

AFRICA CLEAN ENERGY TECHNICAL ASSISTANCE FACILITY (ACE TAF)

Terms of Reference (ToR)

Intervention No: SO-041-ENE-PR

Somalia Off-Grid Solar (OGS) Strategy

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- Quality management
- HSSE and risk management
- Financial management and Value for Money (VfM)
- Personnel recruitment and management
- Performance Management and Monitoring and Evaluation (M&E)

Project Directors name and title

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ABBREVIATIONS AND ACRONYMS

ACE TAF	Africa Clean Energy Technical Assistance Facility
AECF	Africa Enterprise Challenge Fund
DFID	Department for International Development
FGS	Federal Government of Somalia
GoSL	Government of Somaliland
MoEWR	Ministry of Energy and Water Resources
NGO	Non-Governmental Organization
OGS	Off-Grid Solution
PAYGo	Pay-As-You-Go
SAS	Stand-Alone Solar
SEAP	Somalia Energy Access Programme
SHS	Solar Home System
USAID	United States Agency for International Development

CONTENTS

abbreviations and acronyms 2

Contents 3

Executive summary..... 4

CONTEXT AND JUSTIFICATION 4

DESCRIPTION OF InterventioN 5

DESCRIPTION OF TASKS 6

ACTIVITY PLAN..... 8

 COVID-19 Risk..... 8

BUDGET SUMMARY 9

IMPACT..... 11

 Contribution to Theory of Change:..... 11

 VfM Considerations:..... 11

 Sustainability Considerations/Exit Strategy: 11

Annex 1 Consultant Qualification..... 12

ANNEX 2 Risk Assesment 0

Annex 3 ACTIVITY PLAN 2

EXECUTIVE SUMMARY

Objective: The purpose of this TOR is to develop a Somalia Rural Electrification Strategy, with specific focus to stand-alone solar (SAS).

Background: Somalia's current national electricity access is estimated at 15% with only 4%¹ access in the rural areas. The available electricity is supplied by privately owned diesel generators, with current tariffs being on average \$0.75 per kilowatt/hour². This high cost of electricity combined with a fragile economy resulting from a protracted conflict and a fragile state is a significant obstacle to the socio-economic development.

The legislative framework is at development stage. The federal energy policy aiming to promote "Energy for All" is at draft stage and aspires to strengthen coordination of intergovernmental initiatives in the sector.

Achievement of Energy for All is dependent on a mix of energy sources, key among them being off-grid stand-alone solar. The off-grid solar solution is currently providing energy access to 108 million people worldwide³ and delivering remarkable social, economic and environmental impact. A combination of supportive policy environment with a dynamic private sector can lead to rapid growth in Somalia.

Summary of results and impact: The Ministry of Energy and Water Resources (MoEWR) with the support of Africa Clean Energy Programme (ACE TAF) intends to develop a Rural Electrification Strategy. The objective of the strategy is to provide guidance on how rural households in Somalia will have access to cost-effective electricity. This will be achieved by developing a strategy to facilitate both the end-users ability to access less costly technologies and, increase private sector participation in the provision of these solutions. Given an estimated 60% of Somalia's population are nomadic or semi-nomadic pastoralists who live in rural areas, the livelihoods of this segment of population do not lend themselves to a fixed grid connection. Therefore, the Rural Electrification Strategy will guide the actions by government, private sector and development partners on the use of SAS systems as a viable solution to connect these rural communities.

CONTEXT AND JUSTIFICATION

Despite the insecurity and nascent stage of government institutions, the market for solar home systems (SHS) in Somalia has significant potential. GOGLA associates have reported sales of 263,000 units since 2016, notwithstanding some gaps in reporting⁴. In addition, the reported product sales by Lighting Africa Associates do not include product sales by local Somali-based companies, which account for additional high- and low-quality products entering the market due to weak or non-existent regulations/standards. Although it is difficult to make definite conclusions, with many challenges still in the market, these sales figures do give a good indication of the market potential in Somalia.

