



**PROGRESS REPORT FOR THE INCREASING ACCESS TO CLEAN AND  
AFFORDABLE DECENTRALISED ENERGY SERVICES FOR SELECTED  
VULNERABLE AREAS IN MALAWI PROJECT FOR THE PERIOD BETWEEN JULY  
TO SEPTEMBER 2017**

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**PROGRESS REPORT FOR INCREASING ACCESS TO CLEAN AND AFFORDABLE  
DECENTRALISED ENERGY SERVICES PROJECT FOR THE PERIOD JULY TO  
SEPT 2017**

**1.0 INTRODUCTION**

The Ministry of Natural Resources, Energy and Mining (MNREM), with financial support from GEF Trust through United Nations Development Program (UNDP), is implementing an Increasing Access to Clean and Affordable Decentralised Energy Services in selected vulnerable areas in Malawi (IACADES) Project. The program became effective in August 2015 through an Inception Meeting of Parties where the Letters of Agreement and the project document was duly signed by the Ministry of Natural Resources, Energy and Mining (MNREM) and UNDP.

*The Increasing Access to Clean and Affordable Decentralised Energy Services in Selected Vulnerable Areas of Malawi* project aims to establish mini-grids as a priority option in Malawi's rural electrification efforts. The project is aimed at 'increasing access to energy in selected remote, rural areas in Malawi by promoting innovative, community-based mini-grid applications in cooperation with the private sector and civil society'. The project has three Components as follows:

**Component 1 - Expansion of the Mulanje Electricity Generation Agency (MEGA) Micro Hydro Power Plant (MHPP) and mini-grid scheme:** This Component will directly support the implementation of a second 80 kWp micro-hydro powered mini-grid operated by MEGA at Namainja (the Lujeri Micro-hydro power plant - MHPP) and provide institutional support for the development of several other MEGA MHPPs bring the installed capacity of their power production up to 216 kWp by end of project. This Component will also support the institutional capacity of MEGA to help establish it as a self-sustaining entity;

**Component 2 - Replication of MEGA model via piloting of new mini-grid schemes in other areas of Malawi:** This Component will initiate an open competitive-based mechanism (Request for Proposals – RfP) to select and support the establishment of Public-Private-Partnership (PPP) service delivery platforms for clean energy mini-grids with an emphasis on business models such as Build-Own-Operate (BOO). It is envisaged that Clean Energy Mini-grids with an installed capacity of at least 84 kWp will be supported.

**Component 3 - Institutional strengthening and capacity building for promotion of decentralized mini-grid applications across the country:** This Component will carry out training and capacity building at sub-national and national levels on Clean Energy Mini-grids and establish a national information clearing house to facilitate mini-grid based rural

electrification. The Component will also make the policy and regulatory changes to mainstream Clean Energy Mini-grids into rural electrification activities and will also synthesise and showcase the lessons from the clean energy mini-grid based rural electrification experience in Malawi to develop a Toolkit for policy makers.

The project will be implemented over the period 2015-18 and is being implemented by the Department of Energy Affairs under a National Implementation Mechanism. The project is expected to establish the foundations for replication of several clean energy mini-grids in Malawi, thereby accelerating efforts to provide universal electricity access to Malawi's rural population.

## **2.0 PROJECT PROGRESS DURING PERIOD UNDER REVIEW**

### **2.1 PROGRESS OF ACTIVITIES**

The Project progress for the period under review will be stated under each of the three components and the two supporting components as in sub sections below:

#### **2.1.1 Component 1: Expansion of the Mulanje Electricity Generation Agency Micro Hydro Power Plant**

- a) Commissioning of a new 100KWp Clean Energy Mini-grid: During the period under review, Mega commenced the construction of the Powerhouse, and procurement of pipelines and penstocks

Furthermore, MEGA is continuing installation of new Distribution lines to three new communities of Nnessa, Nandolo and Bondo.

- b) Operation of MEGA Clean Energy Mini Grid: The existing scheme has been rehabilitated and maintained after the canal was damaged during the rainy season. Household connections have increased from 327 to 405 by end of September.
- c) Development of Strategies to improve Business Model Viability: The Project recruited an International Technical Advisor towards the end of 2016 and had the first in country mission in February and among other things had held discussions with MEGA to assess the progress made and viability of interventions aimed at enhancing MEGA Business Model Viability. MEGA would like to increase the productive use of energy for the communities through energy dependent rural enterprises. Community interests and opportunities had been assessed and a compendium of 32 potential cottage industries was established. The key industries being maize milling, welding, bakery, irrigation and carpentry.

MEGA has identified two lending partners to operate a revolving fund and other partners to provide trainings in entrepreneurship and cooperative formation.

### **2.1.2 Component 2: Replication of MEGA model via Piloting of New Mini-Grid Schemes in other areas of Malawi**

- a) Implement Pilot BOO Clean Energy Mini Grids: One 40KW Solar Mini Grid Operator, Community Energy Malawi (CEM), has been approved by PSC for award of a micro grant of up to US\$125,000 in form of capital equipment procurement to install the mini grid in Sitolo Village, T/A Mlonyeni in Mchinji District. The International Technical Advisor, Project Management Team and the Technical Advisory Committee all visited the site and held discussions with the communities, District Council Officials and CEM regarding their acceptance of the proposal and their expected roles in the project. The visiting teams were satisfied with the responses from the Community leaders and District Authorities for their expressed support to CEM and the project. During the period under review CEM had received a Technical Assistant Microgrant of US\$46,200 to support feasibility studies, technical designs, preparation of specification and Bills of Materials.

