July 2019

TERMS OF REFERENCE

CONSULTANT SERVICES REQUEST:
STATE OF THE GLOBAL MINI-GRIDS MARKET REPORT

OVERVIEW

This assignment is to research and produce a 'State of the Global Mini-Grids Market' Report on behalf of the Mini-Grids Partnership, an initiative which aims to create a thriving mini-grids sector using the collective experience of its members and its unique relationship with leading development partners.

Sustainable Energy for All (SEforALL) is accepting proposals to produce an authoritative, comprehensive and up-to-date overview of the global mini-grids market and present the key trends in the market and industry. This research should take the form of a report and serve as the go-to source of information about the mini-grids market for financiers, investors, private sector and industry members, policymakers, and other sector stakeholders.

BACKGROUND

Mini-Grids Partnership

The Mini-Grids Partnership (MGP) is a consortium of over 300 mini-grid stakeholders that works to accelerate the development and deployment of clean energy mini-grids[1] by enhancing and complementing each other's work through collaboration and coordination. The Partnership is an 'umbrella' group that bridges discrete but related stakeholders and initiatives, from both the public and private sector.

The Mini-Grids Partnership was founded in 2014 under the auspices of SEforALL. The Partnership's day-to-day operations are led by its Secretariat at SEforALL and the Alliance for Rural Electrification. The Partnership is governed by a Steering Committee with representation from funders/financiers, government, industry, and other enablers. The Committee includes African Development Bank, Africa Minigrid Developers Association (AMDA), Alliance for Rural Electrification, CLUB-ER, DFID, GIZ, GET.invest, International Renewable Energy Agency (IRENA), Power for All, Rockefeller Foundation, SNV, SEforALL, United Nations Foundation, United States Agency for International Development and the World Bank.

The MGP uses the collective experience of its members and its unique relationship with leading development partners to:

- Champion the sector and help shape policy for public and private sector mini-grid development
- Coordinate sector knowledge and action
- Broker partnerships
- Support finance and de-risking mechanisms, business models, and opportunities

[1] Although a range of sizes and system types exist within "mini-grids", the Mini-Grids Partnership seeks an inclusive definition that simply differentiates the sector from stand-alone household systems and grid-extension approaches.

- Promote international standards and quality assurance frameworks

Genesis of this Study

Today, an estimated 840 million people worldwide, live without access to electricity[2]. For a significant portion of these people, clean energy mini-grids will be the least-cost option for achieving reliable electricity access when compared with the two main alternatives: grid extension and stand-alone systems (such as solar home systems).

However, despite the advances in renewable energy technology and the well-acknowledged global potential of mini-grids, a sustainable market for mini-grids has still not materialized. Investors are still unwilling to commit finance at the scale required and there seems to be continued doubt over the future for mini-grid applications in developing countries. Additionally, many countries have yet to develop policy frameworks conducive to investment for rural electrification including for mini-grids, for example by imposing uniform national tariffs that are not cost-reflective, or by maintaining complicated and redundant licensing requirements. The lack of transparency on grid expansion plans, and missing regulatory frameworks for mini-grids resulting in an issue of stranded mini-grids' assets, are another issue. These barriers are further accentuated by the dearth of market intelligence, sector knowledge, and data about mini-grids, especially compared with other segments of the off-grid energy industry (pico & solar home systems). For instance, there is a lack of data on the volume, composition, and efficiency of finance targeted to mini-grids. There is also limited intelligence on industry costs, trends and the overall performance of mini-grids. Ensuring necessary levels of investment for mini-grids requires an understanding of multiple aspects – including a mapping of mini-grids, data on their operational costs and performance, finance flows, and whether the flows meet the financing needs of practitioners, the private sector, and those seeking to close the gap – most of which is currently missing. While a few efforts in the sector have focused on building country-specific data on mini-grids, there is no global effort that has focused specifically on bringing together all the existing data in the sector coupled with original data collection and analysis to present a comprehensive snapshot of the market.

This lack of data and market intelligence was identified as a critical gap at a Mini-Grids Partnership meeting held in May 2018 and was highlighted as an opportunity for joint action for key stakeholders in the space. Subsequently, the MGP agreed to leverage its unique assets[3] to produce a 'State of the Global Mini-Grids Market' Report (herein "Report") as a way of building an authoritative, and insightful market intelligence for the sector.

