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# EVALUATION

## External Performance Evaluation of the Power Africa Off-Grid Project (PAOP)

June 2023

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**Report Title:** External Performance Evaluation of the Power Africa Off-Grid Project (PAOP)

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**Photo Caption:** In Yeuma, Senegal, Little Sun Founder Frederik Ottesen and Yeuma residents install a community solar mobile phone charger.

The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

## **ACKNOWLEDGEMENTS**

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## ACRONYMS AND ABBREVIATIONS

AfDB	African Development Bank
BTG	Beyond-the-Grid
C&I	Commercial and Industrial
COIN Fund	Catalyzing Off-Grid Investment Fund
COOF	Catalyzing Off-Grid Opportunities Fund
COR	Contracting Officer's Representative
COVID-19	Coronavirus SARS-CoV-2 2019
DRC	Democratic Republic of the Congo
FY	Fiscal Year
GIZ	<i>Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH</i> (German Agency for International Cooperation)
GOGLA	Global Off-Grid Lighting Association
IP	Implementing Partner
MEL	Monitoring, Evaluation, and Learning
NSEAP	Niger Solar Electricity Access Project
PA	Power Africa
PAOP	Power Africa Off-Grid Program
PAYGO	Pay-As-You-GO
PUE	Productive Use of Energy
PV	Photovoltaic
SE4All	Sustainable Energy for All
SHS	Solar Home System
SDGs	Sustainable Development Goals
SSA	Sub-Saharan Africa
TOC	Theory of Change
USAID	United States Agency for International Development
USG	United States Government
WB	World Bank

# EXECUTIVE SUMMARY

## EVALUATION OVERVIEW

The United States Agency for International Development (USAID) Power Africa (PA) Program Office contracted ICF to conduct external performance evaluations of four PA programs, including the Power Africa Off-Grid Project (PAOP), to improve program performance management and efficiency. The lessons drawn from this evaluation are directed toward technical teams, activity managers, and senior management.

ICF developed an overarching evaluation design framework for all four PA programs, which included five focus areas: (1) relevance and coherence of the theory of change and program design; (2) efficiency and effectiveness of program delivery; (3) outcomes, impact, and sustainability of program delivery; (4) key barriers to the delivery of results; and (5) lessons learned and recommendations.

The evaluation team employed a combination of data collection and analysis methods. The team reviewed relevant program and external documents and triangulated findings from the desk review with data collected through more than 75 semi-structured key informant interviews. The evaluation team also distributed a survey to nine private energy companies.

## SUMMARY OF PAOP

PAOP is USAID's part of the broader PA Beyond-the-Grid (BTG) initiative that supports its overall goal of doubling electricity access across Sub-Saharan Africa (SSA) by 2030. PA aims to do this by increasing the number of households and businesses connected to electricity via on-grid or off-grid (household solar and mini-grids) solutions. BTG was founded in 2014 and its mission is to unlock investments and growth for off-grid energy solutions; enable 25–30 million new off-grid energy connections by 2030; and accelerate solar home system (SHS) and mini-grid connections in partnership with more than 250 companies.

PAOP began implementation in November 2018 and builds on the earlier implementation period of the BTG initiative. PAOP's activities focus on increasing the number of off-grid connections in SSA, with a target of 6 million new connections by the end of the program in November 2023. They also seek to increase the private sector financing available to off-grid companies and projects and improve national off-grid policies and regulations. Its funding amount is \$50,860,572 and it is implemented by a consortium led by RTI International.

The PAOP task order included 26 countries, although the program was primarily implemented in 12 focus countries. At project start-up, these countries included Cameroon, Côte d'Ivoire, Democratic Republic of the Congo, Ethiopia, Ghana, Kenya, Niger, Rwanda, Senegal, and Tanzania. Liberia and Uganda were added as focus countries in 2020. The program also carried out ad hoc activities in five additional countries where leads seemed promising or companies expressed a need for support.

## KEY TAKEAWAYS

**The productive use of energy (PUE) is important** for maximizing the economic impact of energy access, as well as for providing a sustainable basis for the operation of off-grid energy technology users and thus a sustainable market for off-grid energy technology providers. PUE offers an important opportunity to improve the living and economic conditions of beneficiaries even without grid access. However, the companies that are developing in this field need more support as their business models and products are even more specialized than SHSs and many still have trouble accessing a mass market.

**Gender is still an uphill battle.** Without continued support through donors and external sources, companies will fall back onto their standardized business models. This has been demonstrated by the behavior of companies during the COVID-19 pandemic and confirmed in interviews; as soon as circumstances require any kind of refocusing, gender considerations are dropped. This means that a gender-based business case is not yet an integral component of the market’s understanding of the off-grid companies.

**Working with the private sector can lead to more rapid success.** The program has benefited from working with the private sector, especially when it comes to addressing an objective such as increasing the number of connections, because private companies are closer to the market and the beneficiaries. PAOP also benefited from reduced bureaucracy and greater speed of decision-making when working with the private sector. This paved the way for more robust work plans, resulting in faster implementation of activities.

**Working with governments also is necessary to ensure achieving an impact in most markets.** The government is responsible for determining the overall policy direction of a given sector and setting framework conditions, including the identification of off-grid areas, technical standards, taxation, and importation regimes and potential funding. Once a good partnership has been set up, the program can influence certain policies in favor of the private sector. The PA partnership model is well suited for working with governments because their main issues tend to be structural, which are typically addressed through technical assistance.

**An in-country presence is helpful with regard to support for the private sector.** In a setup that is built largely upon personal interactions and the quick provision of information, it is important to have regular and direct contact with beneficiary communities. Local presence is not only important for being “plugged in” and accessible but also for local advisors’ credibility as genuine experts.

**Trust is a rare commodity** when working with a diverse group of partners that includes private sector parties and government and non-government actors. Each group has their own set of objectives and vested interests, which may not be immediately discernable. While flexibility is great for internal coherence and relevance, outreach and consistency also are important in order to remain a trusted partner. Trust was considered to be an integral component of effectiveness for PAOP because companies needed to share confidential information and sensitive data. Proponents trusted the individual members of the PAOP team, which was crucial for PAOP’s success.

**Technical assistance for the private sector on a case-by-case basis is less efficient and more expensive than policy advice and providing market information.** Through the policies and regulations and market intelligence workstreams, PAOP was able to reach many companies with limited and targeted input. Meanwhile, technical assistance on a company level—as provided through access to finance, business skills, and grant workstreams—had to be tailored to each individual company.

**Information on markets and best practices in off-grid electrification is still a gap.** Even though PAOP has published off-grid solar market assessments and there are several organizations devoted to providing data and best practice examples (e.g., Sustainable Energy for All, Global Off-Grid Lighting Association, International Renewable Energy Agency), there is a need for additional information and communication about the keys to successful and supportive enabling environments.

**The PA partnership model is difficult to understand and can easily be misconstrued.** The partnership model is broad and sometimes it is unclear what it takes to become a partner. In some instances, stakeholders were unhappy about USAID taking credit independently instead of sharing credit

with its partners. The complementarity of funding from actors such as the World Bank (WB) or the African Development Bank (AfDB) with the technical assistance for the market development that PAOP delivers is obvious but has not been leveraged in a very strategic and targeted manner. To do this, institutional coordination on several levels between headquarters and national capitals needs to be actively promoted and aligned.

**Geographically distributed teams and programs can be very resilient regarding pandemics and other risks.** Despite the severe lockdown conditions, program continuity was maintained. Yet the annual planning meetings were an important opportunity to connect and discuss, and the loss was felt deeply when they were cancelled or postponed due to the pandemic. Nevertheless, the impact of the pandemic on the implementation team and the progress of PAOP was much less than the impact that the pandemic had on the off-grid sector in SSA. This sector was struck very hard by the public safety measures that basically prohibited further sales activities. In addition, the sector was affected by customers defaulting on payments for their SHSs. It is generally expected that this will result in off-grid companies defaulting in the near future.

## RECOMMENDATIONS

**RECOMMENDATION 1: Private sector engagement activities should put significant emphasis on continuity and credibility.** For delivering private sector advice on the level that PAOP did, companies need to have deep trust in their advisors. PAOP was able to build on many such relationships of trust that were established over a multi-year period preceding PAOP. The PAOP advisors are a special breed in this respect and were among the core factors for the success of this program as a private sector advisory program. Future programs should pay heed to that factor, either by working through experts who already enjoy this kind of trust or by allowing sufficient time for this trust to build with new advisors.

- **ACTION 1:** Provide private sector advisory services over the duration of the contract (i.e., for 10 years) rather than for short periods.
- **ACTION 2:** Maximize the continuity of services by investing in a more local presence in countries. Partnering with local contractors, business associations, companies, or academic institutions can ensure the sustainability of the program's impact beyond the contract implementation period.
- **ACTION 3:** Communicate clearly about changes in the implementation team's roles and responsibilities as interviewees were uncertain about continuity with regard to the availability of advisors.

**RECOMMENDATION 2: Strive for more catalytic impact by enhancing the visibility of services in the countries and anchoring support services in local structures.** PAOP had limited opportunities for institutional outreach and therefore had to rely on the ability of the individual advisors to build local relationships. By sharing their knowledge through additional channels, advisors could have reached larger audiences and promoted local market development more effectively. PA is highly encouraged to enhance the visibility of the local advisors.

- **ACTION 1:** Provide support for country operations to inform regularly (e.g., quarterly) about the available resources that PA provides, including advisory services, grant windows, and dissemination of successes (e.g., through a newsletter). This can be supported by the central PA Coordinator's Office with contributions related to the overall program but should be complemented with country-specific information and distributed by country operations.



- **ACTION 2:** Ensure that the implementation team accurately represents the PA partnership model, including by making clear their role versus the role of USAID/Power Africa Coordinator’s Office staff.

**RECOMMENDATION 3: Enhance sustainability by enabling local structures to continue providing PAOP-style services.** Local organizations can be important sustainability vehicles and carry action forward. Specifically, two groups of national and regional organizations should be built up in the next phase of off-grid market developments.

- **ACTION 1:** Empower business associations as has been done in the off-grid sector with renewable energy associations. In mature markets, many of the services that PAOP provided locally—specifically, the ad hoc advice to the government, as well as to companies—are provided by business associations. PA, potentially in collaboration with partners, could develop a plan for establishing a sound structure for off-grid business associations that serves the local ecosystem of companies in a competent and self-sufficient manner that would also eliminate conflicts of interest. Resources should be given to business associations to establish a relevant information-sharing service that includes potential funders so that market information is easily accessible.
- **ACTION 2:** Include skills building in the sustainability strategy, potentially through a training facility in each country after a certain nascent stage. PAOP has not yet addressed this barrier; however, a future program would benefit from establishing sustainable workforce development opportunities.

**RECOMMENDATION 4: Indicators and targets should correspond to the theory of change (TOC).** Targets were achieved; however, indicators had a weak causal relationship with activity-level results. Reporting was based on individual companies, whose willingness to report connections was inconsistent.

- **ACTION 1:** Align target setting with intuition. “Connections” implies that PA pays, whereas the definition of the indicator allows for a much weaker causal link with PAOP activities. The intuitive understanding is different from what is really measured.
- **ACTION 2:** Define more holistic impact indicators with sufficient sub-indicators to allow PAOP to track progress throughout program implementation. PA could adopt indicators for improvement in the energy policy framework, as offered by indices such as AfDB’s Electricity Regulatory Index or WB’s Regulatory Indicators for Sustainable Energy, to better measure the enabling environment. For the impact on market expansion, the financial volume of the entire off-grid market in a country, the number of off-grid companies, or the number of sold SHS/commissioned mini-grid projects are relevant measures for holistic market impact and should be considered in addition to top-line goals. In a multi-country system, this also can meaningfully enforce a geographically diverse approach as opposed to the current indicators, which could be reached in one or two countries alone.

**RECOMMENDATION 5: The TOC should acknowledge all gaps and assumptions and include explicit strategies for filling the gaps.** PAOP is foremost a technical assistance project with limited emphasis on grant financing. Any grant financing available also was expected to be used for the technical aspects of business models, such as legal advice or piloting technical solutions. However, apart from equity and loans for the off-grid company, viability gap financing and/or subsidies are needed to reach the poorest of the poor with off-grid solutions.

- **ACTION 1:** Collaborate with other PA partners to identify and reach potential recipients of grants or subsidies who may have been excluded from previous programming. This involves reviewing previous funding recipients to determine the individuals or groups that may have been excluded, as well as combining resources to reach a greater number of target beneficiaries.
- **ACTION 2:** In line with the partnership model, systematically identify sources for viability gap funding for the poorest of the poor and prepare the private sector to deliver them. The PAOP model is well suited to prepare the private sector to provide large-scale support and, combining this with WB or AfDB subsidies, has the potential for a lasting and effective impact on the energy access challenge.

**RECOMMENDATION 6: Build on the existing gender activities of PAOP and expand their reach and depth.** PAOP has demonstrated that all aspects of private sector development and rural energy access can be more successful with regard to the Sustainable Development Goals if they consistently consider gender.

- **ACTION 1:** Systematically mainstream gender in all areas of business support and policy advice, building on the narratives and tools developed in PAOP.
- **ACTION 2:** Measure and track gender indicators to guide management action and monitor impact more effectively.
- **ACTION 3:** Provide a budget for gender integration initiatives beyond the work done by the Gender Advisor, such as trainings conducted by embedded advisors on gender inclusivity in the off-grid energy sector, including skills development, access to markets, and management opportunities.
- **ACTION 4:** Create a reward and incentive system for project stakeholders for gender considerations.
- **ACTION 5:** Provide more resources for staff who are tasked with gender mainstreaming responsibilities, including in French-speaking countries.

**RECOMMENDATION 7: Expand the activities in the productive use field.** PAOP has started a process that needs to continue to expand the viability of off-grid solutions for development and empowerment.

- **ACTION 1:** Develop and implement sectoral strategies for productive uses beyond agriculture, including health and education, as well as other social and infrastructure services.
- **ACTION 2:** Measure and track productive uses and provide consistent regional market updates.
- **ACTION 3:** Systematically collaborate with non-energy agencies and ministries on the roll-out of productive uses in other sectors, including health and education, as well as small business development, mobility, and handicrafts.
- **ACTION 4:** Continue to leverage synergies between commercial and industrial (C&I) solar developments and off-grid/mini-grid developments consistent with PA's market-driven approach. In many places in SSA, the C&I sector is developing quickly and is driven more by the private sector than public energy access actors. As addressed in its current phase of implementation, PAOP's intention was to build mini-grids around anchor clients. This line of work can be further developed and refined in a future iteration of the program to improve the enabling environment more effectively.

# I. INTRODUCTION

## I.1 BACKGROUND ON EVALUATION

The United States Agency for International Development (USAID) Power Africa (PA) Program Office has contracted ICF to conduct external performance evaluations of four PA programs, including the Power Africa Off-Grid Project (PAOP), to improve program performance management and efficiency. PA seeks to increase access to electricity throughout Sub-Saharan Africa (SSA) with the addition of millions of new connections and tens of thousands of megawatts in new and cleaner power generation. To date, PA has delivered significant transformative impacts in the SSA region, not only in expanding energy services but also in benefiting multiple additional development priorities. The lessons drawn from this evaluation are directed toward technical teams, activity managers, and senior management.

### DESCRIPTION OF PROGRAM

PAOP is USAID's part of the broader PA Beyond-the-Grid (BTG) initiative that supports its overall goal of doubling electricity access across SSA by 2030. PA aims to do this by increasing the number of households and businesses connected to electricity via on-grid or off-grid (household solar and mini-grids) solutions. BTG was founded in 2014 and its mission is to unlock investments and growth for off-grid energy solutions; enable 25–30 million new off-grid energy connections by 2030; and accelerate solar home system (SHS) and mini-grid connections in partnership with more than 250 companies.

PAOP began implementation in November 2018 and builds on the earlier implementation period of the BTG initiative. PAOP's activities focus on increasing the number of off-grid connections in SSA, with a target of 6 million new connections by the end of the program in November 2023. They also seek to increase the private sector financing available to off-grid companies and projects and improve national off-grid policies and regulations. Its funding amount is \$50,860,572 and it is implemented by a consortium led by RTI International.

The PAOP task order included 26 countries, although the program was primarily implemented in 12 focus countries. At project start-up, those countries included Cameroon, Côte d'Ivoire, Democratic Republic of the Congo, Ethiopia, Ghana, Kenya, Niger, Rwanda, Senegal, and Tanzania.<sup>1</sup> Liberia and Uganda were added as focus countries in 2020. The program also carried out ad hoc activities in five additional countries where leads seemed promising or companies expressed a need for support.

The program's large team was geographically distributed, with at least one country advisor located in each of the focus countries, and was managed from Pretoria, South Africa, and Washington, D.C. At its peak, the implementation team consisted of 45 people. They provided various advisory services to stakeholders in the countries and internationally. In the countries, they advised companies and policymakers. Internationally, they supported investors for off-grid companies and international partnerships, such as Sustainable Energy for All (SE4All), Global Off-Grid Lighting Association (GOGLA), and other development partners. They provided materials for outreach, tools, and knowledge products to PA for dissemination and publication on the PA website. They also managed a grant fund and supported the BTG Coordinator's Office and relevant USAID Missions.

