Empowered lives.
Resilient nations.

2017 Annual Work Plan

for

Increasing Access to Clean and Affordable Decentralised Energy Services in Selected Vulnerable Areas of Malawi

Country: **Malawi**

UNDAF Outcome(s):	Theme 1, Outcome 1.3: Targeted Population in Selected Districts benefit from effective management of environmental, natural resources, climate change and disaster risk by 2016
UNDP Strategic Plan Primary Outcome	Outcome 1: Growth and development are inclusive and sustainable, incorporating productive capacities that create employment and livelihoods for the poor and excluded. Specifically Output 1.5 of Outcome 1 - Inclusive and sustainable solutions adopted to achieve increased energy efficiency and universal modern energy access (especially off-grid sources of renewable energy)
UNDP Strategic Plan Secondary Outcome	Outcome 2: Countries have strengthened institutions to progressively deliver universal access to basic services;
Expected Country Programme Outcome	National policies, local and national institutions effectively support equitable and sustainable economic growth and food security by 2016
Expected UNDAF/CPAP Outputs	Output 1.3.4: Innovative renewable and energy saving technologies piloted in targeted locations in rural and peri-urban areas enabling the development of a national programme.
Implementing Partner	Ministry of Natural Resources, Energy and Mining – Department of Energy Affairs
Responsible Parties	Department of Energy Affairs, Mulanje Energy Generation Agency, Malawi Energy Regulatory Authority (MERA).

Brief Description

Malawi is one of the least electrified countries in the SADC region, with an average per capita consumption of 85 kWh per annum – among the lowest in the world. Provision of sufficient, reliable and clean energy in Malawi is a critical challenge, as recognized by the Government which has put energy as a focus area in both the Malawi Growth and Development Strategy II (MDGS 2011 - 2016) and the Economic Recovery Plan (2012). The demand for electricity by far exceeds the installed capacity and new generation capacity is urgently needed, with the government focused on promoting diversified sources and utilization of the country's abundant renewable energy resources – particularly micro-hydro and solar. Under SE4All the government has committed to ambitious 2015/2030 targets for increasing energy access and renewable energy supply.

To increase access, effort is needed to develop power plants and mini-grids close to the end users in the rural areas and since financial resources are scarce, investments for new generation can only be leveraged by involving the private sector and social enterprises. Given the more remote locations of many of the communities that need to be served, and the cost reductions in renewable energy technologies, an important vehicle for meeting these targets will be clean energy mini-grids.

This project addresses rural electrification barriers in rural Malawi where 96% of people do not have electricity access. The project will scale up and strengthen Malawi's first mini-grid, independent vertically-integrated energy company operated as a social enterprise; provide micro-capital grants and pilot innovative service arrangements for clean energy mini-grids; build capacity on mini-grids and rural electrification at the sub-national and national levels; develop an information clearing house on clean energy mini-grids for project developers; and recommend ways to mainstream mini-grids into national rural electrification financing platforms and energy regulatory frameworks. It is expected that the project will set the stage for mini-grids to play a key role going forward in electrifying rural parts of Malawi, thereby assisting the country in meeting its SE4All targets.

In the year 2017 the project will support 2 new mini grid operators to install power generation and distribution infrastructure and connect to households in new communities; support MEGA to increase installed capacity and improve the business model for financial viability through installation of electricity transmission and distribution infrastructure for the new mini grid. The Project will launch a web based Information Clearing House for mini grids. The Project will further support the training of stakeholders at district level and national level on the sustainable mini grid deployment models and GIS applications to mini grid planning and development.

Nb: Please note that Outcomes 1,2,3,4 &5 are actually outputs but have been reflected in the AWP as outcomes for consistency as outcomes as they contribute to the global GEF global outcomes
Outputs 1.1 to 5.4 are actually activities maintained as such for similar reasons

Signature page

Program Period	:	2015-2018
Atlas Award ID	:	00086833
Project ID	:	00094026
PIMS No.	:	5270
Start date	:	January 2015
End date	:	December 2018
Management Arrangements	:	NIM
PAC Meeting Date	:	29th January 2015

		USD
Estimated annualized budget	:	932,600
Allocated resources	:	932,600
GEF	:	932,600

Agreed by Implementing Partner:

Secretary for Natural Resources Energy and Mining: PLK Matanda

Date: _____

Place: Lilongwe, Malawi

SECRETARY FOR ENERGY AND MINES
02 FEB 2017
PRIVATE BAG 350
CAPITAL CITY
LILONGWE 3

Approved by:

UNDP: _____

Date: 6/2/17

Place: Lilongwe, Malawi

UNITED NATIONS DEVELOPMENT PROGRAMME P.O. BOX 30135 LILONGWE MALAWI

ANNUAL WORKPLAN **INCREASING ACCESS TO ENERGY** **2017**

Expected output and indicators including annual targets	PLANNED ACTIVITIES *List all activities including M&E to be undertaken during the year towards stated CP outputs*	Q 1	Q 2	Q 3	Q 4	RESPONSIBLE PARTY-(IES)	Source of Funds	ATLAS Budget Description	Budget Account Code	Amount in USD
PROJECT OUTCOME: Targeted populations in selected districts benefit from effective management of environment and natural resources by 2016 *Outcome Indicators:* 1. *Contribution of renewable energy in the national energy mix (Baseline: 0.2% (2010); Target: 2016: 6%).* 2. *Percentage of the vulnerable population in the target districts and peri-urban areas using renewable energy services (Baseline: 2% (2010); Target: 2016: 20%);* 3. *Percentage of the vulnerable population in the target districts and peri-urban areas using energy efficient measures (Baseline: 1% (2010): 2016 20%)*										
Project Objective[1] : To increase access to energy in selected remote, rural areas in Malawi by promoting innovative, community-based mini-grid applications in cooperation with the private sector **Indicator 1:** Tons of CO_2 equivalent avoided; **Baseline** Negligible; **2019 Target :** 33,183 tCO_2e **Indicator 2**: Cumulative renewable energy capacity installed and operational (kWp); **Baseline** : 56kW[2]; **2019 Target (1)** 164 kWp (only mini-grids directly supported by INV), (2) 300 kWp[3] (all mini-grids) **Indicator 3:** Cumulative renewable electricity generation (kWh/year); Baseline : 220,752 kWh/Year [4]; 2019 Target 1,145,808 kWh/Year **Indicator 4**: Household energy expenditure savings among customer base (US$); **Baseline** : $65,969; **2019 Target** : $352,271/Year by 2019										

Expected output and indicators including annual targets	PLANNED ACTIVITIES *List all activities including M&E to be undertaken during the year towards stated CP outputs*	Q 1	Q 2	Q 3	Q 4	RESPONSIBLE PARTY-(IES)	Source of Funds	ATLAS Budget Description	Budget Account Code	Amount in USD
Outcome 1: Expansion of the Mulanje Electricity Generation Agency(MEGA) Micro Hydro Power Plant										
Outcome 1. 1: **Increasing the installed capacity of the Mulanje Electricity Generation Agency's MHPP scheme** Indicator 1.1.1 Cumulative installed power generation capacity – kW_p **Baseline:** 56 kW_p **2017 Targets:** 136 KW_p from MEGA 216 kWp (all new MEGA MHPPs supported by the project **Indicator 1.1.2** Cumulative renewable electricity generation (kWh/year) **Baseline:** 220,752 kWh/Year **2017 Target:** 400,200 kWh/year **2019 Target:** 851,472 kWh/Year	**Output 1.1:** Commissioning of Clean energy mini-grid									
	Provide a grant to finance 38% of estimated costs for the proposed Lujeri Mini-Grid system Kg	X	X	X		MEGA	GEF	Grant (Micro Capital)	72600	50,000

Expected output and indicators including annual targets	PLANNED ACTIVITIES *List all activities including M&E to be undertaken during the year towards stated CP outputs*	Q 1	Q 2	Q 3	Q 4	RESPONSIBLE PARTY-(IES)	Source of Funds	ATLAS Budget Description	Budget Account Code	Amount in USD
Outcome 1.2: **Achieving MEGA's business plan target of increasing the aggregate household energy savings among the customer base.** **Indicator 1.2.1** Household energy expenditure savings among customer base (US$) **Baseline:** $65,969 2017 Target: $120,060 **2019 Target:** $296,560/Year	**Output 1.2:** Institutional support to MEGA									
	1.2.1-Support MEGA on Technical Capacity (Hiring of an Engineering firm to assist with installation of transmission and distribution system)	X	X	X	X	MEGA/ DOE	GEF	Contractual Services	72100	35,000.00
	1.2.2-Support MEGA Business, Operations and Financial Capacity (Hiring of a Business and Finance Management firm)		X		X	MEGA/ DOE	GEF	Contractual Services	72100	15,000.00
	Output 1.3: Strategies to improve business model viability									
	1.3.1- Engage an external technical advisor for the Mini-Grid Project		X	X	X	MEGA/ DOE	GEF	International Consultant	71200	20,000.00
			X	X	X		GEF	Contractual services indv.	71400	3,600.00
	TOTAL FOR OUTCOME 1									**123,600.00**