OBJECTIVE AND PURPOSE OF THE ASSIGNMENT

This assignment entails researching and producing a 'State of the Global Mini-Grids Market' Report on behalf of the MGP. The Report is meant to provide an authoritative, insightful, and up-to-date view of the global mini-grids market, and the key trends in the market and industry. More specifically, the Report is meant to:

- Raise awareness about and mobilize investments for the mini-grids sector; and

[2] 2019 Tracking SDG 7 Report.

[3] The MGP's unique assets include: (i) Being an impartial group linking funders, industry and policymakers; (ii) Having a view of and the ability to aggregate data from a variety of different kinds of stakeholders; and; (iii) Having a link to broader energy platforms/agendas, such as SEforALL and SDG7.

- Inform decision-making by serving as a benchmark against which the sector's progress can be measured.

By drawing together dispersed data/information into a unified and comprehensive view of the global mini-grids market, the MGP aims for the Report to become the go-to source of information for investors, industry members, policymakers, and other stakeholders in the sector. The Report should be akin to the 'Global Off-Grid Solar Market Report' (developed by GOGLA/IFC) for the off-grid solar sector.

The Report's target audience is the global community of government policy-makers, private sector, and civil society, as well as financiers, multi/bi-lateral donor agencies, and donors, who are key stakeholders and/or interested in mini-grids.

SEforALL is commissioning this Report on behalf of the MGP. The chosen Consultancy will be responsible for producing the Report in close collaboration with SEforALL, the Report's Advisory Group,[4] and where relevant, a wider group of stakeholders drawn from the MGP (see Annex I). Each group's responsibilities are summarized below:

- **SEforALL:** Responsible for commissioning the Report, managing the chosen Consultancy and ensuring the overall coordination and timeliness of the assignment.
- **Advisory Group:** Responsible for providing strategic guidance and oversight of the Report's development, starting with helping to evaluate and choose the Consultancy. Some members of the group may also provide input and data to be used in the report (data custodians) and/or make substantial contributions to the Report according to their areas of expertise (co-authors or chapter leads). Finally, the Advisory Group will help peer review the Report in its various draft forms.
- **Working Group**: Responsible for peer review, where necessary. This Group includes close to 30 stakeholders in the sector who expressed interest in the Report at the Mini-Grids Partnership meeting held in May 2018.

The MGP expects to present and launch the Report at two sector events (to be decided but possibly at the Sustainable Energy for All Forum to be held in May 26 –28, 2020 in Kigali, Rwanda, and/or the next Mini-Grids Action Learning Event).

SCOPE OF WORK

SEforALL is seeking the services of a Consultancy to produce a comprehensive report on the 'State of the Global Mini-Grids Market' (as per the outline in Annex II). The report should provide an overview of the global mini-grids sector, including the latest market trends.

Scope

- **Geographic:** The Report's geographic scope should be global with a focus on Sub-Saharan Africa, Asia and island nations. Other regions (e.g. U.S. and Europe) should be featured but mostly for comparison's sake.
- **Fuel sources:** The Report's should cover all mini-grid fuel sources, with a focus on clean and hybrid mini-grids (covering both AC and DC). A discussion of diesel mini-grids should be included in statistics and trends but should not be a focus of analysis.

[4] Members of the Advisory Group include: Chairs of the Report - AfDB and AMDA; funders of the report including DFID, GIZ, Shell Foundation and SEforALL, data custodians including AMDA, Carbon Trust, and CLUB-ER.

- **Business models:** The Report should cover all business models, including private sector and community-driven models.
- **Drivers:** The Report's findings and analysis should be framed around the contribution of mini-grids to the achievement of SDG7, with a focus on energy access, resilience, and displacement of generation from captive diesel mini-grids.

Contents

The Report should include, at a minimum, the following sections/content:

1) Mini-Grids in Context

This section should summarize the overall state of electricity access around the world while zooming into the relevance and role of mini-grids. In doing so, this section is intended to contextualize mini-grids, provide an introduction to the market as well to highlight the market's current status, stage of development and the key factors driving its future.

This section should include a definition of mini-grids (typology, operational models, value chain, evolution, AC and DC), provide details on business models for mini-grids and present a profile of the global state of the market of mini-grids vis-à-vis solar-home-systems and grid extension, in achieving universal access to electricity, including pointing to recent trends of convergence. It should also include information on mini-grid drivers and barriers covering but not limited to technology, policy and regulatory limitations, finance, competitive dynamics, threats, emerging trends, and a prognosis.