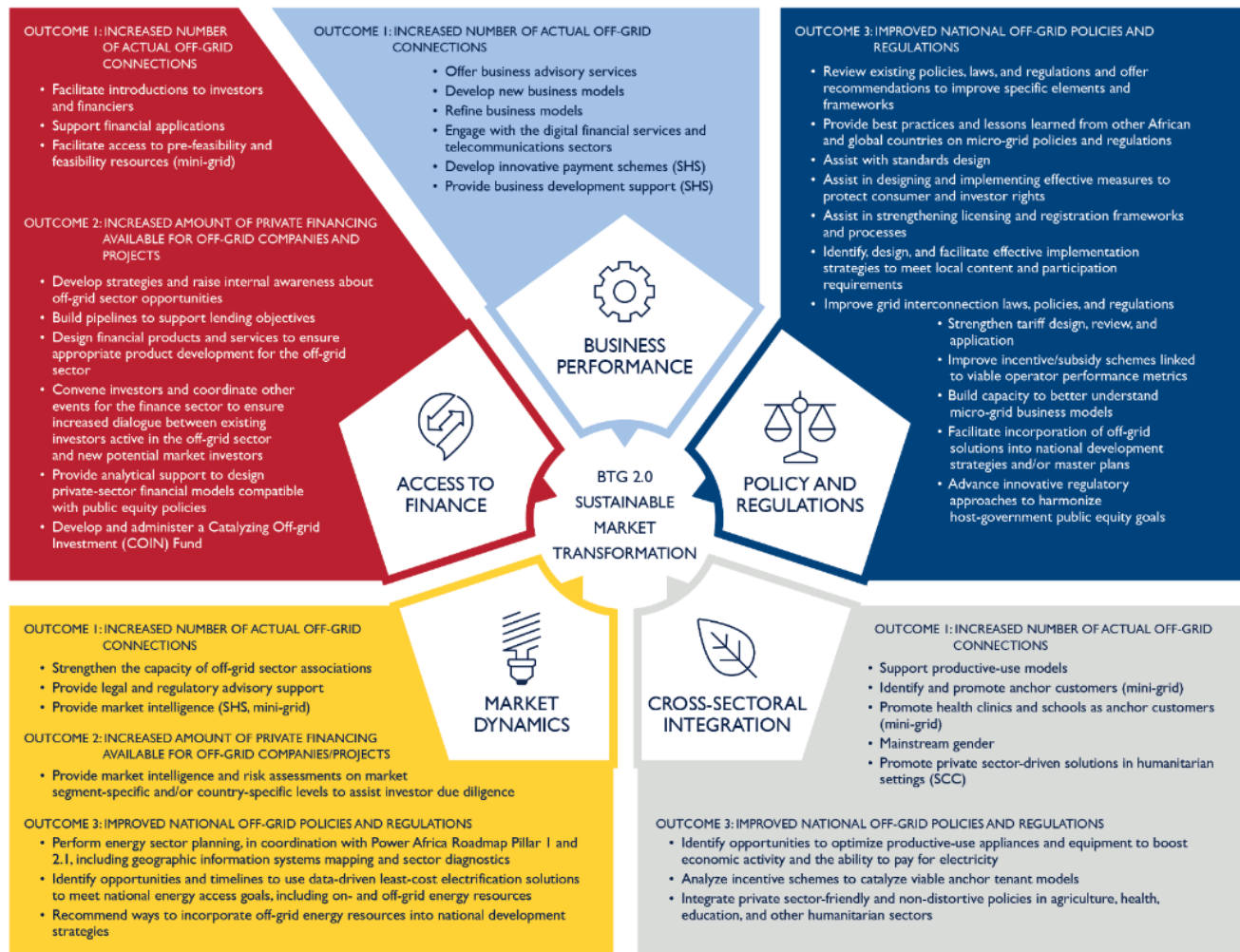
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<sup>1</sup> Operations in Ethiopia were suspended in 2021.

## THEORY OF CHANGE

PAOP's theory of change (TOC) assumes that improving markets and regulatory mechanisms and access to private financing will yield an increase in the total number of off-grid connections and improve development outcomes. The program provides support through five workstreams highlighted in Figure 1.<sup>2</sup>

Figure 1: The Five Workstreams of PAOP (from Annual Report 2019)



The PAOP team included technical specialists for each of the five workstreams that supported country operations and program management with in-depth knowledge about these areas. Some of the expert advisors also provided support in the countries directly to the stakeholders of the program.

The grant fund was originally defined as a Grants Under Contract program, entitled Catalyzing Off-Grid Opportunities Fund (COOF).<sup>3</sup> It provided support in the form of results-based financing to key activities

<sup>2</sup> This is the technical approach developed by the implementation team. In the original approach proposed by USAID, similar terminology is used but with slightly different meanings. It also is organized by target groups instead of activities.

<sup>3</sup> COOF is also sometimes referred to as the COIN Fund, or the Catalyzing Off-Grid Investment Fund, by the implementation team.

that led projects to reaching financial close, accelerated private sector company sales, helped private sector companies enter new markets, provided a platform to encourage research and development of new productive off-grid appliances and other product lines relevant to the off-grid sector, promoted collaboration among other sectors, and tested new business models with transformative potential to scale.

The workstreams were implemented in each focus country by adjusting the type of intervention to the respective market maturity. For example, the baseline assessment in the 2019 work plan describes the off-grid market in Niger as relatively nascent. The work plan notes that “for larger commercial installations, businesses are active due to the World Bank (WB)-funded Niger Solar Electricity Access Project (NSEAP).” There is less infrastructure for solar home systems (SHSs) because only two distribution companies exist. Furthermore, preconditions for pay-as-you-go (PAYGO) systems are suboptimal because cell phone adoption and disposable income in Niger are low. The mini-grid sector also is “in its infancy” and relies on sporadic contributions rather than on viable business models. NSEAP is likely to lead to an improvement in the regulatory environment and has been piquing the interest of local banks and microfinance institutions in the sector; however, it has not yet attracted international funding. It has helped the government improve the regulatory framework for off-grid options, such as SHSs, with quality standards for example. However, as the work plan indicated, up-to-date market information remains difficult to find in Niger.

PAOP developed a plan to work with the private sector and the rural electrification agency on improving new mini-grid tenders and to improve the operational performance of existing mini-grids. PAOP planned a thorough market assessment targeting new market entrants and the national electrification agency. The PAOP advisor was expected to be embedded part-time at that agency. The work plan spelled out activities within each of the five workstreams, including a stock taking of the local SHS and mini-grid companies, a concept note proposing activities to USAID’s Office of Transition Initiatives, a list of funding opportunities, and a factsheet to attract the attention investors regarding the opportunities offered in Niger. Additionally, a summary of feedback from the private sector on the new regulatory framework for the mini-grid sector, terms of reference for a mini-grid feasibility study, and a factsheet about productive use of energy (PUE) models that could be successful in the Niger market were developed.

In Kenya, on the other hand, the market is well developed and donor support is focused on 14 underserved counties identified by the Government of Kenya. Regulatory frameworks exist for all technologies but require regular adjustments to enhance clarity. The baseline assessment found that there was no need for PAOP to focus on attracting international funding or providing new market research in Kenya because it has already been researched and documented more than most markets in SSA. Instead, the program focused only on updating existing directories. One challenge identified by the evaluation team, however, was the need to entice local finance institutions to invest in the sector. Similar to the approach taken in Niger, a market assessment report and a list of local SHS companies were developed.

Most activities in the work plan for Kenya were related to business performance, access to finance, policies and regulations, and cross-sectoral integration, in line with the maturity of the market. The work plan for Kenya contained activities that provide recommendations for information about potential partnerships; security strategy and business models specifically for underserved communities; a memo on obtaining local commercial bank investments instead of attracting international investments; a list of funding opportunities targeting the local companies; a brief on the current status of specific reforms on regulations and inputs to the East African Community Tax Exemption Paper; a map of ongoing and upcoming initiatives of different development partners; a list of market intelligence resources (rather than the market intelligence itself); and some proactive support for the Smart Communities Coalition.

## I.2 ORGANIZATION OF THE REPORT

The remainder of the report is organized as follows:

- Section 2 summarizes the evaluation methods, including the questions used to guide this evaluation;
- Section 3 presents the key findings, organized into subtopics addressing relevance and coherence, efficiency and effectiveness of program delivery, outcomes and impacts to date, and key barriers affecting the delivery of results;
- Section 4 includes conclusions, lessons learned, and recommendations for the future; and
- Annexes contain the statement of work, evaluation design, data collection instruments, and sources of information.

## 2. EVALUATION METHODS

### 2.1 EVALUATION QUESTIONS AND SCOPE

ICF was tasked with conducting a performance evaluation of the USAID-funded program that provides technical services to implement the five-year PAOP task order, under an Indefinite Delivery, Indefinite Quantity contract. The evaluation sought to (1) determine, to date, the extent to which the contract has achieved its intended objectives and outputs; (2) assess the technical and program management of the implementation mechanism; (3) highlight lessons for USAID in facilitating coordination among Implementing Partners (IPs); (4) highlight major gaps and challenges that may require adjustments in program implementation; and (5) inform the design of potential future activities.

The following evaluation questions from the statement of work (see [Annex A](#)) are answered in this evaluation report:

- Three years into project implementation, is PAOP on target to achieve the goals set in the task order?
- Do the assumptions in the TOC hold true or does the TOC need to be adjusted? If adjustments are needed, please provide concrete recommendations for the types and scope of project implementation adjustments.
- Given the design and scope of the project and the context of the off-grid sector, is the goal of 6 million connections an appropriate and realistic contractual target?
- How did PAOP maintain a balance between delivering lighting to new households while supporting higher-tier forms of energy access, such as the productive use of energy (PUE) and health facility electrification?
- How did COVID impact overall project performance and how did PAOP monitor and document these ongoing performance changes?
- How did/does PAOP analyze and evaluate the annual and overall impact of technical advisors and the contribution of advisors to the achievement of outputs and outcomes? Provide concrete examples.
- Were the IP's performance management tools effective? If so, in what way and if not, why not?
- Identify successes, challenges, best practices, and lessons learned from the following activities:
  - Solar Home Systems (SHS) Company support;
  - Micro-grid developer support;
  - Productive Use of Energy;

- Health Facility Electrification;
- Providing Advisory Support to Investors;
- Improving the enabling environment for off-grid investment and sector growth;
- Direct Support to the PA Coordinator's Office;
- Collaboration with other PA implementing mechanisms; and,
- Responsiveness to USAID Mission needs and priorities.

## 2.2 EVALUATION METHODOLOGY

### EVALUATION DESIGN

ICF developed a standard design for four stand-alone evaluations of PA programs, which offered five focus areas: (1) relevance and coherence of the TOC and program design; (2) efficiency and effectiveness of program delivery; (3) outcomes, impact, and sustainability of program delivery; (4) key barriers to the delivery of results; and (5) lessons learned and recommendations. The evaluation questions from the statement of work were operationalized to facilitate the collection of evidence in an evidence register. See [Annex B](#) for the complete evaluation design, including the evaluation matrix.

The evaluation assessed the PAOP TOC for relevance and reviewed the reported results to determine whether PAOP is on track to achieve its targets, as well as the feasibility of achieving those targets. The team gathered contextual information from private companies, governments, and investors from each region and analyzed the program's effectiveness in increasing the number of off-grid companies active in SSA to determine whether PAOP has been successful in driving down sector costs and making energy more accessible. Emphasis was placed on assessing program delivery and identifying best practices and models that can be shared across the region.

### DATA COLLECTION AND ANALYSIS

The evaluation team employed a combination of data collection and analysis methods to assess PAOP in the context of the evaluation matrix ([Annex B](#)). The team conducted a desk review of relevant program documents, including program implementation plans, annual work plans, annual and quarterly performance reports, performance monitoring plans and systems, and technical reports. The team also reviewed external publications on the energy sector and technological developments in comparable sub-sectors and geographies for best practices and models. The team triangulated findings from this desk review with data collected through more than 75 semi-structured interviews with key informants to inform the findings. A full list of interviews conducted via video platforms (e.g., Google Meet, Zoom) is available in [Annex D](#). Finally, the evaluation team also distributed a survey to nine<sup>4</sup> private energy companies to obtain feedback on the support they received from PA. See [Annex C](#) for the data collection instruments.

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<sup>4</sup> The number of survey recipients was determined by the restrictions imposed by the Paperwork Reduction Act of 1980. This is a U.S. federal law designed to reduce the total amount of paperwork burden the federal government imposes on private businesses and citizens. In order to collect the same information from more than nine entities, the evaluation team would have had to undergo an Office of Management and Budget clearance process that typically takes six to nine months. Given that the period of performance for this evaluation was only five months, obtaining that approval was not possible. Learn more at <https://pra.digital.gov/>.

## 2.3 EVALUATION LIMITATIONS

The evaluation team is confident that it collected sufficient evidence to make strong and robust conclusions. However, certain limitations on the data exist, including the following:

- **Potential social response and confirmation bias.** The evaluation team is confident that overall, most interviewees were frank and forthcoming. Typically, interviewees offered balanced, critical opinions of PAOP services. Nevertheless, it also is important to acknowledge that some were, at least partly, presenting material in a way that was consistent with their own institutional interests. Such bias is normal in qualitative research and is one reason why it is critical to interview a range of individuals and triangulate the results. In addition, the original list of stakeholders to be interviewed was provided by the contractor. New stakeholders were added by the evaluation team; however, in the brief time available for the evaluation, it was not possible to balance the entire set of interviews such that all perspectives were heard.
- **Insufficient data to evaluate outcomes and impacts.** It was not possible to assess the ultimate contributions to long-term resilience and sustainability because these effects will be evidenced over decades, beyond the implementation timeframes of the programs. In order to evaluate the sustainability of interventions past the life of the programs, the evaluation therefore relies on data and qualitative information about outputs, and immediate and intermediate outcomes as reported, consistent with the program TOC.
- **Limited survey sample size.** The questionnaire responses may not be representative given the small number of respondents. The results should not be interpreted alone but rather triangulated with other evidence.
- **Access to important stakeholders.** To reduce evaluation fatigue and in line with international evaluation practices, the team avoided conducting duplicate interviews, including with the other ongoing PA evaluations. Therefore, while interviews were not repeated, the PAOP evaluation team attempted to extract as much information as possible from some interviews conducted by other members of the ICF team. In addition, due to the timing and compressed schedule of the evaluation, it was not possible to have sufficient interviews with the project team. Among other aspects, this relates to the inability to interview several important project team members because they had already left the program. For example, no Cameroon staff were available for an interview.

## 3. FINDINGS

### 3.1 RELEVANCE AND COHERENCE

#### THE THEORY OF CHANGE

**The five-pronged TOC ensured that the program was relevant in all contexts.** The markets in which PAOP was active were developed independently. Structuring the program activities and expertise within five workstreams (i.e., business skills, market intelligence, regulatory environment, access to finance, and cross-cutting issues) allowed PAOP to adjust the work plan per country to address the respective needs. With these adjustments, the activities within these workstreams could remain relevant. To illustrate this approach, it is helpful to compare the nascent markets in Niger with the more mature market in Kenya in 2018 and how the project tailored its approach to each (see Section 1.1). Actions within each



workstream were tailored to the respective maturity of the market; however, the workstreams were relevant across the respective markets.

**Indicators were consistent with PA guidance but measured contribution rather than attribution.** The indicators were detailed in the monitoring, evaluation, and learning (MEL) plan and—to the degree that they were part of the broader set of PA indicators and not developed by the implementation team—harmonized with the PA roadmap and strategy. The key indicators for PAOP were increased number of actual off-grid connections; increased amount of private financing available for off-grid companies/projects; and improved national off-grid policies and regulations. PA guidance makes it clear that these indicators reflect contribution rather than causality; however, it could be mistakenly implied that PA paid for these additional connections.

## ASSUMPTIONS UNDERLYING THE THEORY OF CHANGE

**Many of the underlying assumptions of the TOC were accurate.** The TOC's core assumption is that information does not necessarily flow without assistance. Market information (e.g., for funders new to the off-grid field) often is unavailable and governments often do not know what enabling environment conditions are required for the private sector. Furthermore, private companies often are unaware of government priorities. Best practices on rural electrification policies, mini-grid tenders, and PAYGO logistics are often unclear. Stakeholders need better access to leads and matchmaking and more information about the availability of funding opportunities and the pitfalls of specific business models. The praise that the PAOP team received for facilitating these information flows demonstrates that these services are sorely needed.

**The most significant underlying assumption of the TOC is that underserved communities can be served with a private sector-based model without subsidies.** The TOC follows a classic market transformation paradigm where barriers to a functioning private sector market need to be removed. It assumes that if businesses are well equipped with management skills, financing, and an understanding of market conditions, where enabling environments are established through government policies, then meaningful contributions to energy access and economic growth will ensue. This assumption is only partially correct, because the five PAOP workstreams do not fully overcome all relevant barriers in African off-grid markets. For example, despite PAOP offering targeted subsidies through grant funding, many stakeholders shared that they consider the availability of gap funding or subsidies insufficient despite being of the utmost importance for achieving those meaningful contributions. The second barrier that was frequently cited was the lack of a skilled workforce. Again, the underlying assumption of the TOC was that companies will train their workforce, which is certainly the standard in the off-grid sector. However, it remains unclear whether additional assistance with workforce training would truly help advance the energy sector.

**An important assumption was that productive uses of energy, for example in agriculture, make for a better and more sustainable business case on the side of the consumer.** These uses leverage income-generating opportunities and thus contribute to economic growth. They contribute to social, educational, health, and other development objectives much more than electrification alone. The project also found that many comparatively specialized companies were already providing applications for productive uses. Depending on the type of use, these applications need varying marketing and refinancing approaches, enabling environments, and cooperation partners, making PAOP's work even more relevant.

## RELEVANCE AND COHERENCE OF GENDER WORK

**Promoting gender equality and women’s empowerment was a critical component of PAOP** that is in line with USAID’s Gender Equality and Women’s Empowerment Policy, as well as the United States Government’s (USG) key foreign policy objective of advancing the full participation of women and girls in the political, economic, and social realms of their countries. PAOP had a full-time Gender Advisor who worked across all countries’ respective government and private sector entities to include gender aspects in their work. In Ghana, for example, PAOP helped PEG Africa with a gender lens investment approach that greatly enhanced its access to finance. In other instances, Gender Action Plans for workforce development and electrification policies were developed. One of the program’s grant windows focused on maternal and child health, while another focused on the combined delivery and use of SHSs and liquefied petroleum gas for cooking. (See Socio-Economic and Transformation Benefits and Sustainability in Section 3.3 for additional examples.)

## COHERENCE WITH PA AND OTHER PROGRAMS OF USAID AND THE U.S. GOVERNMENT

**PAOP implementation staff coordinated with the PA Program Office and other relevant USAID operating units** through virtual and in-person meetings, briefings, and one-on-one discussions. Some of these meetings were held in PAOP country offices, where the sharing of office space facilitated the exchange of in-depth information. Furthermore, interviewees praised the complementary roles of USAID and the implementation team; USAID staff consistently expressed appreciation regarding the high level of technical expertise and the helpful support with navigating the off-grid market provided by the implementation team. Most of them were affiliated with PAOP and other PA programs (i.e., West Africa Energy Program or East Africa Energy Program) and were able to draw on more than one program’s resources in a seamless manner.