As evidenced by the recently launched Somalia Power Master Plan of 2019, the Federal Government of Somalia (FGS) is committed to developing the energy sector. The Power Master Plan proposes establishment of modern cost-effective reliable electricity supply systems supplied through a centralised grid system and off grid solutions. Given Somalia's sizeable rural population mainly practising nomadic pastoralism, off-grid solar electrification is an inevitable solution. Other government led initiatives include Somalia Energy Access Programme (SEAP⁵) funded by the World Bank aiming at providing grants and results-based incentives to the private sector to deploy solar home systems. Similar to this is the AECF REACT HS Round II also targeted at providing repayable grants to solar home system companies. The private sector has shown willingness to work with government in developing the sector, an example of this is

¹ Somalia Energy Master Plan, 2019

² Draft Somalia National Policy 2018

³ GOGLA (2019), Global OGS Market Report Semi-Annual Sales and Impact Data

a proposal for the formation of an industry association aiming at unifying the players and advocating for an enabling environment.

Arising from the consultations between the MoEWR and ACE TAF on possible intervention support areas, MoEWR requested support in developing the Rural Electrification (RE) Strategy, in line with Somalia's overall electrification plan with the primary objective of increasing electricity access to rural and underserved communities via SAS systems. Using a holistic approach, the RE strategy will set the foundation for an enabling environment for market development and private sector investment in the OGS sector. The strategy will also guide future investments in the sector. The strategy will focus on SAS systems, not only for household electrification but also public services (education, water and primary health care) and livelihoods (agriculture and trade).

The RE strategy is expected to complement the ongoing wider sector reform efforts, including MoEWR's studies to inform policy and investment decisions. With the support of the World Bank, the MoEWR is preparing a "geospatial least cost electrification study" under the SEAP programme, which will identify the least cost technology solutions for electricity mini-grids and corresponding investment requirements for increased electricity access across Somalia. A similar study is being implemented by the government, including the preparation of technical, financial, and economic analyses of the electricity sub-transmission and distribution network reconstruction and reinforcement in major load centres in Somalia.

However, the focus of the SEAP geospatial study is on mini grids, and is confined to targeted urban, peri urban and 'rural communities' (small towns) who can benefit from the installation of a mini grid. This study will not focus on the more rural communities who are pastoralist or live in water catchment areas and are located further outside of the small towns. The ECU recognises that for these rural communities, the most ideal electricity solution would be pico solar, and thus seeks ACE TAF support to gather the data on these smaller communities to (a) inform the RE Strategy, and (b) inform subsequent actions by government and other investors to reach the government's energy access targets.

DESCRIPTION OF INTERVENTION

Intervention Summary

Objective: The Federal Government of Somalia's MoEWR has sought ACE TAF support to develop the RE Strategy. The overall objective of the strategy is to identify the strategic policy, regulatory and market actions to be implemented by the government and private sector players in order create an enabling environment for expanded access to energy via stand-alone solar systems.

Target Results: Development of a draft Rural Electrification Strategy and high-level presentation for the MoEWR that will impact the future of OGS penetration.

Summary of Approach: ACE TAF contribution to the broader RE Strategy will investigate opportunities to improve the enabling environment for deployment of SAS. This will include:

- Recommendation of policy directions which may inform Somalia's Tax Policy for the OGS, E-waste management, and inform the development of standards for the various technologies (pico solar, mini grid);
- Documentation of the status of rural electrification particularly documenting the needs for pico solar for communities who cannot be served through installation of mini grids;
- Recommendation on procedures that facilitate the importation of high quality and affordable SAS such as fiscal and import barriers;
- Promote a full menu of rural electrification options – grid extension and off-grid (mini-grid & stand-alone);

- Adoption of international quality standards and raising consumer awareness about them to prevent market spoilage from sub-standard products;
- Recommendations for end-user finance e.g. through mobile payment mechanisms and micro-finance;
- Addressing capacity gaps and linkages between the sector and productive end uses.