2) State of Play

This section should form the core of the Report and cover at least seven main elements: (i) market snapshot; (ii) sector ecosystem; (iii) finance; (iv) business and delivery models; (v) enabling environment; (vi) technology; and (vii) impact (see the draft Outline in Annex II for more details). This analysis should be undertaken by profiling distinct geographic markets globally which provide characteristically different examples reflecting markets at different stages of development and potentially classifying them into distinct defining elements (for instance, liberal vs. fixed tariff policy, autonomous vs. steered site selection procedures, etc.). The Consultancy will be expected to suggest focus countries and projects as case studies, where applicable, and in consultation with SEforALL and the Advisory Group, present data and case studies on each of these sections.

Some of the data relevant to the Report is being produced and published on a concurrent schedule and will be shared with the Consultancy. This is listed as part of Annex I.

3) Market Outlook

This section should include an assessment of the current 'addressable' market and future size of the opportunity for mini-grids, extrapolating trends and experience of the market's development to date, where relevant. It should also provide insights about market changing factors and drivers (e.g., tools such as results-based financing/performance-based grants, technology breakthroughs, and policy and regulatory issues), as well as present a discussion on key stimulants/drivers for future growth of the sector as well as risk factors for the market's continued development. It should include a discussion on estimated price trends, if possible, based on data provided by AMDA, as well as provide a profile of new market players, with a special focus on "game changers" emerging in the market.

4) Recommendations and Conclusion

This section should provide recommendations for action based on the report's contents as well as conclusions on areas of action and/or study for each of the key stakeholder groups (policymakers, private sector, and donors/investors).

DELIVERABLES

The selected Consultancy will be responsible for producing or carrying out the following:

- A comprehensive, professional, and design-ready publishable report on the 'State of the Global Mini-Grids Market', including consulting on the necessary graphics (per the annotated outline presented in Annex II). The Consultancy will be responsible for ensuring the report is fully drafted and professionally edited.
- A design-ready and stand-alone executive summary report (10 pages approximately).
- A Power Point presentation summarizing the results of the study.
- Present the Report's findings at two sector events (to be decided but possibly at the Sustainable Energy for All Forum to be held in May 26 –28, 2020 in Kigali, Rwanda, and/or the next Mini-Grids Action Learning Event). The Report will also be disseminated through a wide variety of channels and other events taking advantage of the outreach networks of all relevant institutions.
- Prepare a set of complementary materials drawing from the report, including a 1-2-page key messages document and 2/3 infographics (that will be decided in consultation with the Advisory Group) and make available specific data from the report to be used in other materials and presentations.
- Discuss and make available all the raw data to SEforALL and the Advisory Group.

In addition to the above, the Consultancy will also be expected to coordinate with SEforALL on behalf of the Mini-Grids Partnership and provide bi-weekly updates and progress via emails and/or conference calls, and more frequent coordination calls as necessary.

The selected Consultancy is expected to be under contract and commence work before August end, 2019 and conclude its work by or before May end, 2020.

TIMELINE

The Consultancy should adhere to the following schedule of deliverables:

Activity	Indicative Timeline
Consultancy to present annotated outline/structure, workplan and methodology to Advisory Group for feedback and approval	By or before September 15, 2019

First Draft (including Executive Summary) circulated to Advisory Group for feedback	By or before November 15, 2019
Submission of a revised Draft, incorporating feedback/comments from first round of comments	By or before December 15, 2019
Second Draft (including Executive Summary) presented to Advisory Group and Working Group for feedback/peer review	By or before January 1, 2020
Submission of a revised Draft, incorporating feedback/comments from peer review process	By or before February 15, 2020
Third and fully designed Draft (including Executive Summary) presented to Advisory Group for feedback	By or before March 15, 2020
Finalization and submission of the fully designed, design-ready Report, Executive Summary, key messages document and accompanying Powering Point presentation	By or before April 7, 2020
Present the findings at Sector Events (potential options include the Sustainable Energy for All Forum in Kigali, Rwanda, or at the Mini-Grids Action Learning Event, to be decided, etc.)	May 2020

