimates that Sub-Saharan Africa has seen 100,000 households access off-grid energy in the past 18 months. Craine et al (2014) estimates a compound annual growth rate in off-grid access of 95% in Sub-Saharan Africa alone. If this annual growth rate continues, then the market could reach several million households by 2020. However, access to working capital is a key issue. So far, there have only been a few cases of commercial capital provision, such as M-KOPA's recent commercial debt facility of $10 million from the Commercial Bank of Africa (M-KOPA, 2014). The current challenge for investors is high transaction costs, as firms ask for less than $10 million (BNEF, 2014). It seems unlikely at the moment that providers can rapidly step up investment from roughly $5 to 25 million to the several hundreds million dollars needed.[12]

The Debt Fund could mobilize an estimated $50 to 500 million from private finance. Experts estimate that there are 10 to 20 commercial providers of PAYG energy services operating in Sub-Saharan Africa that may be ready to access commercial capital. BNEF (2014) highlights five firms that are currently seeking working capital in the range of $1-10 million. We therefore anticipate that the existing market could easily absorb the $50 million of working capital that the Debt Fund may initially provide. According to our interviews, should an appropriate risk portfolio be adopted, attracting $500 million by 2020 could be feasible. It is assumed that private finance could make up between 60-100% of the Fund over time.

Prepaid energy access in Sub-Saharan Africa has the potential to scale up to $1.5 to 3 billion in 2030. In 2030, the maximum overall market potential for PAYG energy access in Sub-Saharan Africa will be roughly $15-30 billion, assuming 645 million inhabitants without electricity access (IEA 2013), five people per household (based on UN 2014), and $50 to 230 per Solar Home System.[13] Assuming an annual market penetration of 5-10% a year, investments could reach $1.5 to 3 billion in 2030. There are several risks that might prevent reaching this potential, such as far-reached grid electrification, dissemination of other off-grid technologies, and limited access to remote areas. In these cases, the actual market potential will be lower.

The (unsubsidized) financial performance of the Debt Fund will correspond to market terms. The Debt Fund targets a market-compatible rate of return of around 12% before management fees are deducted; investors are expected to receive 10% return on average - 25% return for equity (10% of fund capital) and 8% for senior debt (90% of capital). As planned, these rates can be achieved without direct subsidies. However, in the initial phase of the Debt Fund, some public risk mitigation will be needed: DFI loan guarantees under option A or a public first-loss tranche (15%) and public subordinated debt (25%) under option B. Once the Debt Fund has proven to be successful without major defaults of borrowers, and private investors are ready to accept less de-risking, public support would be phased out. It is difficult to estimate when public de-risking can be completely phased out. We expect the Debt Fund will expand from the initial $50 million only if more private investment can be attracted without the need for further public capital.

If full market potential is reached in 2030, prepaid energy access could reduce emissions by more than 10 million tCO2 a year. Our estimation of 26 to 52 Million tCO2 per year with full market penetration is based on 645 million inhabitants in Sub-Saharan Africa without electricity access in 2030 (IEA, 2013), 5 people per household (estimate based on UN, 2014), and 0.2-0.4 tCO2 per household and year from kerosene and candle lighting.[14] Emission reductions could be even higher if we account for replacement of batteries and black carbon emissions from kerosene (Bardouille and Muench, 2014).

The deployment of prepaid clean energy services will increase jobs, improve access to energy, and lower indoor airborne pollution. The installation and maintenance of solar home systems generates a substantial number of local jobs. The instrument targets the 645 million inhabitants of Sub-Saharan Africa who are projected to still have no access to electricity in 2030. It also targets kerosene consumption as source of indoor air pollution, one of the main health risks in low-income

12 Assuming investment cost for the 100,000 households of USD 50-230, see Footnote 11. Bardouille and Muench (2014) assume that the investments of all off-grid energy service companies are lower than USD 50 million.

13 Lower range based on Fire (2014) and Ashden Awards (2014) for 2.5kW SHS; upper range for 10-20kW SHS in Africa (Energypedia 2014). This is a conservative estimate, considering Bardouille and Muench (2014) assume USD 300.

14 Range is based on Voluntary Programme of Activities Design Document "Solar Lighting in Rural Ethiopia"(myclimate 2014). Lower range considers actual consumption; upper range the potential consumption if household could afford more lighting services. Emissions from kerosene and candle use for lighting are within this range for other SSA countries (tested for Cameroon, Ghana, Kenya, Liberia and Tanzania), see EnLighten (2014).

countries according to the WHO. A recent study found up to a fourth of the surveyed sampled population in SSA have health and safety concerns related to kerosene lighting, including tuberculosis, cataract conditions and child poisoning (Lighting Africa, 2013). It will also have wider social gains from improved education outcomes through the longer study periods, and greater security, especially for women and girls.