Stakeholders: ACE TAF will support the MoEWR and together we will identify key partners and critical stakeholders to consult with and contribute to the development of the RES.

DESCRIPTION OF TASKS

The Consultant shall undertake the proposed Tasks and their activities for the development of the Rural Electrification strategy:

Task 1 Review of Existing Legislation, Regulation and Policy

- Review existing reports regarding rural electrification plans and programmes;
- Review and analyse all relevant (draft) laws and regulations;
- Review and analyse all relevant FGS and Regional Authorities policies in relation to on- and off grid electrification;
- Identify the **key gaps** that are hindering the development of off-grid solutions for rural electrification;
- Identify the roles and responsibilities of each relevant entity in the OGS sector;
- **Consult with stakeholders** (ministries, agencies and institutions) regarding existing and planned approaches to on- and off-grid electrification; and
- **Summarize and provide recommendations** for changes in legislation, regulation, policy and approaches to on- and off-grid electrification.

Deliverable and Date: Inception Report including gap analysis and recommendations – by the end of Month 1

Task 2 Data Collection

The consultants will, in collaboration with the MoEWR agree on two rural communities adjacent to five cities in each of Somalia's five states to collect information to inform the development of the RE Strategy.

- With the guidance of MoEWR, sample indicative non-electrified rural settlements by organising regional level workshops at 5 regions with representatives to identify the un-electrified target sites/settlements and discuss proposed strategies;
- Investigate the social and economic conditions for selected un-electrified rural settlements to assess the present and future SAS demand, keeping in mind affordability, willingness to pay, potential productive uses of electricity, and population growth;
- Collect a sample of data and information related to geographical divisions, political divisions, demography, available infrastructure, socio-economic indicators, environmental and vulnerability checks, short, medium plans at national, regional and settlements levels including institutions;

- Provide data from non-electrified rural settlements to the MoEWR database of the target sites/ settlements including relevant socio-economic parameters such as schools, health centres, police stations, information and communication centres, and market centres.

Deliverable and Date: Workshop reports and Data analysis report including electrification models– by end of Month 4

Task 3 Sensitivity analysis

The ECU has stated that one of the key deliverables from this assignment should be a simple tool that can be used to undertake a sensitivity analysis to inform the optimal mix of technologies for rural electrification. It would be used to provide information to be used to make decisions by the government based on a clear set of assumptions and indicators over time.

- The Consultant shall undertake a baseline analysis to examine the robustness of the electrification models as recommended from data collection results analysis. From this analysis, the consultant will develop a simple model indicating key considerations outlining:
 - Inputs which may include socio economic information, Kw, location and demographics; and
 - Outputs may include least cost technology; standards to be used; level of tax; other levies.

This analysis will examine the sensitivity of selected high-level outputs of the options analysis to different technology and supply costs, standards for service, reliability and resilience, timing of roll-out, and other policy variables (investment; access targets; technology costs). This will be developed through the consultations with stakeholders.

- Consultation workshops to take into account the wider stakeholder inputs, the consultant should update key assumptions to reflect on the wider sector consensus.
- The Consultant shall conduct training during the assignment, aimed at staff at the FGS and regional government departments, to familiarise them with the strategy, the overall capabilities of models utilised, the methodology and analysis framework for updating the RE analysis in the future, and key variables for sensitivity analysis. The Consultant shall ensure that training participants are fully trained to independently utilise the model in the future for analytical and decision-making purposes.

Deliverable and Date: Sensitivity tool; Report outlining results of sensitivity analysis and present to the Government for discussion and revision – by the end of Month 4

Task 4 Contribution to the Rural Electrification Strategy

- Consolidate the summary reports and draft the RE Strategy in coordination with the Power Master Plan of 2019;
- Receive Stakeholder validation throughout the development of the draft RE Strategy by conducting consultative meetings⁶;
- Presentation to Ministry for review/approval

Deliverable and Date: Draft RE Strategy, High-Level Power point – by end of Month 8

⁶ At inception Consultant / Firm shall determine if virtual meetings are enough given COVID restriction or insecurity in Country.