APPROACH AND REPORTING

Approach and Research Methods

To deliver on the above, the selected Consultancy will be expected to undertake the following tasks:

- Develop an annotated outline, building on the draft outline (available in Annex II).
- Conduct desk research and review of existing literature and data sets. It is noted that while there is substantive data available for Sub-Saharan Africa (particularly on mapping of mini-grids and performance indicators of mini-grids; details in Annex I) that would be provided to the Consultancy, the Consultancy will provide a methodology to develop original data for other regions and provide a plan for addressing data gaps, which will be finalized in consultation with the Advisory Group. This desk research and review of existing literature and data sets will be complemented with primary research and will include data collection and curation through surveys, interviews and case studies, as agreed in consultation with the Advisory Group. Modeling may also be used for forecasting purposes and to build scenarios.
- Collaborate with the 'data custodians' on an approach to integrate data. The Consultancy will be expected to share the methodology with SEforALL and the Advisory Group, ensure that any further refinement to the methodology continues to allow for annual updates, potential segmentations (e.g., gender), and for tracking and analyzing trends.
- Coordinate and participate in a peer-review process, as required, during different stages of the report development.
- Identify (i) gaps in information and (ii) recommend approaches to fill those information gaps.

Reporting

The selected Consultancy shall report to Ruchi Soni, SEforALL (email: Ruchi@seforall.org), the Project Manager for this Assignment and also the designated Mini-Grids Partnership focal point, throughout the assignment as well as collaborate with the Report's Advisory Group to develop this work. The Consultancy

will work closely with the Project Manager, who will facilitate access to documentation and partners as needed. All reports will be reviewed by the Project Manager, the Advisory Group, and other SEforALL leadership as needed, who will provide comments in a timely manner.

Confidentiality Statement

All data and information received from SEforALL, the Advisory Group, and different partner organizations, provided to the Consultancy for the purpose of this assignment is to be treated confidentially and are only to be used in connection with the execution of these Terms of Reference (a specific separate confidentiality agreement may be agreed between the Consultancy and SEforALL, if needed to provide information more freely). All intellectual property rights arising from the execution of these Terms of Reference are assigned to SEforALL. The contents of written materials obtained and used in this assignment may not be disclosed to any third parties without the expressed advance written authorization of SEforALL and the Advisory Group.

SCHEDULE OF PAYMENTS

Payments will be structured following receipt of outputs as follows:

- 20% Upon receipt and approval of report/outline (Sept. 15, 2019)
- 30% Upon receipt and approval of draft report incorporating feedback/comments from first round of comments (Dec 15, 2019)
- 20% Upon receipt and approval of revised draft report, incorporating feedback/comments from peer review process (Feb 15, 2020)
- 20% Upon receipt and approval of final report (April 7, 2020)
- 10% Upon presentation at a sector event (potential options include the Sustainable Energy for All Forum in Kigali, Rwanda, or at the Mini-Grids Action Learning Event, and will be confirmed with the Project Manager) (May 2020)

The Consultancy should send an invoice to SEforALL. The invoice shall include the contract number, date of delivery, unit price and total amount. SEforALL will process the payments within 30 days of receipt of the invoice.

QUALIFICATIONS AND EXPERIENCE REQUIREMENTS

Organizations Requirements: The organization must have a minimum of 10 years' in business with a deep understanding, and demonstrated knowledge of and experience working on electricity access issues in developing countries and:

- International recognition and proven expertise in producing energy access analysis and research in the sector;
- Over ten years' experience delivering high-quality, independent research and knowledge products;
- Demonstrated experience in partnering with the international organizations and multiple partners on assignments;
- A deep understanding of and expertise in collaborating with multiple data providers and data sources;
- A presence in sub-Saharan Africa and Asia is preferable.

- Demonstrated convening power that transforms information into action, particularly in developing countries; and
- Experience in operating across multiple time zones and with multiple stakeholders, and/or experience working with international organizations such as the World Bank and the United Nations and other non-governmental organizations.
- The organization must be responsive and prompt in their correspondence.