**The relationship and coherence with other USAID and USG programs were appropriate.** Based on consultations undertaken for this evaluation, collaboration among USAID and other USG programs and Implementing Partners relied on the comparative advantages of each institution leading to a streamlined, harmonized, and synergistic approach. PAOP was implemented under the USAID Power Africa Partnership model, which is considered effective in working with the private sector. While PAOP coordinated with a variety of USG programs, interviews suggested that it was most active with the U.S. Trade and Development Agency. Program documents also refer to collaboration with the Millennium Challenge Corporation; however, key informant interviews found that cooperation was minimal in most situations. PAOP did play a significant role in orienting private companies to better understand the types of support provided by different USG organizations.

## 3.2 PROGRAM DELIVERY: EFFICIENCY AND EFFECTIVENESS

### EFFECTIVENESS OF DESIGN AND DELIVERY

**The implementation approach was well designed given the limited resources available to the program.** Focus countries were served by a local expert or country advisor, while non-focus countries were served by regional advisors. Thematic experts were available to contribute their knowledge within countries upon request; however, most were unable to meet the demand for their services and some found their travel budget to be too low. With their expertise, these advisors constituted

a continent-wide network of specialists for market development, policy, access to finance, productive uses, and gender. Their competence was a major factor in PAOP's successful implementation, as was the relationships of trust that they built with other stakeholders, according to feedback received from private sector companies and focus country government representatives. Private sector companies indicated that this trust had developed over several years within PAOP and its predecessor and allowed them to share business details. In this context, it is worth noting that many PAOP team members were already engaged with the predecessor program.

Most stakeholders agreed that the most significant value added and the aspect that will be missed the most is a type of "help desk" function whereby PAOP advisors were available to provide advice immediately and effectively, whether about the market generally or specific companies or funders. This was often important for companies or funders that wanted to access a new market; the team was able to provide information on local players, rules and regulations, and the financing available. It also was very important for government stakeholders who needed to create an enabling environment and could not build on an established off-grid ecosystem. Specifically in Cameroon, Côte d'Ivoire, DRC, and Liberia PAOP support was praised for providing significant guidance and orientation.

From the perspective of the USAID Missions consulted by the evaluation team, the mode of coordination worked well; there were no complaints. The implementation team facilitated quick turnarounds, providing sufficient depth of feedback to requests and maintaining communication. They were reliable sources of information for the USAID Missions on the off-grid sector and supported their effective dialogue with the local governments.

**The adaptive management approach proved to be useful in the fast-changing and crisis-ridden market environment.** The PA Contracting Officer's Representative (COR) and the Implementing Partner were in close contact throughout program implementation regarding ongoing activities and potentially necessary adjustments. For example, after noticing an increased demand for financial services, PAOP expanded the finance team from one to four individuals. The approach in each country was based on a thorough gaps and needs analysis for each market and was guided by in-country USAID Activity Managers. The baseline was provided in the first annual work plan and then updated regularly through progress reports, work plans, and amendments to work plans (i.e., due to the COVID-19 pandemic).

The implementation team noted that MEL information should have been used to inform these adjustments but was not. Instead, work plans for the following year were designed based on the achievements of the previous year and guided by the five workstreams. In this planning process, the implementation team and the PAOP COR conducted an annual in-person planning workshop where each country's market was discussed and analyzed. This process included embedded country advisors and thematic experts, thereby ensuring that the market was assessed from each angle of the TOC. Typically, activities for each workstream were discussed for each market, reflecting the holistic market development approach that is characteristic for the program. The country advisors were managed through weekly coordination calls and quarterly and annual reporting; they were responsible for documenting the development and impact of individual workstreams, especially related to gender and policy. Together, these measures allowed for close control of the geographically distributed team and an effective management process that addressed relevance and performance. In addition, the program's results targets provided a guiding star for measuring the overall achievement of the project.

## EFFECTIVENESS OF MONITORING, EVALUATION, AND LEARNING

**Reports on the indicators have unclear causal relationships with the activities of the program.** Interviews with the companies found that some reported connections to the program and others did not. This had nothing to do with how effective they found the advice and support from PAOP. Instead, it had to do with the question of whether they wanted to disclose this business secret. This created an incomplete set of data and a lack of transparency with regard to interpreting the data. However, overall, this does not necessarily mean that the program was ineffective. On one hand, several companies shared that they were reporting connections to USAID despite limited or no USAID engagement in project development. On the other hand, according to the 2022 Annual Report, 604 off-grid companies received “significant technical assistance from Lead Advisors” and only 166 reported connections. Therefore, while the causal link between the provision of technical support and the results reported seems weak, and the reliability of the reporting needs to be considered as low, the effectiveness of the support is still positive. It appears that the reported connections are more or less independent of efforts by the implementation team to validate findings and reduce instances of double counting. Institutional strengthening activities for the sector, while also successful, cannot be tied to the connection indicator.

**Indicators were expected to guide implementation but did not provide relevant information for that purpose.** The main criticism around indicators is that they do not sufficiently measure the program’s intended impact. Stakeholders perceived that targets could have been reached with much fewer resources by focusing on opportunities that bring the highest contribution to the indicators in a much smaller number of countries. This would not have been in line with the overall mandate of the program. For example, it might be easier to bring a \$20 million deal to close in Kenya than a \$200,000 deal in a less developed market; however, PAOP sought to reach a multitude of markets. Similarly, it is easier to generate 2,000 connections in Kenya than in Liberia; however, PA was not interested in bolstering only the more developed markets. If indicators alone had guided implementation, then some countries would not have been included in the program because they could not clearly be measured by the selected indicators. Similarly, the program’s priorities regarding PUE and health facilities, by necessity, did not contribute significantly to the three key performance indicators. If the program had been managed through a purely results-oriented approach, then these areas would not have been prioritized despite being fundamentally important for the contribution to the Sustainable Development Goals (SDGs) and the sustainability of the program.

## EFFICIENCY OF IMPLEMENTATION

**Catalyzing Off-Grid Investment (COIN) Fund grants were a mixed blessing.** The project administered a total of seven funding windows for COIN Fund grants; each window had a different theme (e.g., maternal and child health), with two open for specific countries only. The system behind the choice of themes was not disclosed to the evaluation team; however, these themes required significant effort by the implementation team around determining the eligibility of individual activities, culminating in the cancellation of two windows. The partner companies noted that the eligibility criteria were partially unclear and they did not understand why other companies with similar business models received grants. Other complaints from interviewees were related to reductions in grant size and the cancellation of grants. Specifically, in the case of health facilities, PAOP’s impact was significantly lower than it could have been if all funds had been deployed.

**The MEL plan was voluminous and not fully implemented.** The MEL plan included many indicators that were not consistently tracked. For example, for gender alone, six different indicators were included,

such as the number of women-owned businesses benefiting from different program services and the number of off-grid companies adopting gender-inclusive workplace policies. However, the annual reports did not include the results from these indicators and the implementation team criticized the adequacy of key program indicators, saying that they did not reflect the program impact well. Regardless of how the indicators were determined, it would have been beneficial to consistently track and report on all indicators (both standard PA indicators and those developed by the implementation team) in all annual reports. Many interviewees also took issue with the implementation of the MEL system. Stakeholders involved in MEL data collection activities complained about the technical process that required country advisors to directly engage with each company to ask for their contribution in terms of connections on a quarterly basis.

**Administrative efficiency was criticized by stakeholders.** Stakeholders found that where direct support could be provided through the implementation team, their requests for support were met in a timely manner. However, private sector and host country government stakeholders commented that decisions made by the central PA management often took longer, specifically in cases where procurement of external services or grant management was involved. While this delay may have been the result of competitive procurement procedures, this nuance was either not understood by stakeholders or was not sufficiently explained to remedy their dissatisfaction. Furthermore, in at least one case, awarded grants were withdrawn, thereby negatively affecting the stakeholders' impression regarding efficiency.

### **3.3 DELIVERY OF PROGRAM RESULTS: OUTCOMES, IMPACT, SUSTAINABILITY**

#### **QUANTITATIVE RESULTS**

**PAOP is expected to achieve program targets.** PAOP has met or exceeded targets for 16 out of 17 indicators (see [Annex G](#)). There is one indicator (the number of off-grid connections) for which the target has not yet been achieved, although as of September 30, 2022, 91 percent of the targeted connections had been achieved. All interviewees expect that this target will be reached by the end of the implementation period. This target for connections was ambitious from the start because it both relies and builds on a successful last implementation year for the predecessor program, as noted in every annual report. With the onset of COVID-19, many segments of the market slowed down or came to a standstill. The other two key indicators (the amount of investment mobilized for energy investment and the number of laws, policies, regulations, or standards to enhance energy sector governance formally proposed, adopted, or implemented) have exceeded the targets (201 percent and 397 percent, respectively). This could be an indication that these indicator targets may not have been sufficiently ambitious.

**The program supported private sector organizations in providing connections through mini-grids and SHSs.** The larger share of the connections came from SHSs and about 70,000 were productive use devices. SHS and productive use systems might have been provided in areas where grid access is already provided but not reliable. The program followed the priorities of the companies and of national policies with regard to the market areas. It is good practice for policy schemes to identify off-grid areas that are preferred market areas for mini-grids and SHSs. In Kenya, for example, the program was cooperating closely with the national Kenya Off-Grid Solar Access Project program, which guided investments in 14 underserved counties.

**Building on the success of BTG allowed for high achievement of the key indicators in the first year.** Targets for the number of new connections and the number of laws and policies supported were met during the first year of implementation. Furthermore, the first annual report for PAOP showed

that the program supported a total of 250 companies, including 156 companies specializing in SHSs. Reaching so many companies would not have been possible without preexisting institutional relationships and connections and continuity in staffing and operations from the BTG initiative.

## SOCIO-ECONOMIC AND TRANSFORMATION BENEFITS AND SUSTAINABILITY

**The sustainability of off-grid efforts can be enhanced through productive uses of energy.** An example is provided in Box 1. These allow not only diversification of the product offering of the off-grid companies but also enhance the economic development impact and the ability of their potential customers to generate income. This means that the customer is more likely to be able to pay back the loan, thus enhancing the economic viability of the off-grid companies' business model.

**Box 1:** A mini-grid commissioned by Renewvia in 2018 enabled a fishing cooperative on Ringiti Island in Kenya to work longer hours at night, tripling their income and using the profits to buy more engines and a refrigerator. This also trickled down to improved security at night, businesses staying open longer across the community, and more nutritious meals for the fishermen's families.

**Gender results will be observable in the future.** The program's consistent approach to integrating gender aspects in all five workstreams has resulted in empowering women, attracting attention to gender equality initiatives, and demonstrating successes that can be replicated in the future. For example, by establishing gender-based business models for several companies, PAOP enabled these companies to leverage funds from the 2X Challenge<sup>5</sup> and prepared them for future donor activities, which can be expected to make funding streams more dependent upon gender strategies. Similarly, the inclusion of women in the workforce was ensured through the development of company-specific gender action plans. One of the two health grants focused specifically on child and maternal health. PAOP also supported the Government of DRC in implementing a gender strategy for rural electrification (Box 2). Most of these efforts have a trajectory with a longer impact, meaning that their impacts are not observable within the PAOP implementation period but only in the future. The evaluation team cannot discuss quantitative achievements because the gender indicator results were not included in performance reports and no sex-disaggregated monitoring data are available.

**Box 2:** The Rural Electrification Agency in DRC was tasked by the government in 2022 to meet an ambitious goal of connecting an additional 15 million people by 2025. PA and its partner, the Tony Blair Institute for Global Change, helped to develop a Gender Strategy to deliver equal benefits of electrification to the men and women of these communities.

**Health facility electrification grants included provisions for facility-specific operations and maintenance activities, which were a precondition for sustainable operations of the power supply of the health facilities.** This builds on lessons learned from past development projects where equipment was rendered useless in cases of failure and lack of maintenance. Based on their experience with PAOP, the implementation team submitted a proposal for a continuation of the work with health facilities that was incorporated into PA's new Healthcare Electrification and Telecommunication Alliance, a public and private sector alliance that aims to electrify an additional 10,000 health care facilities in SSA by 2030.

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<sup>5</sup> The 2X Challenge was launched at the G7 Summit in 2018 and seeks to mobilize private sector investments in support of women's empowerment in Sub-Saharan Africa. Read more at <https://www.2xchallenge.org/>.

**Strategic and transformational change impacts were mainly achieved through the policy component.** By their very nature, policies and regulations affect the enabling environment for all companies and therefore can provide more catalytic impact than the activities of the other workstreams. In this case, the program was relegated to using a case-by-case approach, helping one country at a time. An example of the important impact on sustaining the market transformation in East Africa is provided in Box 3.

**Box 3:** The Government of Kenya, as was the case in Tanzania and Uganda, decided to increase their tax revenue in 2021 through reinstatement of the value-added tax and import duties on solar photovoltaic (PV) equipment. PAOP joined partners in the region, including GOGLA and the Africa Clean Energy Technical Assistance Facility, to quickly put together a policy paper addressing why the off-grid sector still needed tax exemptions. The lobbying effort was presented through the Pastoralist Parliamentary Group, resulting in the reinstatement of the previously reversed tax and import duty exemptions on solar PV generating equipment.

In terms of the regional relevance of the policy advice, however, the role of PAOP was even more important in West Africa. Here, most countries had nascent markets for off-grid products and relatively inexperienced policymakers regarding the type of enabling environments necessary for off-grid solar products and mini-grid electrification. Comparatively small inputs from PAOP had significant impacts on policymakers' capacity and ultimately the framework conditions for market expansion. Specifically, interview partners from Liberia and Côte d'Ivoire confirmed this perspective.

### **3.4 KEY BARRIERS TO RESULTS DELIVERY AND KEY FACTORS OF SUCCESS**

**The program's operational barriers were not surprising.** Overshadowed by COVID-19, the program encountered common barriers to implementation in fragile implementation contexts. The internal conflict in Ethiopia brought program implementation there to a halt. Other markets were added or developed more rapidly than expected. Some markets were slow moving for political reasons related to the clarification of electrification policies or importation rules.

**The program's operations were less negatively affected by COVID-19 than those of off-grid sector companies.** Many program countries and off-grid companies experienced a significant reduction of economic activity and other difficulties due to the COVID-19 pandemic. Sales slowed and defaults on the customer side became more frequent. The added financial challenges exacerbated the risks of an often-fragile business model. Some companies reacted by changing their product portfolio; however, consolidation in 2023 is expected. PAOP continued operations to the degree possible on a remote work basis. The team was already accustomed to a distributed style of working so that the team functions were less affected; however, the relationships with the companies may have suffered. PAOP did participate in the design and implementation of a relief fund for energy access companies in SSA and Asia that was launched in September 2021. Called the Energy Access Relief Fund, USAID and other development partners offered short-term loans to approximately 90 companies still coping with the negative impacts of the pandemic.

The program also made significant changes to the scope of its activities in response to COVID-19. For example, on the policy level, the project advised governments on the importance of acknowledging the off-grid sector as an essential services sector. In 10 out of 11 focus countries, this recognition had been achieved by the end of fiscal year (FY) 2020. Together with GOGLA, PAOP developed informational material on coping with the specific pandemic-related challenges for the off-grid sector. Within the program, the pandemic also strengthened the focus on health facility electrification, for which the team

formed a specific working group. The program reported on these challenges and adjustments, first through an addendum to the FY 2020 work plan and then integrated them into its normal reporting streams.

**A lack of local presence made it difficult for companies and governments to understand PAOP's offerings.** Several stakeholders noted that they were not sure what they could expect from PAOP. Additional clarity on the type and depth of services offered would have been helpful. Private companies were unsure about how much they could ask for with regard to grants, business support, and financial services. Some prospective grantees commented on their disappointment after putting effort into grant applications, only for the grant to be canceled or awarded to another entity. Governments were unsure about what activities were or were not within the scope of the available support that PA offered. For example, there was a pilot supporting combined SHSs and liquefied petroleum gas to support clean cooking, which resulted in questions on whether governments could request support from PA for clean cooking activities. Even development partners would have liked more information about PAOP from the local advisors, particularly as these were generally recognized as extremely knowledgeable “local off-grid insiders.” In addition, without lengthy explanations, clarity was limited with regard to whether the implementation team represents USAID or is independent. It also was not easy for the team to do active outreach locally. Some development partners expressed confusion about why they did not receive more regular communication from PAOP, such as through a country-level newsletter that summarizes the observations of the country advisor and ongoing activities in the respective market. As the country advisors were often extremely well informed about the market situation, such a newsletter could have been an interesting addition to the activities of the project.

**PAOP had limited collaboration with other donors to cover gaps in the TOC due to competing priorities and coordination challenges.** Other donors often considered the PAOP team to be a great source of expertise. Close collaboration was confirmed with Nordic Environment Finance Corporation and Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (German Agency for International Cooperation [GIZ]); however, this collaboration took place more on a country level and less on a strategic and programmatic basis. PAOP had little interaction with other programs, with the exception of the GET.invest program funded by the European Union and implemented by GIZ. Other development partners were uncertain about the overall PA partnership model and PAOP specifically. More systematic and upstream cooperation with larger scale funding mechanisms that covered the viability gap for poor populations was only observed in Kenya. Similar opportunities to complement subsidies for the poor could have been leveraged or actively generated in other countries as well. As PAOP support was decidedly delivered to technical assistance and financing companies, focusing on pro-poor financial support and viability gap funding could have added a qualitative scale-up. Outside of Kenya, the evaluation team did not find such a case, and the focus on connections might have been a distraction from such opportunities.

**Given its geographic spread, overall, the program is too small and spread too thin.** This was highlighted regularly in reports to USAID; for example, there was a “risk of burn-out” among country advisors who could not be provided with the “normal” levels of support of a USAID program due to resource constraints. Success in any given country was dependent on the personality and networks of the individual country advisor. Other reports to the evaluation team included the finding that much more work could have been done if more staff or travel budget had been available, and that individuals who had left the implementation team were sorely missed by stakeholders. Benchmarked against other programs of comparable scope, the funding volume is small. For example, the GIZ Green People’s Energy program works in only nine countries with larger local teams and has a financial volume of \$69 million (almost \$20 million more than PAOP).