During the period under review, CEM had undertaken resource and demand assessments, and detailed designs of two options 45 KW and 60KW schemes. It is expected that the specifications and bills of materials will be completed in the next quarter.

- b) The Technical Advisory Committee had received through UNDP a revised proposal for the establishment of a 100KW Micro Hydro Mini Grid at Usingini by Practical Action and its main partner Focus. After reviewing the proposal and the site visit findings the Committee made recommendations to PSC for award of the micro grant. The PSC approved award of the grant to Practical Action comprising US\$125,000 in form of a micro-capital grant to procure equipment for the mini grid scheme. Furthermore, the other grant component comprised of Technical Assistant Grant amounting to US\$100,000.

During the period under review, Practical Action were yet to commence activities on the ground except planned for an introductory meeting with the local government establishment at District level first week of October. Resource and demand Assessment were scheduled to be undertaken in the next reporting period.

### **2.1.3 Component 3: Institutional Strengthening and Capacity Building for Promotion of Decentralised Mini Grid Applications**

- a) Establishment of an Information Clearing House for Mini-grids; The Project engaged LUANAR to conduct a advanced level GIS training to officers and stakeholders as a follow up on the initial training held in the previous reporting period. The second training

focused more on geospatial data base development and decision making using GIS multicriteria tools. 26 participants were trained including 6 female participants.

Data for populating the Information Clearing House is in progress. The team has undertaken the pilot assessment for potential mini grid sites in two districts of Balaka and Mchinji.

During the period under review, the Department undertook data collection exercise in Nkhatabay in the Northern Region, Ntchisi in the Central Region and Machinga in the Southern Region as part of the development of a Compendium of potential mini grid sites in Malawi.

- b) Training and Capacity Building; 20 including one female participants were trained in the Installation of High Voltage power lines for mini grids during the period under review.
- c) Policy and Regulatory Changes; MERA has initiated an alignment drive of regulations pertaining to mini grids with that promulgated by the SADC Regional grouping RERA.
- d) Knowledge Management and Case Studies / Toolkit Development and Promotion: The Project aims at developing Case Studies for the Diesel powered mini grids on the Island, 6 Solar /Wind Mini grids and MEGA mini grid to provide lessons on the successes and challenges each deployment model was facing. In addition, the Project will develop a toolkit that would guide prospective developers of mini grid with information of potential sites, renewable energy resources assessment and regulatory framework.

During the period under review, the project recruited local and international Consultants to undertake the Case Study and Toolkit Development and they had visited Likoma Island, MEGA in Mulanje, Kavuzi pico hydro mini grids, Mdyaka and Ntcheu Mini Solar PV and Wind Hybrid Grid.

#### **2.1.4 Component 4: Monitoring, Learning, Adaptive feedback and Evaluation**

TAC held one meetings during the period under review and one field visit to Sitolo in Mchinji for the purposes of verifying the Designs presented by Community Energy Malawi.

### **3.0 PLANNED ACTIVITIES IN THE NEXT PERIOD**

Planned activities for the next period are as follows:-

#### **3.1 Outputs under Component 1:**

- (a) Commissioning of a new 100KW Clean Energy Mini Grid for MEGA

- i. Continuation of new Micro Hydro Scheme Civil works
  - ii. Continuation of installation of new Transmission and Distribution network to 3 communities
  - iii. Promotion Activities of productive use of energy
- (b) Operation and Management Support of MEGA Clean Energy Mini Grid
- i. MEGA connections to households
  - ii. Power generation and sales from MEGA

### **3.1 Outputs under Component 2:**

- a) Implement Pilot BOO Clean Energy Mini Grids
  - i. CEM Commences Activities for the 40KWp Solar Mini Grid leading to
    - 1. Completion of Engineering Designs
    - 2. Completion of Detailed Feasibility Studies
    - 3. Development of an Environmental Management Plan
    - 4. Development of Specifications and Bills of Quantities
    - 5. Procurement of Goods and Services for installation of 45KW Solar Plant and Distribution network at Sitolo in Mchinji.
  - ii. UNDP provide procurement support services for the new operators
  - iii. Activities for Practical Action during the next period
    - 1. Engineering Designs
    - 2. Detailed Feasibility Studies
    - 3. Environmental Management Plan
    - 4. Development of Specifications and Bills of Quantities
    - 5. Procurement of Goods and Services for installation of 100KW Micro Hydro Plant and Distribution network at Usingini in Nkhatabay.

### **3.2. Outputs under Component 3:**

- a) Establishment of an Information Clearing House for Mini-grids
  - i. Website Mini Grid Tab Development
  - ii. GIS Database development
  - iii. Update on potential mini grid sites
  - iv. Support stakeholders to maintain / update RE websites to include mini grid developments
- b) Training and Capacity Building
  - Finalization of Energy Indicators development for inclusion in the District Development Planning Processes and Guidelines
  - South to South visit for sharing mini grid experiences in Tanzania
- c) Policy and Regulatory Changes
  - Financial support to Policy Completion
- d) Knowledge Management and Case Studies / Toolkit Development and Promotion
  - Finalisation of Case study development
  - Launch of Mini Grid Toolkit

### **4.2. Management Monitoring**

The Project continues to receive management support from both Government and UNDP in creating time for PSC and TAC meetings. However, support on the finalization of the New Energy Policy requires extra commitment from the Department of Energy Affairs for it to be finalized and launched.

### **5.0 Conclusion**

The Project is noted to be on track to implement all the activities that have been planned in the 2017 Annual Work Plan except for installation of new mini grid schemes for CEM and Practical Action which would have to be completed the following year.

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