CONCLUSIONS AND NEXT STEPS

The Debt Fund for Prepaid Energy Access addresses a key barrier to scaling up PAYG energy access through the provision of working capital for energy service companies. The Debt Fund differentiates itself from other funds in the market through the provision of longer-term asset-securitized working capital and credit ratings of the consumer portfolio base, both of which will reduce the risks around customer default.

The Debt Fund could mobilize between $300-500 million of private finance and provide electricity access to more than one million households by 2020, and result in a reduction of several hundred tonnes of CO2 from cleaner electricity production. Additional benefits of scaling up the distribution of these technologies include increased jobs and new entrants to the PAYG energy service market.

Should the pilot be successful, there is potential to expand it throughout Sub-Saharan Africa and to other emerging markets, and to reach up to $500 million in 2020.

There is interest from private investors and development banks to invest, however there are several more steps and implementation challenges to overcome, in order to get the Debt Fund to pilot stage:

- Develop a detailed implementation plan, including corporate structure and governance arrangements
- Decide on a clear financing structure to take to potential investors, including how best to utilize public finance
- Engage an experienced fund manager who identifies:
  - Potential investment team and size of team needed
  - Location of teams and borrowers
  - Pipeline of potential energy service providers that would qualify
  - Fund jurisdiction
  - Opportunities and threats
  - Milestones to scalability
- Develop a credit rating metric for the asset/costumer portfolio of companies to minimize default risk
- Identify commercial partners for private investment.
- Obtain finance/commitments from development finance institutions, developed country government, or public sector coalition. (e.g. first-loss tranche funding of 7.5 million and/or mezzanine)

NEXT STEPS

If the instrument is selected for Phase 3 of the Lab at the October meeting, then the Analytical Provider will assess and further develop the proposal in detail, in collaboration with supporters, experts, and potential investors, and will develop an implementation plan and basic credit rating criteria and identify key stakeholders such as a fund manager, investors, and a shortlist of potentially credit-worthy energy service providers.

INDICATOR ASSESSMENT SUMMARY

CRITERIA	INDICATOR	ASSESSMENT	COMMENTS/RATIONALE
Innovative	Addresses: Access to working capital	High	Fund provides working capital to PAYG energy service providers
	Addresses: Consumer credit risk	Moderate	Mitigated by favorable economics of systems and potential first loss; but consumers are poor
	Addresses: Lack of deal flow	Moderate	Partially addressed through credit ratings, salience of problem will depend on ability of 10-20 companies in pipeline to scale up
	Addresses: Technical skills / technical risks	Low-Moderate	Does not improve technical skills; partially mitigated by industry standard / credit rating
	Addresses: Enabling environment	Low (but not very relevant)	Does not improve the regulatory environment (but also not very dependent on it)
	Addresses: Access to local currency debt	Low	The instrument relies on international USD-denominated finance and does not strengthen local financial markets. Consumer bear FX risks
	Addresses: Political risks	Low (high with guarantees)	Does not address political risks, such as turmoil (unless political risk guarantees included)
	Instrument Innovation	Moderate-High	No other fund focuses on similar loan tenor for PAYG energy service companies in Africa
Actionable	Time to implementation	At least 2 years	Structure of fund and management is still unclear. No clear timeframe for implementation.
	Strength of implementation plan	Low	Yet to be developed. Discussions with investors are yet to begin.
	Strength of implementing organization	Low	Under the current plan, a new entity is required. Fund manager has not yet been identified
	Fit to national policy environment	High	Does not require particular policies but benefits from existing ones, e.g. VAT exemptions
Catalytic	Private finance mobilized	Up to $300-500 million	Assuming private debt and equity accounts for 60-100% of the fund out to 2020.
	Public finance needed	Guarantees or >$20million	Either first loss and mezzanine ($20million for initial capitalization) or public loan guarantees
Transformative	Market potential in 2030	$0.3-3 billion per year	If 5-10% annual market penetration in SSA, $50-230 investment costs per householder
	Adaptation / Mitigation impact (potential)	> 26-52 Million tCO2 per year	If full market penetration in SSA. Accounts for emissions from kerosene / candles
	Local development impact	Access to energy, lower air pollution, employment	Improved access to energy and lower indoor airborne pollution for up to 600 million people in SSA, local employment, education, and security benefits from lighting
	Unsubsidized financial performance	10-12% cost of debt	Same for market and Debt Fund; Will involve public guarantees and/or 10-15% first loss

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