## 4. CONCLUSIONS AND RECOMMENDATIONS

### 4.1 CONCLUSIONS/LESSONS LEARNED

**PUE is important** for maximizing the economic impact of energy access, as well as for providing a sustainable basis for the operation of off-grid energy technology users and thus a sustainable market for off-grid energy technology providers. PUE offers an important opportunity to improve the living and economic conditions of beneficiaries, even without grid access. However, the companies that are developing in this field need more support because their business models and products are even more specialized than SHSs and many still have trouble accessing a mass market.

**Gender is still an uphill battle.** Without continued support through donors and external sources, companies will fall back onto their standardized business models. This has been demonstrated by the behavior of companies during the pandemic and confirmed in interviews; as soon as circumstances require any type of refocusing, gender considerations are dropped. This means that a gender-based business case is not yet an integral component of the market's understanding of the off-grid companies.

**Working with the private sector can lead to more rapid success.** The private sector tends to be profit driven and companies often are highly innovative and offer a steady source of functional ideas. PAOP and similar programs can support innovation through certain incentives, such as grants and challenge funds. By encouraging and supporting innovation, they can lead to more rapid success. The program has benefited from working with the private sector, especially when it comes to addressing an objective such as increasing the number of connections, because they are closer to the market and the various communities where such power connections are needed. PAOP also benefited from reduced bureaucracy and greater speed of decision-making when working with the private sector. This paved the way for more robust work plans, resulting in faster implementation of the agreed-upon activities. This is a great plus for programs such as PAOP that are timebound or for activities such as results-based financing mechanisms.

**Working with governments also is necessary to ensure achieving an impact in most markets.** The government is responsible for determining the overall policy direction of a given sector and setting framework conditions, including the identification of off-grid areas, technical standards, taxation, and importation regimes and potential funding. Once a good partnership has been set up, the program can influence certain policies in favor of the private sector. In addition, PAOP receives broad-based acceptance within the off-grid sector in a country once there is “endorsement” from the government in any of the focus countries. The PA partnership model is well suited for working with governments because their main issues tend to be structural, which are typically addressed through technical assistance. Specifically in countries with nascent off-grid markets, governments were grateful for the support. Additionally, without being directly asked, governments from Liberia to Uganda all state that PA support would have been more effective with some form of grant for last-mile energy access.

**In-country presence is helpful for support to the private sector.** Contact with companies and stakeholders can only occur locally. Specifically, in a setup that is built largely on personal interactions and quick provision of information, it is important to have regular and direct contact with beneficiary communities. The role of country advisors that was repeatedly mentioned was the participation in working groups, such as consultative groups with donors and private sector actors that formulated recommendations on policies for the government. Local presence is not only important for being “plugged in” and accessible but also for the advisors' credibility as genuine experts. It also helped significantly with regard to shaping international projects to local experiences. Different stakeholders commented that

while the norm is for “ideas [to be] generated in Washington” and for “big organizations [to] have lots of data” that they keep to themselves, PAOP stands out, both for sharing data and for offering “support [that] is quite unique.”

**Trust is a rare commodity** when working with a diverse group of partners that includes private sector parties and government and non-government. Each group has their own set of objectives and vested interests, which may not be immediately discernable. While a certain degree of trust is expected and may be given, there remains some degree of distrust. This may result in potential conflict at any point during the engagement. While flexibility is important for internal coherence and relevance, **outreach and consistency also are important in order to remain a trusted partner.** Stakeholders expressed unhappiness with the COIN Fund grants; applicants commented on a lack of transparency in the justification for awarding them to other applicants and all stakeholders commented on the administrative challenges and resulting cancellations. Trust was considered to be an integral component of effectiveness for PAOP because companies needed to share confidential information and sensitive data. Proponents trusted the individual members of the PAOP team, which was crucial for PAOP’s success.

**Technical assistance for the private sector on a case-by-case basis is less efficient and more expensive than policy advice and providing market information.** Only two of the workstreams showed evidence of catalytic impact: policies and regulation and market intelligence. Through these workstreams, PAOP was able to reach many companies with limited and targeted input. Meanwhile, technical assistance on a company level—as provided through access to finance, business skills, and grant workstreams—was tailored for each individual company. Companies positively reported that country advisors took an active role in supporting them, including conducting quarterly check-in calls. Due to this hands-on relationship, the numbers of individual companies supported per advisor was sometimes low, even as the overall number of companies supported by the broader PAOP team was high.

**Information on markets and best practices in off-grid electrification is still a gap.** Even though PAOP has published off-grid solar market assessments and there are several organizations devoted to providing data and best practice examples (i.e., SE4all, GOGLA, and the International Renewable Energy Agency), there is a need for additional information and communication about key enablers to successful and supportive enabling environments.

**The PA partnership model is difficult to understand and can easily be misconstrued.** The partnership model is broad and sometimes it is unclear what it takes to become a partner. Some of the partners might be contributing more than others, which can create a bit of mistrust if the rules of the partnership are not expressed clearly. In some instances, stakeholders were unhappy about USAID taking credit independently instead of sharing credit with its partners.

Specifically, the model could be used to leverage funding for a much larger impact on the poor tiers of the population. Many funding agencies, and most notably the WB and African Development Bank (AfDB), are currently developing large programs to fund mini-grids, as well as the viability gap of off-grid solar. These programs will need the private sector to deliver hardware and manage the roll-out. The complementarity of this funding with the technical assistance for market development that PAOP delivers is obvious but has not been leveraged in a very strategic and targeted manner. To do this, institutional coordination on several levels (e.g., among USAID headquarters, national capitals, and at the local level) should be proactively promoted and aligned.

**Geographically distributed teams and programs can be very resilient regarding pandemics and other risks.** Despite the severe lockdown conditions, program continuity was maintained. Country

advisors felt disconnected at times; however, this was due to the preexisting structure of the program and the pandemic appeared to do little to exacerbate this dynamic. However, the annual planning meetings were an important opportunity to connect and discuss, and their loss was felt deeply when they were cancelled or postponed due to the pandemic.

Nevertheless, the impact of the pandemic on the implementation team and the progress of PAOP was much less than the impact that the pandemic had on the off-grid sector in SSA. This sector was struck very hard by the public safety measures, which basically prohibited further sales activities. In addition, the sector was affected by customers defaulting on the payments for their SHSs. It is generally expected that this will result in defaults of off-grid companies in the near future.

## 4.2 RECOMMENDATIONS

**RECOMMENDATION 1: Private sector engagement activities should put significant emphasis on continuity and credibility.** For delivering private sector advice on the level that PAOP did—including related to business performance, individual and organizational skills development, and access to finance—companies need to have deep trust in the advisors. PAOP was able to build on many such relationships of trust that were established over a multi-year period preceding PAOP. Currently, there is significant competition for off-grid experts among companies in Africa, which makes it difficult to establish this trust. The PAOP advisors are a special breed in this respect and were among the core factors for the success of this program as a private sector advisory program. Future programs should pay heed to that factor, either by working through experts who already enjoy this kind of trust or by allowing sufficient time for this trust to build with new advisors. Actions that can be considered to this effect are as follows:

- **ACTION 1:** Provide private sector advisory services over the duration of the contract (i.e., for 10 years) rather than for short periods (such as four years in the current project-by-project approach).
- **ACTION 2:** Maximize the continuity of services by investing in more local presence in countries. Partnering with local contractors, business associations, companies, or academic institutions can ensure the sustainability of the program's impact beyond the contract implementation period.
- **ACTION 3:** Communicate clearly about changes in the implementation team's roles and responsibilities as several interviewees were uncertain about continuity in the availability of their trusted advisors.

**RECOMMENDATION 2: Strive for more catalytic impact by enhancing the visibility of services in the countries and anchoring support services in local structures.** PAOP had limited opportunities for higher level institutional outreach and therefore had to rely on the ability of the individual advisors to build local relationships. This not only posed a risk to project implementation success, it also limited the program's ability to achieve a greater impact. By sharing their knowledge through additional channels, advisors could have reached larger audiences and promoted local market development more effectively. In addition, the given situation also reduced the incentives and opportunities for local advisors to fully leverage all options of the PA and USG partnerships because their role was not necessarily always clear with regard to these partnerships. PA is highly encouraged to enhance the visibility of the local advisors. Actions that can be considered to this effect are as follows:

- **ACTION 1:** Provide support for country operations to inform regularly (e.g., quarterly) about the available resources that PA provides, including advisory services, grant windows, and dissemination events or activities that share successes (e.g., through a newsletter). This can be supported by the central PA Coordinator’s Office with contributions related to the overall program but should be complemented with country-specific information and distributed by country operations.
- **ACTION 2:** Ensure that the implementation team accurately represents the PA partnership model, including by making clear their role versus the role of USAID/Power Africa Coordinator’s Office staff.

**RECOMMENDATION 3: Enhance sustainability by enabling local structures to continue providing PAOP-style services.** Local organizations can be important sustainability vehicles and carry action forward. Specifically, two groups of national and regional organizations should be built up in the next phase of off-grid market developments. Actions that can be considered to this effect are as follows:

- **ACTION 1:** Empower business associations as has been done in the off-grid sector with renewable energy associations. In mature markets, many of the services that PAOP provided locally—specifically the ad hoc advice to the government, as well as to companies—are provided by business associations. This was not the case in the current setup; however, soon and in the more mature markets, they will be sufficiently skilled and staffed to be able to provide such services locally (even if they might still depend on donor support). PA, potentially in collaboration with partners such as the WB Energy Sector Management Assistance Program and GIZ, could develop a plan for establishing a sound structure for off-grid business associations that serves the local ecosystem of companies in a competent and self-sufficient manner that also would eliminate conflicts of interest. Resources should be given to business associations to establish a relevant information-sharing service that includes potential funders so that market information is easily accessible.
- **ACTION 2:** Include skills building in the sustainability strategy, potentially through a training facility in each country after a certain nascent stage. The off-grid markets have been plagued by a shortage of qualified staff for many years. Donors rely on companies for training the workforce; however, companies are reluctant to do so as trained workers and managers are often poached by competitors. PAOP has not yet addressed this barrier; however, a future program would benefit from establishing sustainable workforce development opportunities.

**RECOMMENDATION 4: Indicators and targets should correspond to the TOC.** The targets were achieved; however, indicators have had a weak causal relationship with activity-level results. Reporting was based on individual companies, whose willingness to report connections to PAOP was inconsistent, thereby hindering causality. Actions that can be considered to this effect are as follows:

- **ACTION 1:** Align target setting with intuition. “Connections” implies that PA pays, whereas the definition of the indicator allows for a much weaker causal link with PAOP activities. The intuitive understanding is different from what is really measured.
- **ACTION 2:** Define more holistic impact indicators with sufficient sub-indicators to allow PAOP to track progress throughout program implementation. The project design and the TOC reflect a holistic market development approach. While the approach worked to a significant degree with individual companies, the concept is bigger than that. Influencing individual companies is only a

small part of the story. For measuring the impact of this program, holistic market indicators are more useful. PA could adopt indicators for improvement in the energy policy framework, as offered by indices such as AfDB's Electricity Regulatory Index or WB's Regulatory Indicators for Sustainable Energy, to better measure the enabling environment. For the impact on market expansion, the financial volume of the entire off-grid market in a country, the number of off-grid companies, or the number of sold SHS/commissioned mini-grid projects are relevant measures for holistic market impact and should be considered in addition to top-line goals. In a multi-country system, this also can meaningfully enforce a geographically diverse approach, as opposed to the current indicators, which could be reached in one or two countries alone.

**RECOMMENDATION 5: The TOC should acknowledge all gaps and assumptions and include explicit strategies for filling the gaps.** PAOP is foremost a technical assistance project with limited emphasis on grant financing. Any grant financing available also was expected to be used for the technical aspects of business models, such as legal advice or piloting technical solutions. However, apart from equity and loans for the off-grid company, viability gap financing and/or subsidies are needed to reach the poorest of the poor with off-grid solutions. This is generally acknowledged for mini-grids; however, in many contexts, it also is true for SHSs and should be considered more fully for future PA activities. Actions that can be considered to this effect are as follows:

- **ACTION 1:** Collaborate with other PA partners to identify and reach potential recipients of grants or subsidies who may have been excluded from previous programming. This involves comparing previous funding recipients to determine the individuals or groups who have been excluded, as well as combining resources to reach a greater number of target beneficiaries.
- **ACTION 2:** In line with the partnership model, systematically identify sources for viability gap funding for the poorest of the poor and prepare the private sector for delivering them. The level of grants provided through PAOP was never intended to cover large-scale subsidies along the lines that would be required to make a dent in energy access in any given country. However, large funding programs are being prepared by multilateral development banks. These can be used to cover the affordability gap, including through results-based financing, but only if the private sector is prepared to provide this large-scale support. The PAOP model is well suited to prepare the private sector and, combining this with WB or AfDB subsidies, has the potential for a lasting and effective impact on the energy access challenge.

**RECOMMENDATION 6: Build on the existing gender activities of PAOP and expand their reach and depth.** PAOP has demonstrated that all aspects of private sector development and rural energy access can be more successful with regard to the SDGs if they consider gender consistently. Women are decision-makers, investors, producers, operators, and consumers of energy, and they utilize energy for productive uses, care work, education, health, and agriculture. Actions that can be considered to this effect are as follows:

- **ACTION 1:** Systematically mainstream gender in all areas of business support and policy advice, building on the narratives and tools developed in PAOP.
- **ACTION 2:** Measure and track gender indicators to guide management action and monitor impact more effectively.

- **ACTION 3:** Provide a budget for gender integration initiatives beyond the work done by the Gender Advisor, such as such as trainings conducted by embedded advisors on gender inclusivity in the energy sector.
- **ACTION 4:** Create a reward and incentive system for project stakeholders for gender considerations.
- **ACTION 5:** Provide more resources for staff who are tasked with gender mainstreaming responsibilities, including in French-speaking countries.

**RECOMMENDATION 7: Expand the activities in the productive use field.** PAOP has started a process that needs to continue to expand the viability of off-grid solutions for development and empowerment. Unfortunately, the attention that could be devoted to the various productive uses has not been commensurate with the size of the challenge. Actions that can be considered to this effect are as follows:

- **ACTION 1:** Develop and implement sectoral strategies for productive uses beyond agriculture, including health and education, as well as other social and infrastructure services.
- **ACTION 2:** Measure and track productive uses and provide consistent regional market updates.
- **ACTION 3:** Collaborate with non-energy agencies and ministries on the systematic roll-out of productive uses in other sectors, including health and education, as well as small business development, mobility, and handicrafts. Theoretically, line agency programs in these sectors can systematically benefit from the mainstreaming of off-grid renewable energy technologies in their pro-poor programs. Funders such as the WB often are also thinking along sectoral lines and are unable to conceptualize such integration (e.g., of solar energy in school construction programs or agricultural development programs). A follow-on program to PAOP might be well suited for a systematic cross-sectoral advisory service.
- **ACTION 4:** Continue to leverage synergies between commercial and industrial (C&I) solar developments and off-grid/mini-grid developments consistent with PA's market-driven approach. In many places in SSA, the C&I sector is developing quickly and is driven more by the private sector than public energy access actors. As addressed in its current phase of implementation, PAOP's intention was to build mini-grids around anchor clients. This line of work can be further developed and refined in a future iteration of the program to improve the enabling environment more effectively.

# ANNEXES

## ANNEX A: EVALUATION STATEMENT OF WORK

### POWER AFRICA OFF-GRID PROGRAM (PAOP)

Contractor must conduct a Performance Evaluation of the USAID-funded program that provides technical services to implement the four-year and 9-months PAOP task order, under a Power Africa IDIQ Contract.

#### I. BACKGROUND OF THE PROJECT

<b>Implementing Organization</b>	RTI International
<b>Total Estimated Cost</b>	\$49,992,361.00 (Cost-Plus-Fixed-Fee)
<b>Period of Performance</b>	November 13, 2018 to November 15, 2023
<b>Place of Performance for PA Task Order</b>	East Africa; Central Africa; West Africa

#### II. DESCRIPTION OF THE PAOP PROJECT AND THEORY OF CHANGE

The Beyond-the-Grid (BTG) Task Order (PAOP) intended to accelerate off-grid electrification across Sub-Saharan Africa to support Power Africa’s goals to double electricity access by 2030. Power Africa defines access as the direct or actual number of new households and businesses connected to electricity via an on-grid or off-grid solution. BTG focused on accelerating off-grid energy access through household solar systems (SHS) and micro-grids, with the goal of facilitating 25-30 million new connections by 2030.

PAOP is an implementing mechanism that was awarded to RTI International in November 2018. The project is implemented by RTI International, which will collaborate closely with its consortium members: Tetra Tech, Practical Action Consulting Limited, Norton Rose Fulbright South Africa, Inc. and Fraym, Inc.

In its effort to accelerate off-grid electrification across sub-Saharan Africa (SSA) to support Power Africa’s goals to double access to electricity by 2030, the project will focus on the following three activities on behalf of Power Africa. In addition, the project will provide support to the Power Africa Coordinator’s Office and USAID Missions.