Consultant Lead Requirements

- **A designated project team lead with a minimum of:**
  - 8-years' experience leading a team of consultants in delivering high-quality, independent, multi-country research reports.
  - Educational qualifications of at least Master's level in economics, business, finance, law, public policy or a related discipline.
  - A minimum of 5 years' experience working with and understanding the operations of working on electricity access issues in developing countries.
  - A minimum of 5 years' experience in energy access analysis and research in the sector.
  - A deep understanding of expertise in collaborating with multiple data providers and data sources.
  - Sound experience working across multiple time zones and with multiple stakeholders.
  - Strong analytical skills/experience.
  - Strong written and oral communications skills; proficiency in written and oral English required.

Additional Consultant(s) Requirements:

- **Each proposed additional team member with a minimum of:**
  - 5-years' experience in research and drafting of high-quality research reports.
  - Educational qualifications of at least Master's level in economics, business, finance, law, public policy or a related discipline.
  - The consultant(s) must have a minimum of 5 years' experience energy access analysis and research in the sector.
  - A deep understanding of expertise in collaborating with multiple data providers and data sources.
  - Sound experience working across multiple time zones and with multiple stakeholders.
  - Strong analytical skills/experience.
  - Strong written and oral communications skills; proficiency in written and oral English required.

TRAVEL

REIMBURSABLE COSTS: COSTS RELATED TO AND DIRECTLY ARISING FROM CONSULTANT EMPLOYEES' 'DUTY TRAVEL'

- Duty travel is defined as travel which is requested as part of the performance of services under the Contract. Duty travel is usually from the duty station to the place of the mission and return to the duty station.
- Offerors shall NOT include 'duty travel' related costs in their financial proposals. SEforALL will provide a reimbursement expense budget during the contract stage to reimburse the Consultant(s) for other reasonable and customary travel expenses including but not limited to cab fare, most direct route economy fare plane tickets, lodging, telecommunications, and any other reasonable

expenses that are incurred in the acceptable execution of this assignment.

BID PROCESS

Applications must include the following:

- Cover page, including the organization's name, address and contact information
- Your organization's understanding of the assignment, including any proposed changes to the scope of work
- Brief background about your organization
- Relevant experience
- Project plan, including your proposed approach and methodology, and a plan for addressing data gaps
- Management plan, including information about key personnel CV's and roles of partners (subcontractors), where applicable
- Proposed Budget
- An explanation of any conflicts of interest, if any
- Link to two previous reports produced by the offeror that are similar to the deliverable required in this assignment. Reports may also be attached to the offeror's proposal
- References (at least 3)

The budget must cover all expenses, and should be itemized according to the following categories:

- Personnel (name / position / daily rate / estimate level of effort - # days)
- Fixed costs

Bid Submittal Deadline

Bid submittals will be accepted no later than **Monday, August 5th, 2019 10:00 a.m. Eastern Standard Time (EST)**. Email your proposals to the SEforALL Procurement unit at procurement@seforall.org.

Please be advised SEforALL will be hosting a pre-bid video conference, if you would you like to join see the details below:

Topic: Mini Grids Report Pre-Bid Conference Call
Time: **Thursday, July 25th, 2019 10:00 a.m. to 11:00 a.m. Eastern Standard Time (EST).**
Join Zoom Meeting ID: 544 524 554
Click here: https://seforall.zoom.us/j/544524554
Dial in: +1 646 558 8656 US (New York)

The Project Manager for this assignment will provide participants an overview of the assignment and answer any questions you may have. If you're not able to participate in the pre-bid conference call, please send your questions to procurement@seforall.org

ANNEX 1: CURRENT DATA AVAILABILITY[5]

Some of the data relevant to the Report is being produced and published on a concurrent schedule and will be shared with the Consultancy. This includes:

- **Mini-Grids Assets' Database:** The data on mapping of mini-grids in Sub-Saharan Africa (referred to as *Mini-Grids Assets' Database;* led by Carbon Trust and CLUB-ER), will be provided to the Consultancy. This database provides a mapping of mini-grids in Sub-Saharan Africa with geo-coded data, including information on operating status, technology, capacity, CAPEX, household/business customers' served etc. The consultancy would be expected to analyze the presented data, and a similar level of effort would be expected for Asian sub-continent, to the best extent possible. This database is also expected to draw from the ESMAP report on 'Mini Grids for Half a Billion People'.

- **Financing Flows for Mini-Grids:** A deep-dive analysis on financing flows for mini-grids (led by Mini-Grids Funders Group) will be provided to the Consultancy.