Expected output and indicators including annual targets	PLANNED ACTIVITIES *List all activities including M&E to be undertaken during the year towards stated CP outputs*	Q 1	Q 2	Q 3	Q 4	RESPONSIBLE PARTY-(IES)	Source of Funds	ATLAS Budget Description	Budget Account Code	Amount in USD
Outcome 2: Replication of MEGA model via piloting of new Mini-grid schemes in other areas of Malawi										
Component 2.1 **Investment in Installed capacity of mini-grid schemes established, replicating the MEGA model and using a Build-Own-Operate (BOO) Public Private Partnership (PPP) model** **Indicator 2.1.1** Cumulative installed renewable energy mini-grid capacity (kW **2017 Target:** 80KWp (50KWp from Solar Mini grid and 80KW from Micro Hydro mini grid) **2019 Target:** 84 kWp greenfield mini-grid(s) established **Indicator 2.1.2:** Cumulative renewable electricity generation **2017 Target:** 163,200KWh/yr **2019 Target:** 604,800KWh/yr **Indicator 2.1.3.** 2 new mini-grid operators replicating	**Output 2.1:** Commissioning of pilot clean energy mini-grids									
	2.1.1 Finance a clean energy mini-grid on a PPP mode to cover 50% of either mini-grid system or micro-capital grant budgetary cap, whichever is smaller	X	X			DoE, MERA UNDP	GEF	GEF Grants (micro capital)	72600	125,000.00

Expected output and indicators including annual targets	PLANNED ACTIVITIES *List all activities including M&E to be undertaken during the year towards stated CP outputs*	Q 1	Q 2	Q 3	Q 4	RESPONSIBLE PARTY-(IES)	Source of Funds	ATLAS Budget Description	Budget Account Code	Amount in USD
MEGA model **Baseline: 0** **2017 Target:** 2 Mini Grid Operators connecting 200HHs and enterprises **2019 Target**: 2 mini-grid operations established through a BOO model										
2.2 Increased aggregate household energy savings among the customer base	**Output 2.2:** Operations and energy generation from 2nd Pilot mini-grid									
<u>Indicator 2.2.1:</u> Household energy expenditure savings among customer base (US$) **Baseline:** 0 **2017 Target:** (a) 2 No 50KW mini grid systems completedDetailed Designs for Mini grids (b) Socio Economic Study for target communities (c) ESIA Reports for 2 mini grid sites approved **2019 Target**: $55,711/Year	**2.2.1** Finance a second clean energy mini-grid on a PPP mode to cover 50% of either mini-grid system or micro-capital grant budgetary cap, whichever is smaller	X	X			DoE, MERA UNDP	GEF	GEF Grants (micro capital)	72600	125,000.00
Indicator 2.2.2 Number. of new mini-grid operators replicating MEGA model	**Output 2.3:** Institutional support to independent mini-grid operators									

Expected output and indicators including annual targets	PLANNED ACTIVITIES *List all activities including M&E to be undertaken during the year towards stated CP outputs*	Q 1	Q 2	Q 3	Q 4	RESPONSIBLE PARTY-(IES)	Source of Funds	ATLAS Budget Description	Budget Account Code	Amount in USD
Baseline: 0 2017 Target: (a) 2 new Mini Grid Operators contracted (b) 8 Staff trained (c) 2 Payment systems installed and operational (d) 20 Community members trained in Operation & Maintenance (O&M) **2019 Target:** 2 New Mini Grid Operators operational	**2.3.1.** Provide financial support to 1st mini-grid operator to develop & implement EMPs, training staff and communities on O&M, develop and implement innovative payment system and provide information on case study and tool kit		X	X	X	DoE	GEF	Contractual Services - companies	72100	50,000.00
							GEF	Contractual services individuals	71400	5,500.00
	Output 2.4: Institutional support to independent mini-grid operators									
	2.4.1. Provide financial support to 2nd mini-grid operator to develop & implement EMPs, training staff and communities on O&M, develop and implement innovative payment system and provide information on case study and tool kit		X X	X X	X X	DoE	GEF	Contractual Services companies	72100	50,000.00
							GEF	Contactual services ind.	71400	5,500.00
	TOTAL FOR OUTCOME 2									**361,000.00**