#### III. PAOP TASK ORDER ACTIVITIES

- I. Increasing the number of actual off-grid connections

RTI must facilitate an increased number of new, off-grid connections. In achieving this activity, PAOP focused on the following tasks:

- Crosscutting Private Sector Advisory Support
    - Facilitate Introductions to Investors and Financiers.
    - Develop New Business Models.
    - Offer Business Advisory Services.
    - Refine Business Models.
    - Support for Financial Applications.
    - Strengthen the Capacity of Off-grid Sector Associations.
    - Support Productive Use Models.
    - Legal and Regulatory Advisory Support.
    - Engage with the Digital Financial Services and Telecommunications Sectors.
    - Mainstream Gender.
  - Solar Home Systems (SHS) Company Support
    - Provide Market Intelligence and Business Development Support.
    - Develop Innovative Payment Schemes.
  - Micro-grid Developer Support
    - Review Feasibility Study Terms of Reference.
    - Identify and Promote Anchor Customers.
    - Promote Health Clinics and Schools as Anchor Customers.
2. Increasing the amount of private financing available for off-grid companies/projects to advance Power Africa's goals under Pillar 2.2:

RTI facilitates and increases the amount of private and commercial financing available for off-grid companies and projects, as well as facilitating greater access to private and commercial financing for off-grid companies and projects. The Contractor focuses on the following activities:

- Provide Technical Advisory Support to Investors (This support will include, but is not limited to the following):
    - Strategy development and internal awareness raising of off-grid sector opportunities;
    - Pipeline building to support lending objectives;
    - Financial product and service design to ensure appropriate product development for the off-grid sector, coordinating co-funding opportunities with donors and development finance institutions (DFIs) as appropriate;
    - Market intelligence and risk assessments on a market segment and/or country-specific level to assist investor due diligence; and,
    - Convening investors and other event coordination for the finance sector to ensure increased dialogue between existing investors active in the off-grid sector and new potential market financiers.
  - Develop and Administer a “Catalyzing Off-Grid Opportunities Fund”
3. Improving the enabling environment for off-grid investment, sales, distribution and operation at the national level.



The RTI advances efforts to improve laws, policies and regulations that impact the off-grid sector, including, but not limited to:

- Import duties and taxation regimes for off-grid products and components;
- Rules dictating foreign company operation, including local content and local participation;
- Legal frameworks for interconnection with the national grid;
- Tariffs, including innovative approaches to address the objectives of uniform national tariff policies;
- Innovative energy access program design, emphasizing multi-stakeholder partnership-based models;
- Developing and expanding approaches that address governments' public equity objectives that simultaneously preserve viable private sector investment opportunities to promote energy access;
- National energy planning optimized for on- and off-grid energy resources.

#### **IV. SUPPORT TO THE POWER AFRICA COORDINATOR'S OFFICE AND USAID MISSION**

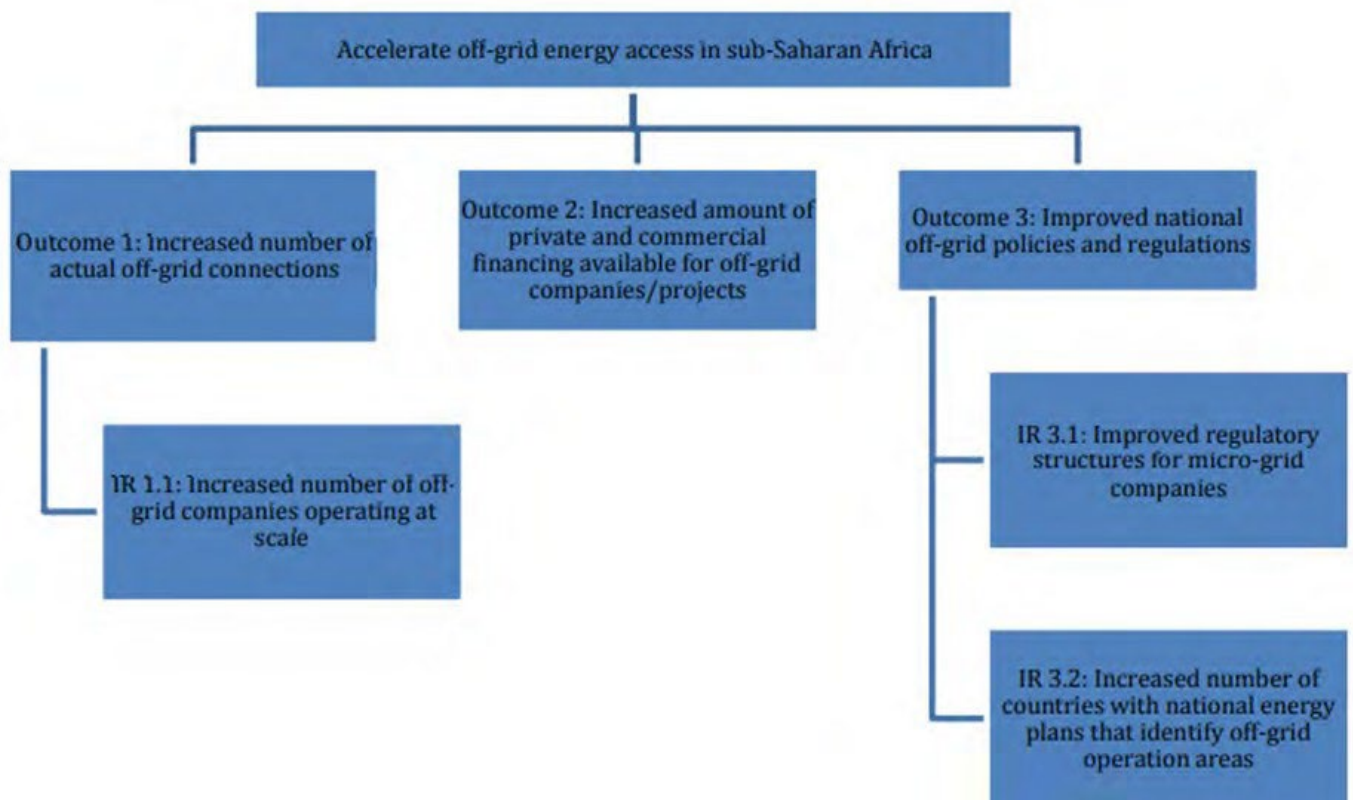
- Support to the Power Africa BTG Team  
The BTG team in the Coordinator's Office serves as the lead for BTG activities across Power Africa, including coordinating activities with USAID missions, USG agencies, and donors. The Contractor will provide support to this team and USAID missions as appropriate to help effectively coordinate and lead BTG activities. This support will include, but is not limited to:
  - Support for the Power Africa Relationship Management ("RM") program for BTG partners.
  - Engagement with strategic initiatives aligned with BTG goals.
  - Support for internal analysis to inform BTG programmatic decisions.
  - Communications support, stakeholder convenings and events, as needed.
  - Innovative energy access program design & implementation, including multi-stakeholder partnership-based models, to ensure lessons learned and best practices are being implemented;
  - Conduct due diligence on potential Power Africa BTG private sector partners.
- Collaboration Within the Power Africa Portfolio
  - Collaboration with other relevant USAID Power Africa activities.
  - Support for Grid-Connected Micro-Grids.
  - Collaborate with USG interagency and private sector partners.
  - Collaborate with USAID Entities.
  - Support national and regional development partner coordination.

The **theory of change** for this project assumed that by improving market and regulatory structures, as well as improving access to private capital for the commercial off-grid sector, Power Africa, through the BTG Contractor would substantially increase the total number of off-grid connections, and enable better development outcomes for those who gain access to energy. This assumption required targeted, context-specific interventions with private sector companies, governments, investors and donors to improve conditions for private off-grid companies and make Sub-Saharan markets more attractive for

investment and operations. Ultimately, planned outcomes are to increase the number of off-grid companies active in sub-Saharan Africa, and drive down sector costs, making energy more accessible, particularly through the marketing of Solar Home Systems (SHSs) and micro-grid connections.

The BTG contractor was expected to achieve three major outcomes as outlined below and presented in the figure below:

- Outcome 1: Increasing the number of actual off-grid connections;
- Outcome 2: Increasing the availability of private and commercial finance for off-grid companies/projects;
- Outcome 3: Improving the enabling environment for off-grid investment, sales, distribution and operation at the national level.



## V. EVALUATION QUESTIONS FOR PAOP

Evaluation questions will be finalized in collaboration with USAID post-award. The following evaluation questions are illustrative:

- Q1. Three years into project implementation, is PAOP on target to achieve the goals set in the task order? Do the assumptions in the theory of change hold true or does the theory of change need to be adjusted? If adjustments are needed, please provide concrete recommendations for the types and scope of project implementation adjustments.
- Q2. Given the design and scope of the project and the context of the off-grid sector, is the goal of 6

million connections an appropriate and realistic contractual target?

- Q3. How did PAOP maintain a balance between delivering lighting to new households while supporting higher-tier forms of energy access, such as the productive use of energy (PUE) and health facility electrification?
- Q4. How did COVID impact overall project performance and how did PAOP monitor and document these ongoing performance changes?
- Q5. How did/does PAOP analyze and evaluate the annual and overall impact of technical advisors and the contribution of advisors to the achievement of outputs and outcomes? Provide concrete examples.
- Q6. Were the implementing partner's performance management tools effective? If so, in what way and if not, why not?
- Q7. Identify successes, challenges, best practices and lessons learned from the following activities:
- Solar Home Systems (SHS) Company support;
  - Micro-grid developer support;
  - Productive Use of Energy;
  - Health Facility Electrification;
  - Providing Advisory Support to Investors;
  - Improving the enabling environment for off-grid investment and sector growth;
  - Direct Support to the Power Africa Coordinator's Office;
  - Collaboration with other Power Africa implementing mechanisms; and,
  - Responsiveness to USAID Mission needs and priorities.

Please provide concrete examples of findings, including any unintended consequences and specify how learnings were incorporated into implementation.

## **ANNEX B: EVALUATION DESIGN AND MATRIX**

*Updated to reflect final team organization and other minor corrections.*

### **I. INTRODUCTION**

The U.S. Agency for International Development (USAID) Power Africa Program Office, located within the U.S. Mission to South Africa, has contracted ICF to conduct external performance evaluations of four USAID-funded programs to improve program performance management and efficiency. These evaluations will help Power Africa meet Agency requirements, make improved and more informed strategic and management decisions around program implementation, and advance Agency learning.

The evaluations will: 1) determine, to date, the extent to which the contract has achieved its intended objectives and outputs; 2) assess the technical and program management of the implementation mechanism; 3) highlight lessons for USAID in facilitating coordination with implementing partners; 4) highlight major gaps and challenges that may require adjustments in program implementation; and 5) inform the design of potential future activities. The lessons drawn from these evaluations will be important to the technical teams, activity managers and senior management.

#### **I.1 ABOUT USAID POWER AFRICA**

USAID Power Africa seeks to increase access to electricity throughout the region with the addition of millions of new connections and tens of thousands of megawatts in new and cleaner power generation. To date, USAID Power Africa has delivered significant transformative impacts in the Sub-Saharan Africa region, not only in expanding energy services but also in benefitting multiple additional development priorities related to promoting economic growth, improving access to health and education, increasing productivity and sustainability in agriculture and livelihoods, and recognizing the needs of local communities.

To evaluate effectiveness, efficiency, and relevance, and to identify best practices and lessons learned, USAID Power Africa has commissioned independent evaluations of the following four programs:

- The West Africa Energy Program (WEAP);
- The Nigeria Power Sector Program (NPSP);
- The East Africa Energy Program (EAEP); and
- The Power Africa Off-Grid Program (PAOP).

Each evaluation will be specifically tailored to address the program's theory of change and expected outcomes, while recognizing USAID Power Africa's overall mandate to increase access to reliable, affordable, and sustainable power through its three strategic pillars: (1) New Power Generation Capacity; (2) Increased Electrical Connections; and (3) Improved Enabling Environment.

#### **I.2 USAID POWER AFRICA PROGRAMS TO BE EVALUATED**

Each USAID Power Africa program brings together a unique set of interventions, technical partners, and country stakeholders that address the region's most pressing energy needs and priorities for energy equity and self-reliance.

The following is a brief description of each program and its respective TOC and outcomes as well as areas of inquiry which provide a framework for the evaluation design. Additional program details and geographic scope are provided in Exhibit I.

**Exhibit I. ICF’s expertise extends to all program geographies.**

**West Africa Energy Program**

- IP: Deloitte Consulting LLP
- POP: July 2019-July 2023
- TEC: \$73,850,693  
CLIN 1 \$54,581,750  
CLIN 2 (Ghana) \$19,268,943
- Countries: Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Congo, Cote d’Ivoire, DRC, Equatorial Guinea, Gabon, The Gambia, Ghana, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, São Tomé and Príncipe, Senegal, Sierra Leone, and Togo

**Nigeria Power Sector Program**

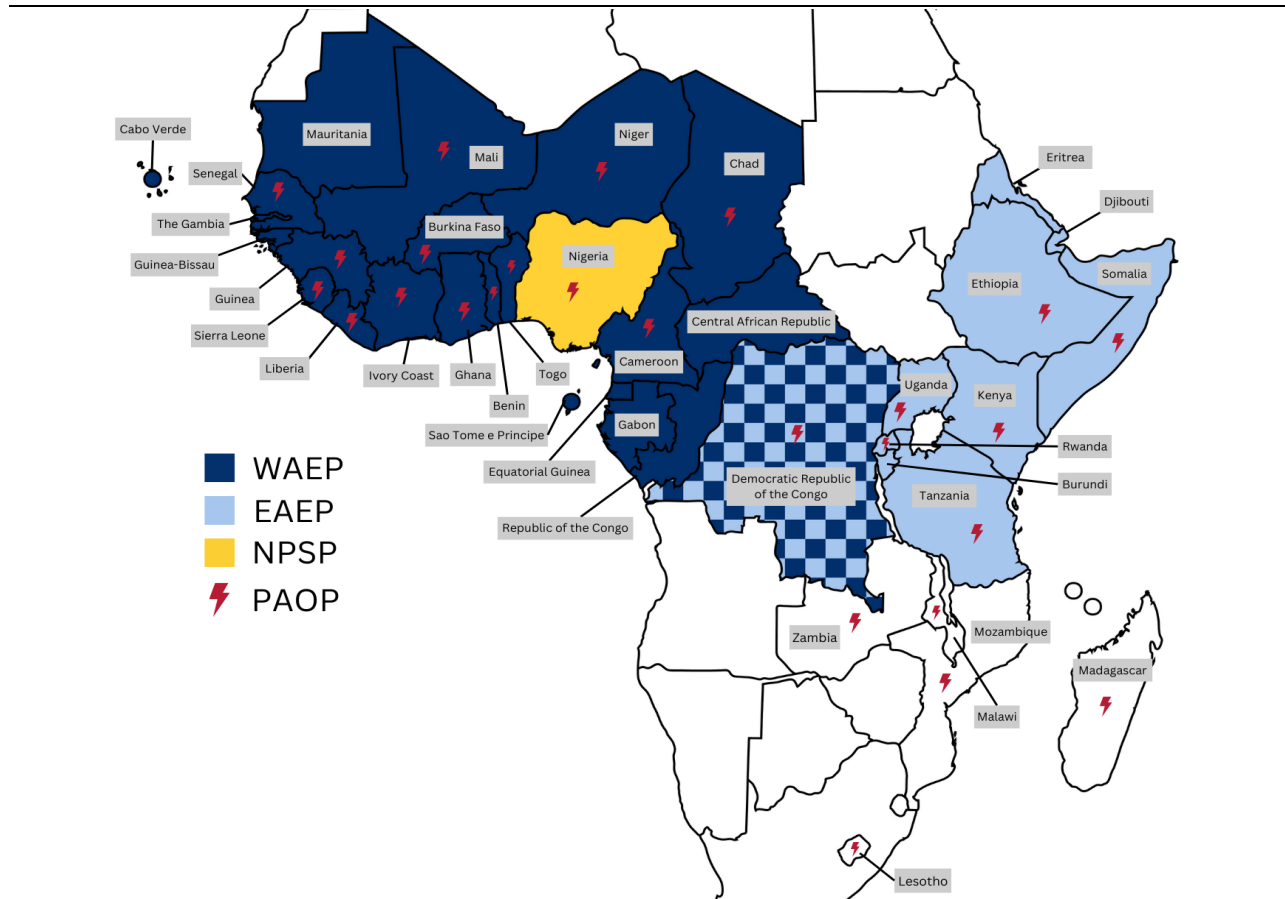
- IP: Deloitte Consulting LLP
- POP: April 2018-March 2023; Extended to September 30, 2024
- TEC: \$109,258,794
- Country: Nigeria

**East Africa Energy Program**

- IP: RTI International
- POP: December 2018-December 2022; extended to March 2023
- TEC: \$73,850,693
- Countries: Burundi, DRC, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia (Punland and Somaliland), Tanzania, and Uganda

**Power Africa Off-Grid Program**

- IP: RTI International
- POP: November 2018-August 2023
- TEC: \$49,992,361
- Countries: Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Cote d’Ivoire, DRC, Ethiopia, The Gambia, Ghana, Guinea-Bissau, Kenya, Lesotho, Liberia, Mali, Madagascar, Mauritania, Mozambique, Niger, Rwanda, Senegal, Sierra Leone, Somalia, Tanzania, Togo, Uganda, Zambia



*IP = Implementing Partner; POP = Period of Performance; TEC = Total Estimated Cost*

The **East Africa Energy Program (EAEP)** is designed to optimize the power supply, increase grid-based power connections, strengthen utilities and other power sector entities, and increase regional power trade. EAEP's TOC assumes that by expanding affordable and reliable electricity services, EAEP will support development priorities including inclusive growth, increase security, and improve health and education outcomes through community engagement.

The **Nigeria Power Sector Program (NPSP)** implemented in coordination with USAID/Nigeria is designed to address specific constraints in the energy sector across four outcomes: private sector investment; development of the off-grid market; improved enabling environment for private sector participation; and improved liquidity of the distribution sector. The program aims to accelerate energy transactions that lead to increased power generation and increased connections to end-users by working with government partners to create the policy, legal, and regulatory frameworks necessary for private sector investment and financial sustainability within the power sector.

**Power Africa Off-Grid Program (PAOP), or Beyond-the-Grid**, supports USAID Power Africa's goal of doubling electricity access across Sub-Saharan Africa by 2030 by increasing the number of households and businesses connected to electricity via on-grid or off-grid (household solar and micro-grids) solutions. PAOP's TOC assumes that improving markets and regulatory mechanisms and access to private financing will yield a subsequent increase in the total number of off-grid connections and better development outcomes. Program activities focus on increasing the number of off-grid connections with targets of 25 million to 30 million new connections by 2030, increasing private sector financing, and improving the enabling regulatory environment for investment.

The **West Africa Energy Program (WAEP)** is designed to expand the support of and access to affordable and reliable grid-connected electricity services across West Africa and advance development outcomes of inclusive growth, security, and improved health and education. WAEP's outcomes also include strengthening the performance of national utilities and power sector entities and launching a regional power market. Similar outcomes, except for the regional market, are also elaborated separately for Ghana. WAEP's TOC proposes to achieve these outcomes by aligning energy reform and electrification goals with investment opportunities, local and regional resources, and increased human capital.