- **Key Performance Indicators for mini-grids:** AMDA is currently working on collecting data on Key Performance Indicators for mini-grids (including on indicators such as number of customers/ connections per site, data on capital expenditures, financial data, etc.), aggregate data for which will be shared with the Consultancy.

[5] As of July 2019. This may be developed further as work progresses.

July 2019

ANNEX II: DRAFT ANNOTATED OUTLINE FOR STATE OF THE GLOBAL MINI-GRIDS MARKET REPORT

Chapter Heading	Sub-Heading	Contents	Potential Data/Information Sources
Executive Summary			
1. Introduction			
	1.1 Objectives	● Raise awareness about and mobilize investments for the global mini-grids sector (provide easily accessible data that highlights potential impact and economic opportunity of mini-grids) ● Inform decision-making by serving as a benchmark against which the sector's progress can be measured	
	1.2 Scope	● What the report covers	
	1.3 Methodology	● Overview with details included in an annex	
	1.4 Structure	● Chapter headings and summaries	
2. Mini-Grids in Context			
	2.1 State of Electricity Access	2.1.1 The Case for Electricity Access (SDGs, poverty alleviation, human development, etc.) 2.1.2 Snapshot of Electricity Access 2.1.3 Outlook of Electricity Access	● Tracking SDG7 Report ● World Bank State of the Energy Access Report ● IEA Energy Access Outlook
	2.2 Relevance and Role of Mini-Grids	2.2.1 What is a Mini-Grid? (typology, operational models, value chain, evolution, AC and DC) 2.2.2 The Role of Mini-Grids vis-à-vis SHSs and Grid Extension in Achieving Universal Electricity Access and recent trends of convergence 2.2.3 Mini-Grid Drivers and Barriers (high-level)	● IEA Energy Access Outlook (New Policies Scenario & Energy for All Scenario)
3. The State of Play			
	3.1 Market Snapshot	3.1.1 Current Situation ● Number of mini-grids installed (disaggregated by geography, 'context', renewable/non-renewable, business model, system size, etc.) ● Installed capacity ● Capacity utilization ● Customers served	● AMDA ● Carbon Trust (GMG MDP database) ● ECREEE ● ESMAP Cost Data exercise ● EnergyData ● GIZ ● IRENA

		• Consumption per use, types of user contracts applied and ARPU, in comparison to the grid, wherever possible. • Service level • Service package • Payment and tariff structures • Social impact data	• ESMAP 'Mini Grids for Half a Billion People: Market Outlook and Handbook for Decision Makers' Report • Odyssey • CLUB-ER • WB Operator Surveys • TERI • UMass Amherst

	3.2 Sector Ecosystem	3.2.1 Stakeholder map (Landscape of Actors and their Roles within the Ecosystem)
		• Sector Map (1) private sector / 2) public sector / 3) financiers / 4) ecosystem actors)
		  • Government agencies, policymakers and programs
		  • Developers / Operators
		  • Utilities
		  • SHS companies - as needed partners
		  • Universities
		  • Impact and private equity financiers, foundations
		  • Commercial Banks (lack thereof)
		  • Equipment suppliers/manufacturers
		  • Investors
		  • Donors and programs
		  • Industry associations
		  • NGOs
		  • Consultancies
		• Project Pipelines
		• Countries with viable policy frameworks for scale
		• Other stakeholders (Mini-Grids Partnership, Global LEDS COP, agribusiness SMEs, EnerGrow)
			• ARE
			• AMDA
			• ESMAP 'Mini Grids for Half a Billion People: Market Outlook and Handbook for Decision Makers' Report

	3.3 Finance	3.3.1 Current Situation
		• Capital flows (disaggregated by geography, source of funding, 'context', renewable/non-renewable, business model, etc.)
		• Sources of capital (% debt, equity, grants)
		• Recipients of funding
		• Uses of capital
		  • Technical Assistance vs. Project building
		  • Committed funds vs. Deployed (and deployed for systems)
		3.3.2 Needs and Gaps (e.g. project/debt finance, RBF/subsidy)
			• AMDA
			• AfDB GMG MDP access to finance work - pan-African RBF
			• ARE
			• BNEF Data on investments (Facebook)
			• Carbon Trust
			• CLUB-ER
			• Funders Group Database
			• GIZ "How do we finance it?" MG report