Task 5 – Handover to government

- The Consultant shall transfer any non-proprietary models utilised in this assignment to the government.
- Workshop will be conducted to review the OG Strategy and ensure that government is familiar with the capabilities of tools developed and key variables contributing to the results of the models so that the government can make informed decisions in the future.

Deliverable and Date: Final Report and next steps – by end of Month 9

Note: The Consultant shall maintain all records documenting decisions made at meetings, progress on project implementation, and decisions taken. In addition, the consultant must conduct capacity building activities for MoEWR staff that will occur throughout the execution of Tasks.

ACTIVITY PLAN

COVID-19 RISK

Recruitment and activity 1 can commence despite COVID restrictions and escalated tension in Somalia. ACE TAF will evaluate timeframe and risk during Inception Report review. We will also consider at that time if work can progress virtually on activities 2 - data collection and 3 – sensitivity analysis. We have included expenses for local travel and workshops in preparation for these activities and we will adjust during inception as appropriate.

Below is the indicative timeline for all identified Tasks and their deliverables. The Strategy will be developed over a nine-month period once approval and contracting are finalised (target March 2021 to November 2021).

		Month									
	Activity/Task	1	2	3	4	5	6	7	8	9	Deliverables
1	Review of Existing Policies and Regulations										Inception Report
2	Conduct Data Collection										Data Analysis Report
3	Sensitivity analysis										Sensitivity tool
4	Contribution to the Rural Electrification Strategy										Draft RE Strategy, High-Level Power point
	Stakeholder meetings										2 Stakeholder meetings with the Government and the private sector
5	Handover to Government										Workshop

BUDGET SUMMARY

The consultant will be contracted to carry out the support activities to MoEWR in Somalia with a LOE of # man days over a 9-month period. ACE TAF will require a policy expert to be part of the team of consultants recruited.

The validation forums may be held virtually due to Covid 19 restrictions in country.

Budget (days) overview:

	Activity	Staff	No. of Days	Category (Sr. International, Sr National, or National Expert)	Partner/Firm	No. of Days
1	Review of Existing Policies and Regulations	CM	5	Sr International (5) Sr National (15)	TBD	20
2	Conduct Data Collection	CM	5	Sr International (10) Sr National (20)	TBD	30
3	Sensitivity analysis	CM	5	Sr International (3) Sr National (7)	TBD	10
4	Contribution to Rural Electrification Strategy	CM	5	Sr International (10) Sr National (10)	TBD	20
	Stakeholder meetings	CM	5	Sr International (2) Sr National (3)	TBD	5
5	Handover to Government	CM	5	Sr International (5) Sr National (10)	TBD	15
	Total Budget (days)		30			100

Activity budget outline:

No.	Item
1	Travel Mogadishu to states
	Local flights
2	Regional transportation for data collection and meetings (local flights, local transportation, meeting facilitation)
	Consultants will collect data from 5 states and targeting 5 cities in each state. ACE TAF will finance logistics costs to reach out to two rural communities per city. i.e. 50 rural communities
	Days per state for ACE TAF to cater for: 2 days in each community for 2 consultants i.e. 50 nights for 2 consultants
	a) Accommodation and meals
	b) Security
3	Workshops: venue and meals
	Regional workshops to sample indicative non electrified rural settlements by organising regional level workshops - 5 States and 5 cities in each state
	25 workshops- conference costs for 30 pax
	National workshops in Mogadishu
	a) Task 1 consultation: Consult with stakeholders (MDAs) regarding existing and planned approaches to on grid and off grid electrification
	Conference costs: 50 pax attending, 2-day forum
	Flights for participants from the states to Mogadishu - 3 pax per state i.e. 15 participants
	b) Task 3: consultation workshop to take into account the wider stakeholder inputs to update key assumptions for the sensitivity analysis
	Conference costs: 50 pax attending, 2-day forum
	Flights for participants from the states to Mogadishu - 3 pax per state i.e. 15 participants
	c) National workshop combining Task 4: Stakeholder validation forum, and Task 5 handover to government
	Conference costs: 50 pax attending, 2-day forum
	Flights for participants from the states to Mogadishu - 3 pax per state i.e. 15 participants
4	Print and translation work for RE Strategy
	Printing and translation costs