### **I.3 EVALUATION OBJECTIVES AND SCOPE**

This section of the work plan lays out the scope and objectives of the four separate evaluations. Specific evaluation objectives and scope are described below for each of the four program evaluations. For each evaluation, it is anticipated that a 25-page final report will be generated and will focus on summary findings and recommendations with annexes as appropriate.

**East Africa Energy Program (EAEP):** A key focus area for the evaluation is determining how the program is addressing ongoing challenges, given national priorities, gaps in human and institutional capacity, and fragmented systems required to reach energy equity. The evaluation will examine how the program's platform addresses the challenge of regional integration of technical and human systems by examining four program dimensions: workforce development and institutional strengthening; improvement in national and regional planning and policy; coordination and information sharing through information systems; and the facilitation of public-private dialogue. ICF will explore whether and to what extent EAEP has demonstrated results of greater reliability, lower prices, and increased access and if

these outcomes are well correlated to “meaningfully integrated national systems” to achieve results. The evaluation will explore cross-cutting issues to determine effectiveness and identify models and areas of improvement across countries. To identify program efficiencies and lessons, ICF will review the program’s ‘One-Team’ management approach for lessons that can be shared with RTI International and partners.

**Nigeria Power Sector Program (NPSP):** Evaluation focus areas will address how NPSP’s activities have responded to the lack of electrical access as a critical constraint on Nigeria’s economic development and an underlying cause of poverty. This focus includes determining the extent to which program activities have evolved to address longer-term sustainability as well as how effective the IP’s management approach was in achieving Nigeria’s rural electrification goals in a manner that addresses energy equity. We will determine the extent to which power and investment targets aided the program to address unintended systemic issues necessary for self-reliance and financial stability. The evaluation will also examine NPSP’s performance in response to disruptions to markets and enabling environments.

**Power Africa Off-Grid Program (PAOP), or Beyond-the-Grid:** The evaluation design will assess the PAOP TOC for relevance and gather contextual information from private companies, governments, and investors from each region to determine whether PAOP is on track to achieve its targets as well as the feasibility of achieving those targets. We will analyze the program’s effectiveness in increasing the number of off-grid companies active in Sub-Saharan Africa and determine whether PAOP has been successful in driving down sector costs, making energy more accessible. We propose to give particular emphasis to assessing program delivery and identifying best practices and models that can be shared across the region.

**West Africa Energy Program (WAEP):** The evaluation will examine the extent to which the program expanded the support of and access to affordable and reliable grid-connected electricity services across West Africa and advanced development outcomes of inclusive growth, security, and improved health and education. We will determine if WAEP’s outcomes also include strengthening the performance of national utilities and power sector entities and launching a regional power market were on track. Similar outcomes, except for the regional market, are also elaborated separately for Ghana, will be reviewed. Finally, WAEP’s TOC which proposes to achieve these outcomes by aligning energy reform and electrification goals with investment opportunities, local and regional resources, and increased human capital will be reviewed as well as assessing the effectiveness of the program delivery and contractor’s monitoring and documentation process.

## **I.4 EVALUATION TEAM MEMBERS AND RESPONSIBILITIES**

Each individual evaluation team has a combination of members that have technical and evaluation experience. In addition to the individual evaluation teams, there is the ICF Backstopping Team that is composed of individuals external to the evaluation teams.

### **Evaluation Team Structure**

All four Evaluation Teams will be structured in the same way, with the caveat that the PAOP Team will have an additional evaluation specialist to account for the change in the PAOP Team Lead position. One independent consultant will serve as the Team Lead for each evaluation. These Leads are remote staff

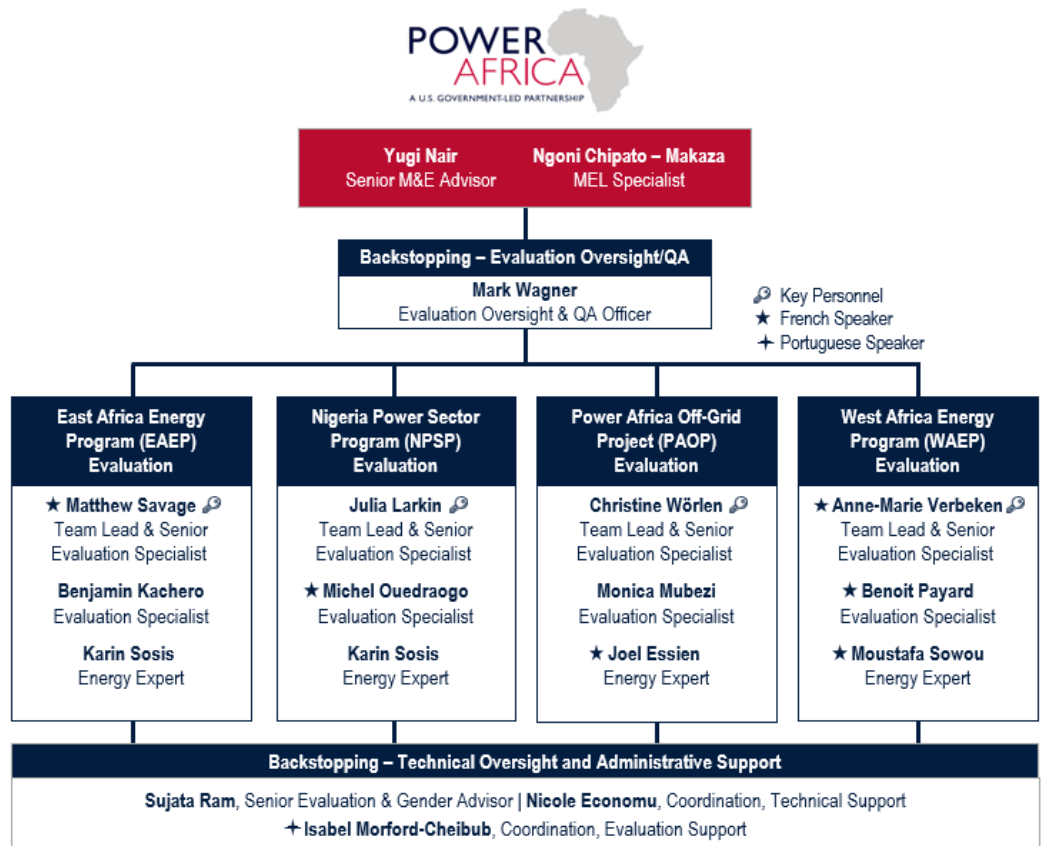
who are not based in any of the program countries. They will lead data collection, analysis, and triangulation, as well as drafting the final evaluation report for their respective team.

Each Team Lead will be supported by at least one evaluation specialist and one energy expert. These support individuals will compile resources for the desk study, identify key stakeholders, and contribute to data collection, analysis, and triangulation. They will also assist in the preparation of the final evaluation report for their respective team.

### Backstopping Team Structure

As shown in Exhibit 2 below, the evaluation teams will receive evaluation, technical, and administrative support, and oversight from the Backstopping Team. The Backstopping Team will facilitate meeting planning, scheduling, and other logistical support related to the Power Africa MEL Team. This may include support related to data collection, such as scheduling key informant interviews, as needed to support in-country specialists. The Backstopping Team will also provide evaluation support, such as reviewing data collection instruments, and technical support, such as verifying sectoral knowledge, to the Evaluation Teams, as needed.

**Exhibit 2: Evaluation Team Organization**





## **I.5 COORDINATION WITH USAID POWER AFRICA**

Close coordination with the Power Africa MEL Team will be essential to the timely and effective execution of this assignment. This coordination will be led by the Backstopping Team, though the Evaluation Teams may engage occasionally with the Power Africa MEL Team. Meanwhile, the Evaluation Teams will primarily engage with the Task Order CORs and Implementing Partners for each of the four Power Africa programs to be evaluated. After finalization of the work plan, Team Leads will be responsible for sharing weekly updates with the Backstopping Team and the Power Africa MEL Team. The Backstopping Team will also package and deliver monthly progress reports to be shared with the Power Africa MEL Team after finalization of the work plan.

## **I.6 OVERVIEW OF WORK SCHEDULE AND DELIVERABLES**

The evaluation will be conducted over a 23-week period that began on January 3, 2023 and concludes on June 9, 2023. The key evaluation deliverables and milestones are listed below, and Table I below further presents the evaluation work schedule.

**Milestones and Deliverables.** All dates shown are in 2023.

- Kick-off meeting with USAID: January 10
- Draft evaluation work plan submitted to the Power Africa MEL Team: January 13
- Branding and marking plan: January 13
- Draft evaluation design: January 24
- Work plan returned by USAID: January 27
- Evaluation design approved by USAID: February 7
- Final draft of work plan and evaluation design: February 10
- Work plan approved by USAID: February 17
- Finalization of document library: March 3
- Finalize data collection: March 30
- Finish data analysis and interpretation: April 14
- ICF-USAID collaborative workshop: April 21
- Evaluation Report Outlines submitted to Power Africa MEL Team: April 21
- Draft reports #1 submitted to Power Africa MEL Team: May 5
- Presentation to Power Africa MEL Team: May 5
- Receive comments from Power Africa MEL Team: May 12
- Draft reports #2 submitted to Power Africa MEL Team: May 19
- Receive comments from Power Africa MEL Team: June 2
- Final evaluation reports submitted to Power Africa MEL Team: June 9

### Exhibit 3: Evaluation Work Schedule

	W0	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15	W16	W17	W18	W19	W20	W21	W22	W23
Contract signed	█																							
Contract start date		█																						
Kick off meeting with PA MEL Team			█																					
Branding and Marking Plan submitted to PA MEL Team			█																					
Work Plan submitted to PA MEL Team (first draft)			█																					
Work Plan reviewed by PA MEL Team and returned with comments				█	█																			
Evaluation Design submitted to PA MEL Team (first draft)				█	█																			
Evaluation Design reviewed and approved by PA MEL Team					█	█	█																	
Final draft of Work Plan submitted to PA MEL Team						█	█																	
Final draft of Work Plan reviewed and approved by PA MEL Team								█																
Determine list of key informants				█	█	█	█																	
Develop evaluation instruments				█	█	█	█																	
Establish document library		█	█	█	█	█	█	█	█															

Data collection activities																								
Data analyses																								
ICF-USAID collaborative workshop																								
Develop Evaluation Report outlines																								
Draft report #1 submission																								
Presentation to PA MEL Team																								
USAID review of reports																								
Draft report #2 submission																								
USAID review of reports																								
Final reports submission																								
USAID review and approve the final report																								

## 2. EVALUATION DESIGN AND METHODOLOGY

ICF's detailed evaluation design elaborates a clear plan for conducting each program evaluation. The design has been informed by each individual program's theory of change and expected outcomes and addresses evaluation questions that have been refined during consultations with the USAID Power Africa MEL Team. For this evaluation design, a detailed program-specific evaluation matrix has been developed that sets out the key evaluation questions and sub-questions, indicators, data collection and analysis methods, and sources and types of data (see Annex I).

Each individual evaluation will tailor the overarching evaluation design to the program context and will be informed by the desk review and internal consultations. All aspects are subject to revision, including the sub-questions, data sources, and design strategies. Data availability and other factors may inform a prioritization or elaboration of the evaluation questions.

The evaluation design elaborates the data collection methods, including documents to be reviewed and proposed selection criteria for identifying key informants, focus group members, and survey respondents, identifying respondents that represent stakeholders from partner organizations, key government stakeholders, civil society and private sector entities, and other organizations involved in the sector (e.g., other development partners or sector experts). The selection criteria for key informants and respondents will be informed by the program's interventions and key assumptions identified in the program's theory of change. Program-specific data collection plans will present a framework and methodology for data collection and analysis and present a strong rationale for identified number of key informant interviews, group discussions, and surveys. These plans will be shared in the final evaluation report.

### 2.1 DATA COLLECTION METHODS AND TOOLS

Evaluation teams will employ a combination of the following primary types of data collection. The final set of methods will be determined by the desk review and approved set of key questions and areas of inquiry for each evaluation.

**Document Review.** Before collecting data and finalizing evaluation designs and data collection plans, ICF will review relevant program documents, including program implementation plans, annual Work Plans, annual and quarterly performance reports, performance monitoring plans and systems, technical reports, and other relevant program publications. We will also review external publications on the energy sector and other interventions in the similar sub-sector and geographic area to consider other best practices and models. Document review will inform evaluation team planning and provide background and context for probing questions associated with the key informant interview and focus group discussions related to individual evaluation questions. Evaluation Team members will take notes to highlight key learnings and knowledge gaps; these will be shared, triangulated, and discussed as a team, and we will incorporate the findings into the evaluation reports.

**Key Informant Interviews (KIIs).** ICF will develop semi-structured interview guides, tailored by program-specific stakeholder type. These guides will be based on the document review, which will help provide additional nuance for each program, and the evaluation questions outlined in the evaluation matrix below. We will iteratively test and improve these interview guides. The basic structure of the

interview guides, with examples, was provided in draft form on January 31. The final guides will be shared as an annex in the final evaluation report, to allow for mid-course corrections, as needed.

Semi-structured interviewing enables the interviewer to follow an agreed-upon set of questions, while retaining flexibility to adapt the process depending on the interviewee and to probe where a fruitful line of questioning emerges. ICF will design the interview guides to align to the specific questions and sub-questions that the evaluation aims to answer. The evaluation will benefit from our highly experienced interviewers who bring methodological rigor and technical expertise of the energy sector, enabling a richer, more holistic, and nuanced account of factors influencing each program's performance.

The ICF Team will schedule Interviews via preferred video platforms (e.g., Google Meet, Microsoft Teams, Zoom, Skype, or WhatsApp), taking internet access limitations into consideration. Interviewers will take detailed, typed interview notes, and, when feasible and with the consent of interviewees, we will record KIIIs to facilitate validation. Evaluation teams will anonymize interview notes in line with standard evaluation ethics and coded in software to facilitate qualitative analysis.

**Focus Group Discussions (FGDs).** ICF will design FGD guides according to the program-specific evaluation questions. Guides and lists of questions will be tested iteratively to improve their efficacy. These FGD guides will follow the illustrative interview guide provided to USAID on January 31. The final guides will be shared as an annex in the final evaluation report. Focus groups will take advantage of group dynamics and will be gender sensitive, allowing for greater security and open dialogue. Discussion sessions with key stakeholders will be conducted in small groups of six to eight participants to explore topics related to their knowledge, attitudes, practices, and other relevant insights specific to program-level activities. Given that FGDs will need to take place virtually, the ICF Team will consider bandwidth constraints in determining the final number and scope of groups for each evaluation.

**Survey.** As deemed useful, ICF will design a brief online survey to collect additional information on relevance, effectiveness, impact, and sustainability criteria that is reflective of the evaluation questions. As part of the evaluation design process for each evaluation, we will work closely with the USAID Power MEL Team to explore the usefulness and feasibility of a survey.

The final decision for including a survey will be contingent upon whether contact information of respondents is readily available and the relevancy of the final evaluation design. The use of surveys will also be dependent upon initial desk reviews and key informant interviews and will vary by program. We would plan to use both discrete answer choices (Likert-scale) for quantitative analysis and open-ended questions to gather richer qualitative information, with follow-up for any special or outlier comments requiring clarification or explanation. All individual responses provided through the survey would be treated as strictly confidential and will not be shared outside the ICF Team; aggregated results would be shared with USAID Power Africa MEL Team and included in the evaluation report. ICF would provide a comprehensive methodology of each survey in each evaluation design document. In developing and analyzing the results, ICF will draw on the expertise of our In-country Specialists.

## **2.2 DATA ANALYSIS**

The evaluation team will use several analytical methods over the course of individual evaluations, to identify key evidence-based findings.

## **Qualitative Data Analysis**

ICF will conduct an in-depth, structured data analysis process to ensure that findings are credible, valid, and evidence based. The qualitative data analysis will also identify data that help to interpret and triangulate the findings from the analysis of quantitative data and case studies. The data review process will focus on the use of content analysis and pattern observation to draw understanding and context from the information. Evaluation teams will use descriptive analysis to identify specific content that speaks to the overall program interventions in the program areas as well as program-specific themes. In addition, any recordings of KIs and FGDs will provide teams with direct quotes from respondents that can be used as supporting material for findings and conclusions in the draft and final evaluation reports.

Data coding is an exercise to thematically group data (the content of the transcripts) to further support qualitative data analysis; how the data are coded becomes the basis for analysis. Each ICF Evaluation Team will develop a set of thematic codes specific to each evaluation. Each team will code (contingent upon final evaluation designs) the qualitative data and identify emergent themes using the Dedoose analysis software, a cross-platform computer application that will be used to analyze qualitative and quantitative data as a part of a mixed-methods evaluation. Individual teams will develop deductive codes that correspond to the research questions outlined in the interview transcripts. The teams will also incorporate inductive codes, capturing additional emergent or unexpected themes. With the codebook in place, the teams will read the translated transcript with each statement or exchange in the transcript thematically coded. The Team Leads will oversee this process and periodically check the coding of the other team members supporting this task.

The Evaluation Teams will analyze data using content and contribution analysis. Content analysis will be used to identify themes and trends within and across respondent groups. We will also bring further understanding to contextual and environmental factors and their influence on behaviors, as possible. Contribution analysis will explore causal mechanisms and verify theories of change based upon identifying critical underlying assumptions.

## **Quantitative Methods**

ICF will use a mix of data analysis methods to review program-level quantitative data. The ICF Evaluation Teams will analyze each program's performance monitoring data, obtained through data management systems (USAID Power Africa Power Africa Information System [PAIS] and Power Africa Tracking Tool [PATT] systems) to determine whether annual program targets have been met. Baseline figures for all performance monitoring indicators will be compared to endline results for activities that are at the end of their program cycles.

Each ICF Evaluation Team will also analyze disaggregated data to provide a deeper assessment of results focusing on issues of energy equity, gender (where relevant), self-reliance and other cross-cutting issues. These data analyses will help in identifying critical assumptions, challenges, and gaps in addressing each program's theory of change. The ICF teams will use other methods such as trend analysis to compare year-to-year figures across standard indicators of particular interest.