		3.3.2 Challenges and Solutions	(2017) ● Navigant Microgrid Deployment Tracker ● SEforALL Understanding the Landscape Report
	3.4 Business and Delivery Models	3.4.1 Current Situation ● Developer / Operation models ○ Utility operator model ○ Private business model (e.g. selling kWh vs selling services) ○ Community-based model ○ Hybrid operator model (PPP) ● Economics ○ Site selection ○ Demand characteristics ○ Load Growth ○ Costs ○ Revenues and tariffs ○ Losses (technical and non-technical) ○ Social impact data (including socio-economic and environmental impacts) 3.4.2 Challenges and Solutions (particularly for commercial models) ● Productive uses ● Uses promoting income-generating end-uses ● Unit economics ○ Cost reductions ○ Demand management (e.g. de-risking demand uncertainties / load growth) ○ Tariff design ○ Revenue collection ○ End user finance ○ Appliance financing ○ Power purchase agreements	● AfDB ● IRENA mini-grid innovation outlook ● Green MG helpdesk ● Rockefeller Foundation ● TERI ● World Bank
	3.5 Enabling Environment	3.5.1 Current Situation 3.5.2 Challenges and Solutions ● Energy and electricity policy ○ Rural electrification strategy and master planning (e.g. use of appropriate and industry-informed approaches to	● Acumen ● AfDB MDP Policy Helpdesk/Needs Assessment ● Africa Mini-Grid Community of Practice ● AMDA

		integrated planning; spatial mapping of main grid, mini-grid opportunities, and SHS) ○ Tariff policy and regulation (including connection fees) ● Economic policy and regulation ○ Fiscal policy and regulation (taxation, import duties, FX) ● Customer protection ○ Technical regulation (grid connection) ○ Quality of service regulation ● Licenses and contract regulation ○ Generation and distribution permits and licenses ○ Concession contracts and schemes ○ Power purchase agreements ● Support schemes ○ Grants and subsidies ○ Risk mitigation instruments (expansion of the main grid) ○ Agricultural and industrial enabling environments in regard to demand/load growth ● Standards, quality assurance ● Monitoring and Evaluation	● ClimateScope ● BNEF ● Club ER ● Energy 4 Impact and NREL ● ESMAP Global Facility for Mini-Grids Policy Study ● GMG Opportunity Assessments by Carbon Trust ● WB RISE Tool ● Rocky Mountain Institute ● TERI ● University of Strathclyde
	3.6 Technology	3.6.1 Current Situation (Status and Costs) ● Planning and design ● Generation ● Controls, management, and measurement ● Storage ● Conversion (inverters and transformers) ● End-use 3.6.2 Outlook and Opportunities for Innovation	● DFID/TEA Cost Reduction Accelerator ● ESMAP TTA Cost Study ● IRENA mini-grid innovation outlook ● Odyssey ● Rockefeller/CrossBoundary Innovation Lab ● USAID “Mini-Grids Emerging Technologies” toolkit
	3.7 Impact	3.7.1 Savings and Economic Impacts 3.7.2 Comparison to the grid 3.7.3 Impacts on the Local Economy and Small Businesses 3.7.4 Health, Education, Gender and Other Social Impacts 3.7.5 Environmental and Climate Change Impacts Where possible, expand the numeric assessment of social impacts with qualitative assessment from recent studies.	● AMDA ● Odyssey ● Energy and Environment Partnership ● Energy4Impact + NREL Productive Use Report ● Rockefeller Foundation – Understanding the Impact of Rural Electrification: Evidence from the SPRD Initiative ● Rocky Mountain Institute ● TERI

4. Market Outlook			
	4.1 Size of the Opportunity	TBD (based on the analysis and results from the Report)	• AfDB MDP Market Assessments • ESMAP study on costing • IEA • IRENA • Rocky Mountain Institute • World Bank Geospatial Mapping and Planning Models
	4.2 Forecast Scenarios	TBD/This will be undertaken in collaboration with other organizations that may be working on these forecast projections	
	4.3 The Implications of Growth	TBD (based on the analysis and results from the Report)	
	4.4 Gamechangers	TBD (based on the analysis and results from the Report)	
5. Conclusion			
	5.1 Recommendations (by stakeholder group - policymakers, private sector and donors/investors)	TBD (based on the analysis and results from the Report)	
6. Annex	6.1 Methodology		