IMPACT

CONTRIBUTION TO THEORY OF CHANGE:

Impact Level: The new Rural Electrification Strategy will harmonise policies and regulations and set OGS targets that are needed to develop an enabling environment for SAS systems in reaching vulnerable and marginalised communities in Somalia. This will then be integrated into the Power Master Plan of 2019, ensuring that all the energy mixes are captured in their contribution towards achieving universal access in the country. The Strategy will help the Ministry and private sector plan better for the growth of the OGS sector and will lead the government and stakeholders to make better energy planning decisions as well as monitor sector performance more accurately. The Strategy will lead to clear targets and increased SAS technologies being politically supported.

Outcome: This support to MoEWR will help ACE TAF establish the groundwork for more effective and sustainable future interventions. Through supporting MoEWR to develop a RE Strategy, it will help them make better informed energy planning decisions, quickly identify and address sector barriers, develop new policies and regulations or amend existing ones, where necessary, towards accelerating the growth of the sector, especially access for vulnerable people.

Outputs: This activity will result in the development of a Rural Electrification Strategy for Somalia inclusive of SAS systems – including SHS and productive use power and will be presented to the MoEWR. The RE Strategy will provide clear SAS targets, and a supportive enabling environment of consolidated policies and regulations will send a clear signal to the private sector and other stakeholders alike as a demonstration of the Government's continued commitment towards electrifying rural communities.

VFM CONSIDERATIONS:

ACE will work closely with and add value to the MoEWR and its Power Master Plan of 2019, and other stakeholders – more specifically with World Bank and Power Africa who have also been providing support to the Government of Somalia. This will ensure that lessons are learnt, and duplication of efforts are avoided. By supporting the MoEWR in Somalia, ACE TAF is also preparing for the implementation of other interventions, many of which will be delivered together with the MoEWR. By starting to build the capacity of MoEWR, ACE TAF will help increase the VFM of its future activities in Somalia.

SUSTAINABILITY CONSIDERATIONS/EXIT STRATEGY:

The activities outlined in this ToR aim to support the MoEWR to make informed and timely decisions on off-grid energy planning. Working alongside the MoEWR will help strengthen their capacity to enable them to lead on improving the enabling environment for off-grid energy in Somalia, long after ACE TAF's programme has ended. It is also important for ACE TAF to effectively coordinate with the MoEWR on its Power Master Plan of 2019 to align related off-grid policies as well as ensure the importance of SAS for households as well as productive use technologies are highlighted with specific targets minimising any future replication by other agencies. ACE TAF will hold regular meetings and calls with such organisations to ensure the support to MoEWR is well coordinated.

Sustainability & Feedback Mechanism:

The ACE TAF Country Manager and the local coordination consultant will continue to support the MoEWR by holding follow-up meetings to ensure any issues or concerns by the Ministry are addressed and by also initiating the development of a solar Association to ensure private sector members comprehend and adhere to the policies and regulations of the country.

ANNEX 1 CONSULTANT QUALIFICATION

The consultants/ consulting firm undertaking this assignment shall have necessary credentials to undertake the job by virtue of its successful completion of similar assignments. The consultant shall have expertise in resources mapping, regional and bottom-up planning, electricity generation, micro/ mini hydro, other RETs, load forecasting, generation expansion, socio-economic studies and sustainable development.

It is important that recruitment approach ensures that the consultant has the right experience to carry out this assignment. While the recruitment of an individual consultant may be faster it is recommended that we consider recruiting a firm that has experience in Somalia and can draw from the right mix of national and international expertise and the credibility to manage multiple resources, activity deadlines and escalate risks effectively. It is a high priority to target consultants/firms who are familiar with the country context and able to freely manoeuvre to carryout wider stakeholder engagement.