The Evaluation Teams will triangulate the results of the qualitative and quantitative analyses during a working group session to identify key findings and conclusions. This process will ensure that all findings are supported by multiple evidence sources and analyses.

## **2.3 DATA QUALITY ASSURANCE**

The Evaluation Teams will adhere to high professional standards in collecting and analyzing data at every stage. Interviews will be attended by at least two evaluation team members (barring exceptional circumstances), who will each take detailed notes. The quality and validity of these notes will be assured in the process of consolidating them into a single file documenting each individual or group interview, which will be shared with the entire evaluation team. Throughout, the teams will discuss and develop emergent findings in an iterative process.

## **3. DATA COLLECTION SCHEDULE**

Each Team Lead will conduct an initial interview with the Contracting Officer's Representative (COR) for their respective program. Based on this initial interview, the Team Leads will review the detailed list of stakeholders provided by the USAID Power Africa MEL Team and will determine an appropriate interview schedule. A meeting will also be scheduled with USAID Power African Monitoring Specialist to better understand and obtain access to the PATT and PIAS data for all programs. In addition to the priority informants identified by the Power Africa MEL Team, the evaluation teams intend to contact other individuals for interviews. Both the interview schedule and the final list of stakeholders will be included as an annex in the Final Evaluation Report, as both will evolve throughout the data collection process.

Each Team Lead expects to interview up to 50 stakeholders that fall into the following groups: NGOs/CSOs, development partners, government ministries, public and private utility companies, and energy service providers/other private sector actors. Additional stakeholder groups may be identified during the data collection process.

## ANNEX C: DATA COLLECTION INSTRUMENTS

### INTERVIEW GUIDE

#### I. GENERAL INTRODUCTION FOR ALL INTERVIEWS

Provide a brief introduction that covers:

- Short introductions of role and positions within organizations and relation to PAOP;
- The aims of the interview and the evaluation; [See optional talking points below]
  - USAID has contracted ICF to conduct an evaluation of Power Africa’s Off-grid Project (PAOP) along with evaluations of three other programs.
  - The current schedule has us wrapping up data collection by early April, with a draft report in May and final in June.
  -
- The expected length of the interview (e.g., 30, 45, or 60 minutes); and
- Confidentiality —i.e., that comments made by the interviewee will not be attributable; results of the evaluation will be published; and results may inform future programming.
- Obtain consent if the interview will be recorded.

#### 2. BACKGROUND ON PAOP FOR EVALUATIONS

[Use as needed to remind yourself or the interviewee of key facts]

Power Africa Off-Grid Program (PAOP), or Beyond-the-Grid, supports USAID Power Africa’s goal of doubling electricity access across Sub-Saharan Africa by 2030 by increasing the number of households and businesses connected to electricity via on-grid or off-grid (household solar and micro-grids) solutions. PAOP’s TOC assumes that improving markets and regulatory mechanisms and access to private financing will yield a subsequent increase in the total number of off-grid connections and better development outcomes. Program activities focus on increasing the number of off-grid connections with targets of 25 million to 30 million new connections by 2030, increasing private sector financing, and improving the enabling regulatory environment for investment.

- Implementation partner: RTI International
- Time frame: November 2018-November 2023
- TEC: \$49,992,361
- Countries: Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Cote d’Ivoire, DRC, Ethiopia, The Gambia, Ghana, Guinea-Bissau, Kenya, Lesotho, Liberia, Mali, Madagascar, Mauritania, Mozambique, Niger, Rwanda, Senegal, Sierra Leone, Somalia, Tanzania, Togo, Uganda, Zambia

#### 3. PROTOCOL FOR KEY INFORMANT INTERVIEWS: USAID STAFF

<b>Date:</b>	<b>Name:</b>
<b>Country:</b>	<b>Title/Role:</b>



<b>Sex:</b> <input type="checkbox"/> Male <input type="checkbox"/> Female	<b>Organization:</b> USAID
<b>Interviewer(s):</b>	

Introduction to the project

**1. What does the project do in general?**

- a. The project is based on five work streams. Were there any developments in the approach of the work streams during the project? In particular, were there changes in the work streams Market Dynamics/Intelligence and Cross-Sectoral Integration

Coordination Mechanism

- a. How effective has the project been in coordinating and maintaining good relations with USAID Bilateral Missions and other US Government-related projects? Can you provide examples of success or failure?
- b. To what extent is the project coordinating with non-USG donors to identify and cover gaps in the country or region?

Status Update

**2. To what extent is the project on track to meet its overall goal and objectives?**

- a. How effective has the project's approach been with respect to working through private sector, bilateral government contacts, and other key partners? How effective were these approaches in terms of increasing engagement and improving results?
- b. Is the project providing better value for money (efficiency/effectiveness) in certain regions or countries? [This question will not be asked during interviews with USAID bilateral missions.]
- c. Which other donors or organizations would be potential partners for additional phases of the project?
- d. To what extent has the project supported wider socio-economic impacts (e.g., inclusive growth, increased security, and improved health and education outcomes through community engagement)? What is the evidence of these impacts?

Areas for Improvement

**3. Do the assumptions in the theory of change hold true or does the theory of change need to be adjusted?**

- a. How would you describe the relevance of the project's approach and its complementarity or potential overlap with other active initiatives in the region?
- b. How are the project's activities addressing underlying assumptions; are there adjustments to be made to address priority issues and gaps?
- c. If adjustments are needed for its project specific theory of change (e.g., its key assumptions, list of stakeholders, interventions, and expected outcomes), please provide concrete recommendations for the types and scope of project implementation adjustments.

Actions for Improvement

**4. What adjustments, corrective actions, and/or areas for improvement are needed to ensure effectiveness in achieving expected results during the duration of the project? [Where were needs for adaptive management?]**

- a. What specific opportunities exist to enhance programmatic effectiveness, impact, and sustainability?

- b. If the project were to select among its activities to focus its efforts to best achieve results, what do you think the basis for that selection should be?
  - i. On which activities would you have the project concentrate?

Success factors

**5. What factors (both internal and external to the project) help or hinder in the achievement of the project’s expected results?**

- a. How has the project learned adaptively, i.e., reacted to changing conditions by adjusting implementation to ensure achievement of results?
- b. How did the project’s implementation activities respond to the COVID-19 pandemic?

Gender

**6. How effectively has the project identified and reduced gaps regarding gender equity and women’s leadership role?**

- a. How did the project address gender mainstreaming, and gender considerations during project preparation? What have the project’s successes been in implementing gender mainstreaming activities?
- b. Are there gaps related to gender that need to be addressed in future project activities or phases?

Sustainability

**7. How effective has the project been at ensuring the sustainability of its results? What additional efforts are needed?**

- a. What have been the project’s strategic and transformational change impacts (if any)?
- b. What specific actions or strategies has the project undertaken to address sustainability?
- c. How effective were these strategies in ensuring the sustainability of its results? Have certain interventions or results been more sustainable than others? How and why?
- d. Are there specific opportunities that were missed?

General remarks

**8. Any other comments? Is there something we missed or that you expected we’d also talk about today?**

**4. PROTOCOL FOR KEY INFORMANT INTERVIEWS: SENIOR IMPLEMENTATION TEAM (COP/DCOP)**

<b>Date:</b>	<b>Name:</b>
<b>Country:</b> South Africa	<b>Title/Role:</b>
<b>Sex:</b> <input type="checkbox"/> Male <input type="checkbox"/> Female	<b>Organization:</b>
<b>Interviewer(s):</b>	

**I. To what extent is the project on track to meet its overall goal and objectives?**

- a. theory of change What have been the specific contributions of each of the areas of concentration (###) to meeting the project’s overall objectives? Examples from specific countries appreciated. How would you describe the relevance of the project’s approach and its complementarity or potential overlap with other active initiatives in the region?
- b. Is the project more successful / providing better value for money (efficiency/effectiveness) in certain regions or countries?

- 2. How effective has the project been at ensuring impact and the sustainability of its results? What additional efforts are needed?**
  - a. What have been the project's strategic and transformational change impacts (if any)?
  - b. To what extent has the project supported wider socio-economic impacts (e.g., inclusive growth, increased security, and improved health and education outcomes through community engagement)? What is the evidence of these impacts?
  - c. What specific actions or strategies has the project undertaken to address sustainability?
  - d. How effective were these strategies in ensuring the sustainability of its results? Have certain interventions or results been more sustainable than others? How and why?
  - e. Are there specific opportunities that were missed?
  
- 3. What adjustments, corrective actions, and/or areas for improvement are needed to ensure effectiveness in achieving expected results during the duration of the project?**
  - a. How are the project's activities addressing underlying assumptions; are there adjustments to be made to address priority issues and gaps?
  - b. What specific opportunities exist to enhance programmatic effectiveness, impact, and sustainability? Prompts:
    - i. What project activities would you like to add, change, or remove? What do you think are the opportunities to bring about these changes?
    - ii. How well do you think the geographic scope of the project is working? Would you recommend a different emphasis on individual countries, sectors, and/or different activities?
    - iii. How effective has the project been in balancing private sector versus direct bilateral government partners technical assistance and capacity building needs?
    - iv. How effective do you think the geographic structure of the project is? Why or why not? Do you see opportunities to change or improve that?
  - c. How effective have the project's monitoring and evaluation activities been to contribute to programming decisions?
  
- 4. How effectively has the project identified and reduced gaps regarding gender equity and women's leadership role?**
  - a. How important was gender for project design and selection of activities?
  - b. How did the project address gender mainstreaming, and gender considerations during project preparation? What have the project's successes been in implementing gender mainstreaming activities?
  - c. Are there gaps related to gender that need to be addressed in future project activities or phases?
  
- 5. What factors (both internal and external to the project) help or hinder in the achievement of the project's expected results?**
  - a. How has the project learned adaptively, i.e., reacted to changing conditions by adjusting implementation to ensure achievement of results?

- b. (For regional projects only) How has the project addressed regional integration and fragmentation [ note to evaluator – potential topics of discussion include: workforce development and institutional strengthening; improvements in national and regional planning and policy; coordination and information sharing through information systems and the facilitation of public-private dialogue]
- c. How did the project’s implementation activities respond to the COVID-19 pandemic?

**6. Partnerships and Coordination:**

- a. Please provide good and not-so-good example for collaboration and coordination with
  - o private sector,
  - o bilateral government contacts, USAID Bilateral Missions
  - o other US Government-related projects
    - Non-USG donors
    - other key partners?
- b. How effective were these approaches in terms of increasing engagement and improving results?
- c. Which other donors or organizations would be potential partners for additional phases of the project?)

**5. PROTOCOL FOR KEY INFORMANT INTERVIEWS: SENIOR IMPLEMENTATION TEAM (TECHNICAL)**

<b>Date:</b>	<b>Name:</b>
<b>Country:</b>	<b>Title/Role:</b>
<b>Sex:</b> <input type="checkbox"/> Male <input type="checkbox"/> Female	<b>Organization:</b>
<b>Interviewer(s):</b>	

- 1. **What is your role, how long have you been in the project and what did you do?**
- 2. **To what extent is the project on track to meet its overall goal and objectives?**
  - a. theory of change What have been the specific contributions of each of the work streams to meeting the project’s overall objectives? Examples from your work context appreciated. How would you describe the relevance of the project’s approach and its complementarity or potential overlap with other active initiatives in the region?
  - b. Is the project more successful / providing better value for money (efficiency/effectiveness) in certain regions or countries?
- 3. **How effective has the project been at ensuring impact and the sustainability of its results? What additional efforts are needed?**
  - a. What have been the project’s strategic and transformational change impacts (if any)?
  - b. To what extent has the project supported wider socio-economic impacts (e.g., inclusive growth, increased security, and improved health and education outcomes through community engagement)? What is the evidence of these impacts?
  - c. What specific actions or strategies has the project undertaken to address sustainability?

- d. How effective were these strategies in ensuring the sustainability of its results? Have certain interventions or results been more sustainable than others? How and why?
- e. Are there specific opportunities that were missed?

**4. What adjustments, corrective actions, and/or areas for improvement were needed to ensure effectiveness in achieving expected results during the duration of the project?**

- a. How are the project's activities addressing underlying assumptions; are there adjustments to be made to address priority issues and gaps?
- b. What specific opportunities exist to enhance programmatic effectiveness, impact, and sustainability? Prompts:
  - i. What project activities would you like to add, change, or remove? What do you think are the opportunities to bring about these changes?
  - ii. How well do you think the geographic scope of the project is working? Would you recommend a different emphasis on individual countries, sectors, and/or different activities?
  - iii. How effective has the project been in balancing private sector versus direct bilateral government partners technical assistance and capacity building needs?
  - iv. How effective do you think the geographic structure of the project is? Why or why not? Do you see opportunities to change or improve that?
- c. How effective have the project's monitoring and evaluation activities been to contribute to programming decisions?

**5. How effectively has the project identified and reduced gaps regarding gender equity and women's leadership role?**

- a. How important was gender for project design and selection of activities?
- b. How did the project address gender mainstreaming, and gender considerations during project preparation? What have the project's successes been in implementing gender mainstreaming activities?
- c. Are there gaps related to gender that need to be addressed in future project activities or phases?

**6. What factors (both internal and external to the project) help or hinder in the achievement of the project's expected results?**

- a. How has the project learned adaptively, i.e., reacted to changing conditions by adjusting implementation to ensure achievement of results?
- b. (For regional projects only) How has the project addressed regional integration and fragmentation [ note to evaluator – potential topics of discussion include: workforce development and institutional strengthening; improvements in national and regional planning and policy; coordination and information sharing through information systems and the facilitation of public-private dialogue]
- c. How did the project's implementation activities respond to the COVID-19 pandemic?

**7. (Partnerships and Coordination:**

- a. Please provide good and not-so-good example for collaboration and coordination with
  - private sector,
  - bilateral government contacts, USAID Bilateral Missions
  - other US Government-related projects
    - i. Non-USG donors
    - ii. other key partners?
- b. How effective were these approaches in terms of increasing engagement and improving results?
- c. Which other donors or organizations would be potential partners for additional phases of the project?)

## 6. PROTOCOL FOR KEY INFORMANT INTERVIEWS: INTERNATIONAL PARTNERS

GENERAL GUIDE FOR INTERNATIONAL PARTNERS INCLUDING INTERNATIONAL PROGRAMS AND DEVELOPMENT PARTNERS.

<b>Date:</b>	<b>Name:</b>
<b>Country:</b>	<b>Title/Role:</b>
<b>Sex:</b> <input type="checkbox"/> Male <input type="checkbox"/> Female	<b>Organization:</b>
<b>Interviewer(s):</b>	

### 1. What is your role, how long have you been in the project and what did you do?

- a. Where have you have contact with PAOP?
- b. What would you see as their strength and weaknesses?
- c. What is really missing in the sector in your country and who can supply it?
- d. Would you give them any recommendations?

### 2. To what extent is the project on track to meet its overall goal and objectives?

- a. Theory of change What have been the specific contributions of each of the work streams to meeting the project's overall objectives? Examples from your work context appreciated. How would you describe the relevance of the project's approach and its complementarity or potential overlap with other active initiatives in the region?
- b. Is the project more successful / providing better value for money (efficiency/effectiveness) in certain regions or countries?

### 3. How effective has the project been at ensuring impact and the sustainability of its results? What additional efforts are needed?

- a. What have been the project's strategic and transformational change impacts (if any)?
- b. To what extent has the project supported wider socio-economic impacts (e.g., inclusive growth, increased security, and improved health and education outcomes through community engagement)? What is the evidence of these impacts?
- c. What specific actions or strategies has the project undertaken to address sustainability?
- d. How effective were these strategies in ensuring the sustainability of its results? Have certain interventions or results been more sustainable than others? How and why?
- e. Are there specific opportunities that were missed?

**4. What adjustments, corrective actions, and/or areas for improvement were needed to ensure effectiveness in achieving expected results during the duration of the project?**

- a. How are the project's activities addressing underlying assumptions; are there adjustments to be made to address priority issues and gaps?
- b. What specific opportunities exist to enhance programmatic effectiveness, impact, and sustainability? Prompts:
  - i. What project activities would you like to add, change, or remove? What do you think are the opportunities to bring about these changes?
  - ii. How well do you think the geographic scope of the project is working? Would you recommend a different emphasis on individual countries, sectors, and/or different activities?
  - iii. How effective has the project been in balancing private sector versus direct bilateral government partners technical assistance and capacity building needs?
  - iv. How effective do you think the geographic structure of the project is? Why or why not? Do you see opportunities to change or improve that?
- c. How effective have the project's monitoring and evaluation activities been to contribute to programming decisions?

**5. How effectively has the project identified and reduced gaps regarding gender equity and women's leadership role?**

- a. How important was gender for project design and selection of activities?
- b. How did the project address gender mainstreaming, and gender considerations during project preparation? What have the project's successes been in implementing gender mainstreaming activities?
- c. Are there gaps related to gender that need to be addressed in future project activities or phases?

**6. What factors (both internal and external to the project) help or hinder in the achievement of the project's expected results?**

- a. How has the project learned adaptively, i.e., reacted to changing conditions by adjusting implementation to ensure achievement of results?
- b. (For regional projects only) How has the project addressed regional integration and fragmentation [ note to evaluator – potential topics of discussion include: workforce development and institutional strengthening; improvements in national and regional planning and policy; coordination and information sharing through information systems and the facilitation of public-private dialogue]
- c. How did the project's implementation activities respond to the COVID-19 pandemic?

**7. (Partnerships and Coordination:**

- a. Please provide good and not-so-good example for collaboration and coordination with
  - o private sector,
  - o bilateral government contacts, USAID Bilateral Missions

- other US Government-related projects
  - Non-USG donors
  - other key partners?
- b. How effective were these approaches in terms of increasing engagement and improving results?
- c. Which other donors or organizations would be potential partners for additional phases of the project?)