Key Experts:

Team Leader (Senior International): Shall have preferably master's degree in Electrical Engineering/ Renewable Energy or Energy Economics with over 15 years of experience in distribution system planning and/or rural electrification planning. The team leader should have experience of relevant services in Somalia or an environment like that of Somalia. The experience shall cover policy development regarding rural electrification, and on and off grid expansion of distribution networks.

National Renewable Energy Expert (Senior National): Shall hold preferably Masters' Degree in Renewable Energy Engineering/Renewable Energy Management with over 7 years of experience in the development of renewable energy policies/development of off grid electricity networks in the developing countries.

Public Policy Expert: Preferably hold a Masters' degree or higher in public policy having experience in Somalia's policy and regulatory framework. The expert should have a wide range of expertise on developing energy policies, with a preference for having developed policies in the off-grid sector with a minimum of 10 years in developing policies and regulations.

ANNEX 2 RISK ASSESMENT

Risk Category	Risk	Status of Risk	Likelihood	Impact	Risk Rating	Mitigation Measures	Residual likelihood	Residual Impact	Residual Risk Rating
Context	Lack of political buy-in causes projects and activities to be delayed or abandoned	ACE TAF has conducted similar activities in other targeted countries.	3	3	9	ACE TAF will leverage their team and consortium's knowledge of Somalia to inform their actions responding to the power structure as appropriate.	2	3	6
Context	Political and macro-economic instability in Somalia could prevent market growth	ACE TAF Country Manager for Somalia is informed of market challenges in the country. Risks of instability will be reported to the leadership team.	3	3	9	ACE TAF will identify root causes of sluggish market growth to share with sector for readiness.	3	2	6
Safeguarding	The teamwork in potential hazardous, risk prone, and unsafe or unstable environments	All ACE TAF staff visiting Somalia require Security and Risk training.	4	4	16	ACE TAF will employ risk management approaches to Somalia prior to delivery of each activity to mitigate these risks. Our risk assessments are updated on a rolling basis, ensuring we implement strategies to mitigate security threats before they become a reality. Our security assessments cover national, regional and border area risks.	3	2	6
Delivery	Lack of comprehensive policy implementation. Over-regulation could hinder sector growth	There are currently a myriad of stakeholders and donors engaging with the government. This can lead to complex markets and	3	4	12	ACE TAF will focus their support on developing/implementing existing policies and regulations that enables competition and growth, rather than restricting it. Support the	2	2	4

Risk Category	Risk	Status of Risk	Likelihood	Impact	Risk Rating	Mitigation Measures	Residual likelihood	Residual Impact	Residual Risk Rating
		conflicting regulatory advice and can also lead to inconsistent policy implementation.				improvement of national government coordination with broader stakeholders.			
Delivery	Regional regulations might not be enforced at country level	ACE TAF is working closely with the MoEWR to influence both regional and national regulations.	3	3	9	Continuous engagement with the MoEWR, using knowledge management platform for advocacy.	2	2	4
Delivery	Non-governmental programme stakeholders do not engage fully, or do not have the capacity to engage.	ACE TAF has held several inclusive workshops and have seen broad based participation from the full range of stakeholders. We will continue to ensure that all affected groups in Somalia are included.	2	3	6	We will use our marketing and communications activities to build effective engagement with key stakeholders. Our team includes capacity building specialists who will work with stakeholders to improve their ability to engage with ACE's priorities.	2	2	4
Delivery	Stand-alone solar policy reforms hinder the development of other renewable energy sectors.	The ability for SAS products to respond to critical energy needs in hard to reach and remote areas may draw government to focus heavily on this sector and thus deprioritize other solutions to energy poverty.	2	3	6	ACE-TAF will engage with the government of Somalia to understand their expectations and plans with all renewable energy sources. ACE-TAF will ensure that stand-alone solar policy reforms are neutral to the wider energy sector.	1	2	2

ANNEX 3 ACTIVITY PLAN

Detail activity plan to be provided with Inception Report.