## 7. PROTOCOL FOR KEY INFORMANT INTERVIEWS: GOVERNMENT OF HOST COUNTRIES

<b>Date:</b>	<b>Name:</b>
<b>Country:</b>	<b>Title/Role:</b>
<b>Sex:</b> <input type="checkbox"/> Male <input type="checkbox"/> Female	<b>Organization:</b>
<b>Interviewer(s):</b>	

1. What does your organization do?
2. What is the status of the off-grid policy framework in your country? What has been the development over the last 5 years? Where are the gaps?
3. Where did you have contact with Power Africa and how did PAOP help you? What is it that you could do better /achieve through that support?
4. Would there be anybody else offering that support? Who else did you work with?
5. Any observation on how the programme was managed, its interaction with stakeholders or the government? Any success factors?
6. The program is coming to a close over the course of this year. What will be missing when it is gone? What should continue and how?
7. Have you participated in any coordination efforts with PAOP and how effective have they been?
8. Also, possible to ask about:
  - a. Gender
  - b. Access to finance
  - c. Productive uses of electricity in the off-grid sector
  - d. Other gaps (cooking?)



## 8. PROTOCOL FOR KEY INFORMANT INTERVIEWS: PRIVATE SECTOR AND OTHER ORGANIZATIONS

<b>Date:</b>	<b>Name:</b>
<b>Country:</b>	<b>Title/Role:</b>
<b>Sex:</b> <input type="checkbox"/> Male <input type="checkbox"/> Female	<b>Organization:</b>
<b>Interviewer(s):</b>	

1. **What does your company do?**
2. **How old is your company, how big is the turnover, how many staff...**
3. **Any other important USPs?**
  - a. Who are your financiers?
4. **Does your business have a special approach re gender?**
5. **Where did you have contact with Power Africa and how did PAOP help you? What is it that you could do better /achieve through that support?**
6. **Would there be anybody else offering that support? Who else did you work with?**
7. **Any observation on how the programme was managed, its interaction with stakeholders or the government? Any success factors?**
8. **Did you report connections to PAOP?**
  - a. If yes, how many of these connections would you attribute to PAOP support?
9. **The program is coming to a close over the course of this year. What will be missing when it is gone? What should continue and how?**

## SURVEY

The number of survey recipients (nine) was determined by the restrictions imposed by the Paperwork Reduction Act of 1980. In order to collect the same information from more than 9 entities, the evaluation team would have had to undergo an Office of Management and Budget clearance process that typically takes six to nine months. Given that the period of performance for this evaluation was only five months, obtaining that approval was not possible. Learn more at <https://pra.digital.gov/>.

## Power Africa Support Survey - Power Africa Off-Grid Program

The following survey is for the *USAID Power Africa Contract Evaluation Services*. This survey is targeted to renewable energy project developers and related businesses in Africa. You are invited to answer a short survey regarding your opinions about the support provided to businesses like yours by USAID's Power Africa Initiative. Your feedback is important to us. A key objective is to identify lessons learned on how to optimize the Power Africa's programming in the future.

This survey will take about 5 - 10 minutes to complete.

All survey responses are anonymous. Your responses will not be attributed to you and will only be reported in aggregate to USAID.

**PRIVACY NOTICE:** The survey is administered by USAID Power Africa Contract Evaluation Services (No. 720-674-23-F-00001).

The information provided will be used to help assess the adequacy, suitability, and effectiveness of USAID Power Africa programs and contribute to improved Power Africa processes and outcomes.

The results of this survey may be shared with our partners, researchers and in public reports. However, your individual responses will not be attributed or linked to you. **Please do not enter any personally identifying information for yourself or others in your responses below.**

Completion of this survey is voluntary. You may choose to respond to all or any of the questions. Your participation will help ensure adequate representation of your views in the final results and outcomes of the e. If you agree to participate, you may withdraw your participation in the survey at any time by simply exiting the survey. For more information or any questions, please contact Isabel Morford-Cheibub (*Power Africa Contract Evaluation Services Coordinator*) at [isabel.morford-cheibub@icf.com](mailto:isabel.morford-cheibub@icf.com) or Yugi Nair (*Power Africa Contract Evaluation Services Contracting Officer's Representative*) at [ynair@usaid.gov](mailto:ynair@usaid.gov).

What is your business model/technology/service? (check all that apply)

- Mini-Grid Planning
- Mini-Grid Financing
- Mini-Grid Construction
- Mini-Grid Operations
- Mini-Grid Support in other ways
- Solar product manufacturer
- Solar Home System Imports / Kits
- Solar Home System Cash Sales
- Solar Home System Pay-as-you-go (PAYGO)
- Solar Home System other leasing / rental types
- Productive uses of energy devices
- Consulting
- Corporate finance
- Project finance
- Other finance
- Other...

What is your annual turnover range across all jurisdictions?

- Less than 10,000 USD
- 10,000 - 100,000 USD
- 100,000 - 1,000,000 USD
- 1,000,000 - 10,000,000 USD
- More than 10,000,000 USD

What is your total number of employees globally?

Short answer text

What is your total number of employees in Sub-Saharan Africa?

Short answer text

What are your target markets? (check all that apply)

- Private households
- Services with small electricity consumption (e.g., shops, hairdresser, cell phone charging)
- More energy-intensive services (e.g., carpentry, masonry)
- Telecommunications
- Agriculture including irrigation, cold storage
- Health facilities
- Educational facilities
- Other facilities
- Street lighting
- Transport/mobility
- Other...

In which countries in Africa does your business operate? (check all that apply)

- Benin
- Burkina Faso
- Burundi
- Cameroon
- Central African Republic
- Chad
- Cote d'Ivoire
- The Democratic Republic of Congo (DRC)
- Ethiopia
- Ghana
- Guinea
- Kenya
- Lesotho
- Liberia
- Malawi
- Mali
- Madagascar
- Mauritania
- Mozambique

- Niger
- Nigeria
- Rwanda
- Senegal
- Sierra Leone
- Somalia
- Tanzania
- Togo
- Uganda
- Zambia
- Other...

Section 2 of 4

Most Mature Market ⌵ ⋮

Please answer the following questions based on your experience operating **in your most mature market (i.e., Kenya)**. If you are active in other markets, you will be invited to share similar feedback for those markets after completing this section.

Please select the location of your most mature market.

- Benin
- Burkina Faso
- Burundi
- Cameroon
- Central African Republic
- Chad
- Cote d'Ivoire
- The Democratic Republic of Congo (DRC)

- Ethiopia
- Ghana
- Guinea
- Kenya
- Lesotho
- Liberia
- Malawi
- Mali
- Madagascar
- Mauritania
- Mozambique
- Niger
- Nigeria
- Rwanda
- Senegal
- Sierra Leone
- Somalia
- Tanzania
- Togo
- Uganda
- Zambia
- Other...

What is the current status of the business activities you sought Power Africa support for? (Please check the one that most closely represents the current status)

- Early stage (e.g., conceptual development, pre-feasibility, assessing market potential)
- Mid stage (e.g., piloting, refining business models and fundraising strategies)
- Maturing stage (e.g., scale up / expansion of proven concept)

Business Performance Products: Please select which Power Africa business performance products you used and rate how useful those products are or were for meeting your needs.

	Very useful	Useful	Somewhat use...	Not useful	Not used
Executive coac...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Input on busine...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support for sal...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support for ap...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support for pro...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support for str...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Access to Finance Products: Please select which Power Africa access to finance products you used and rate how useful those products are or were for meeting your needs.

	Very useful	Useful	Somewhat use...	Not useful	Not used
Support in iden...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support for fin...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reviewing inve...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support for gra...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support in the ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Market Dynamics Products: Please select which Power Africa market dynamics products you used and rate how useful those products are or were for meeting your needs.

	Very useful	Useful	Somewhat use...	Not useful	Not used
Market Assess...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
GIS data	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Policy and regu...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Cross-sectoral Integration Products: Please select which Power Africa cross-sectoral integration products you used and rate how useful those products are or were for meeting your needs.

	Very useful	Useful	Somewhat use...	Not useful	Not used
Advice on Prod...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gender approa...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advice in the h...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Financial Modeling and Other Products: Please select which Power Africa financial modeling and other products you used and rate how useful those products are or were for meeting your needs.

	Very useful	Useful	Somewhat use...	Not useful	Not used
Financial Mode...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial Mode...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Catalyzing Off...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Investor Pitch ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Did you use any other Power Africa offerings that were not listed above (including but not limited to grants)? If yes, please specify the product and how useful it is/was.

Short answer text

.....

Are you active in any other markets in Sub-Saharan Africa?

Yes

No

Section 3 of 4

Least Mature Market



Please answer the following questions based on your experience in **your least mature market** in Sub-Saharan Africa. Please select a different country for this section.

Please select the location of your least mature market.

- Benin
- Burkina Faso
- Burundi
- Cameroon
- Central African Republic
- Chad
- Cote d'Ivoire
- The Democratic Republic of Congo (DRC)
- Ethiopia
- Ghana
- Guinea
- Kenya
- Lesotho
- Liberia
- Malawi
- Mali

- Madagascar
- Mauritania
- Mozambique
- Niger
- Nigeria
- Rwanda
- Senegal
- Sierra Leone
- Somalia
- Tanzania
- Togo
- Uganda
- Zambia
- Other...

What is the current status of the business activities you sought Power Africa support for? (Please check the one that most closely represents the current status)

- Early stage (e.g., conceptual development, pre-feasibility, assessing market potential)
- Mid stage (e.g., piloting, refining business models and fundraising strategies)
- Maturing stage (e.g., scale up / expansion of proven concept)

Business Performance Products: Please select which Power Africa business performance products you used and rate how useful those products are or were for meeting your needs.

	Very useful	Useful	Somewhat use...	Not useful	Not used
Executive coac...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Input on busine...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support for sal...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support for ap...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support for pro...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support for str...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Access to Finance Products: Please select which Power Africa access to finance products you used and rate how useful those products are or were for meeting your needs.

	Very useful	Useful	Somewhat use...	Not useful	Not used
Support in iden...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support for fin...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reviewing inve...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support for gra...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support in the ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Market Dynamics Products: Please select which Power Africa market dynamics products you used and rate how useful those products are or were for meeting your needs.

	Very useful	Useful	Somewhat use...	Not useful	Not used
Market Assess...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
GIS data	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Policy and regu...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Cross-sectoral Integration Products: Please select which Power Africa cross-sectoral integration products you used and rate how useful those products are or were for meeting your needs.

	Very useful	Useful	Somewhat use...	Not useful	Not used
Advice on Prod...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gender approa...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advice in the h...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Financial Modeling and Other Products: Please select which Power Africa financial modeling and other products you used and rate how useful those products are or were for meeting your needs.

	Very useful	Useful	Somewhat use...	Not useful	Not used
Financial Mode...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial Mode...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Catalyzing Off...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Investor Pitch ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Did you use any other Power Africa offerings that were not listed above (including but not limited to grants)? If yes, please specify the product and how useful it is/was.

Short answer text

.....

If you would like to be contacted for a brief follow-up interview to discuss the answers provided above or to provide similar feedback on your involvement in any other markets, please leave your email below.

Long answer text

.....

Section 4 of 4

Power Africa Overall



Please answer the following questions based on your experience with Power Africa across all markets.

Were Power Africa's capacity building and technical support offerings flexible enough to address your needs?

- Very flexible
- Somewhat flexible
- Somewhat inflexible
- Very inflexible
- Don't know / Decline to Answer

Overall, how satisfied are you with the support you received from Power Africa in building your business?

- Very satisfied
- Somewhat satisfied
- Somewhat dissatisfied
- Very dissatisfied
- Don't know / Decline to Answer

What else could Power Africa realistically do to help support your business?

Long answer text

---

What else could Power Africa realistically do to help support your business?

Long answer text

---

If you have received non-financial support from other sources (e.g., Sustainable Energy for All, other international programs or national initiatives), how does the capacity building and technical support provided by Power Africa compare with support received from others?

- Power Africa support stands out as critical for our needs
- Power Africa support was as helpful as other sources of support
- Other sources of technical support were more critical for our needs
- Not applicable / Don't know / Decline to Answer

Have you received support from Power Africa to promote gender equality? Please describe any support received and indicate how your organization benefitted.

Long answer text

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If you wish, you can provide your name and contact information. The only purpose would be so that we may follow up with you in case there is a need to clarify any of your responses. This is entirely optional.

Long answer text

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## ANNEX D: SOURCES OF INFORMATION

### LIST OF ORGANIZATIONS CONSULTED

The following table lists the organizations represented in the 78 KIIs conducted. In several cases, such as for implementation partners and USAID, there are multiple informants per organization.

Organization	
U.S. Government – 7	Simusolar
USAID	Solar Panda
Host country government – 13	Solar-X
ANPER	SunCulture
ANSER	Sustain Solar
Direction Générale de l’Energie Côte d’Ivoire	Tukole
EPRA	Winch Energy
LERC	Other – 11
Ministry of Energy Côte d’Ivoire	APERCI
Ministry of Energy and Mineral Development Uganda	STEL
NREP	FIACER
RREA	First Growth Ventures
Public or private energy company – 22	GOGLA
Aptech Africa	KEREA
ARC Power Rwanda	Mirova SunFunder
Benalya	Nithio Holding
Blackstar; Energency	Odyssey Energy Solutions
Bonergie	Persistent Energy Capital
Brentronics	SIMA Funds



Organization	
E2IE	Uganda Solar Energy Association
Ecopower	Development partner (public and private) – 9
Green Agro Valley	GIZ
Greenlight Planet (Sun King)	NEFCO
Greeno (a joint venture by EDF and SunCulture)	SNV
Mobile Power	Syngenta Foundation
Nuru	Implementing Partners – 16
OffGridBox	RTI International
OnePower	

## BIBLIOGRAPHY OF DOCUMENTS REVIEWED

The evaluation team primarily reviewed project documents (i.e., annual work plans, quarterly progress reports, portfolio reviews) that were provided to ICF by the PAOP COR. In addition to these program documents, the evaluation team consulted the following public sources:

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## DATABASES REVIEWED

None.

**ANNEX E: DISCLOSURE OF ANY CONFLICTS OF INTEREST**

None.

**ANNEX F: STATEMENTS OF DIFFERENCES (IF APPLICABLE)**

None.

## ANNEX G: QUANTITATIVE ANALYSIS OF RESULTS REPORTED IN PAOP ANNUAL REPORTS

Indicator	2019		2020		2021		2022		Total		Achieved		
	Oct '18 - Sep '19		Oct '18 - Sep '20		Oct '18 - Sep '21		Oct '18 - Sep '22		Target	Actual			
	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual			
1	Number of new off-grid actual direct connections (PA/standard)		230.000	413.344	403.000	782.309	1.500.000	1.594.829	2.900.250	1.767.757	5.033.250	4.558.239	91%
2	Number of new grid and off-grid <b>anticipated</b> direct connections at financial close (PA/standard)		-	-	2.000.000	-	2.500.000	3.822.988	1.125.000	2.273.416	5.625.000	6.096.404	108%
3	Amount of investment mobilized for energy investment (PA/standard)		-	68	200	315	200	245	30	234	430	863	201%
4	Number of laws, policies, regulations, or standards to enhance energy sector governance formally proposed, adopted, or implemented (PA/standard))		5	35	10	35	10	26	4	19	29	115	397%
5	Number of productive-use off-grid devices or systems sold (PA/standard)		2.575	6.820	2.575	12.493	8.790	20.463	1.931	31.646	15.871	71.422	450%
6	Number of technical knowledge products shared with Power Africa Coordinator's Office and key partners that promote off-grid energy best practices, lessons learned and evidence (Required if applicable, custom)		-	13	10	52	5	81	4	29	19	175	921%
7	Number of OGCs that increased their sales with new connections (Required, custom)		-	64	30	81	30	98	23	109	83	352	424%
8	Number of supported investors, lenders, and foundations that introduce and expand off-grid-specific financial products and/or begin marketing to OGCs after receiving support (Custom/Contractual)		27	39	30	318	45	361	11	84	113	802	710%
9	Number of companies that access market information/intelligence in the off-grid sector (Required if applicable, custom)		-	154	75	561	75	595	38	365	188	1.675	891%
10	Number of OGCs receiving significant technical assistance from Lead Advisors (Required if applicable, custom)		-	250	150	667	150	651	75	351	375	1.919	512%
11	Number of investors, lenders, foundations, etc. supported by Lead Advisors (Required if applicable, custom)		-	81	30	340	50	364	26	-	106	785	741%
12	Number of national policies reviewed to include enabling environment impacting the off-grid sector (Required, custom)		-	5	-	11	2	6	1	3	3	25	833%
13	Number of grants supported under COIN Fund that are successful, (Required, custom)		32	-	10	21	5	7	-	15	47	43	91%
14	Number of African governments that have received Power Africa support - and subsequently improved - with the drafting/refining and implementation of critical laws, policies, regulations or standards impacting the off-grid sector. (Required, custom)		-	8	5	11	5	11	2	7	12	37	308%
15	Number of African governments that received Power Africa support to implement improvements to their frameworks (Custom/Contractual)		-	7	-	5	5	6	2	4	7	22	314%
16	Number of U.S. companies participating in Power Africa projects/transactions (PA/standard)		-	-	30	66	50	62	30	36	110	164	149%
17	Number of Business Intelligence and Trade Leads sent to US companies through Power Africa; Unit: Number		-	-	-	66	50	298	30	187	80	551	689%
18	Number of healthcare facilities electrified (PA/standard)		-	-	-	-	-	-	155	377	155	377	243%
19	Number of beneficiaries from electrified healthcare facilities (PA/standard)		-	-	-	-	-	-	800.000	2.051.061	800.000	2.051.061	256%
20	Number of partnerships facilitated with the support of Lead Advisors; Unit: Number		-	6	-	-	-	-	-	-	-	6	N/A
21	Number of new collaborations and/or programmatic adaptations implemented to improve results; Unit: Number		-	4	-	-	-	-	-	-	-	4	N/A
22	Greenhouse gas emissions reduced, sequestered, or Avoided: Greenhouse gas (GHG) emissions, estimated in metric tons of carbon dioxide-equivalent (CO2e) reduced, sequestered, and/or avoided as a result of USG assistance. Unit: metric tons of carbon dioxide-equivalent (CO2e) (PA/standard)		-	-	-	-	-	-	945.553	880587	945.553	880.587	93%

Source – Own representation based on MEL Plan and Annual reports (FY 2019, FY 2020, FY 2021, and FY 2022)