Outcome 3.1: increased capacity of key stakeholders especially at the sub-national levels to effectively plan and implement mini-grids **Indicator 3.1.1** Number of districts where sub-national training and capacity building programmes on clean energy mini-grids conducted. **Baseline:** 0 **2017 Target:** 14 **2019 Target:** 28 **Indicator 3.1.2** Number of people trained on planning and/or implementing of clean energy mini-grids. **Baseline:** 0 **2017 Target:** 150 **2019 Target:** 300 **Indicator 3.1.3** % share of women recipients of the capacity building **Baseline:** 0 **2017 Target:** 40% **2019 Target:** 30%	3.1 Increased capacity of key stakeholders, especially at the sub-national levels to effectively plan and implement clean energy mini-grids - Conduct National, district, Area & village training programs -		• Training Manuals • Training Reports • Compendium of Potential Mini Grid Sites •	
Outcome 3.2: Increased awareness about relevant business models, policy/ regulatory issues, and financing of mini-grids in the Malawian context **Indicator 3.2.1** Number of web-sites in Malawi which stakeholders could use to plan and implement clean energy mini-grids	3.2 Increased awareness about relevanat model, policy, regulatory issues, and financing of minigrids in the Malawian context - Develop training capacity building plan - Conduct training of TOT		• Learning Visit Report Recommendations for Regulations, Operations and Maintenance of Mini Grids	

Baseline: 0 **2017 Target:** 4 **2019 Target:** 6 **Indicator 3.2.2** Number of case studies and toolkits on Malawi on clean energy mini-grids **Baseline:** 0 **2017 Target:** 2 **2019 Target:** 6				
Outcome 3.3: Improved policy and regulatory environment to facilitate the sustainable development of mini-grids in Malawi **Indicator 3.3.1** Extent to which current energy policies and regulations consider or promote clean energy mini-grids for rural electrification **Baseline:** Policies do not consider or recognize mini-grids as a viable electrification option nor allow for funding under the REF **2017 Target:** (a)New NEP launched (b) National Renewable Energy Strategy Launched (c) Rural Electrification Act amended to include establishment of Rural Electrictrification Agency **2019 Target:** Recommendations put forth to government for the Rural Electrification Act, 2004 and Energy Regulation Act 2004 to be amended to include clauses promoting clean energy mini-grids	**3.3** Improved policy and regulatory environment to facilitate the sustainable development of mini-grids in Malawi - Develop TORs for review of policies		• Finalised Revised new Energy Policy	

IMPACT MONITORING TABLE

Impact to be Monitored	Indicators	Verification Means	2015	2016	2017	2018
GHG emissions avoided	16,203 tCO_2e emissions avoided through three clean energy mini-grids directly supported via INV only. 33,183 tCO_2e emissions avoided through five clean energy mini-grids directly supported (TA and INV)	Project reports, GHG monitoring and verification reports				
Cumulative renewable energy capacity added.	300 kWp of clean energy mini-grid capacity added (via support for all 5 mini-grids)	MERA, DEA Data.				
Cumulative renewable electricity generation	1,145,808 kWh/Year (both Components #1 and #2)	MERA data, project reports, evaluation reports.				
Increased household energy expenditure savings among customers of MEGA and the BOO mini-grids	$296,560/Year by 2018 from MEGA actions $55,711/year from other mini-grids under Component 2.	Project reports, MEGA Annual reports; evaluation reports.				
Increased national and sub-national capacity to support clean energy mini-grid developments	300 people trained among 28 districts in Malawi. 30% of the trainees to be women.	Project reporting. Course schedule, participation data.				
Policies and regulations to promote clean energy mini-grids as an option for rural electrification in Malawi	Amendments proposed to Rural Electrification Act and Energy Regulation Act	Project reporting, parliamentary proceedings, gazette notifications				
Increased awareness on clean energy mini-grid opportunities	Information clearing house available as a website to all stakeholders	Project reporting, publicly available functional website.				

ANNUAL PROCUREMENT PLAN														
PROJECT TITLE:		**Increasing Access to Clean and Affordable Decentralised Energy Services**												
PROJECT ID:		**00086833**												
ANNUAL PLAN PERIOD:		**January 1– 31st December 2017**												
REQUESTER:		**Etta Mmangisa**												
Description of Procurement Items	**Quantity**		**COA**				**Estimated Price**	**Currency**	**Available Budget in USD**	**Method of Procurement**	**Timeline for Procurement**	**Implementing partner focal point**	**Responsible UNDP Prog. Analyst**	
Description of goods, services or works to be procured	**No.**	**UNIT OF MEASURE**	**FUND / DONOR**	**OUTPUT**	**ACTIVITY**	**ACCOUNT**		**MWK or USD**	**USD**	**Government Procurement or UNDP Support Service or other**	**Expected Delivery Date**			
Procurement of International Consultant for development of Mini Grid Case Studies and RE Toolkit	1	No			3.3			25,000	25,000	UNDP Support Service	15th March 2017		Etta Mmangisa	
Procurement of Local Consultant for development of Mini Grid Case Studies and RE	1	No			3.3			10,000	10,000	UNDP Support Service	15th March 2017		Etta Mmangisa	

Toolkit													
Procurement of Construction Materials for Generation, Transmission and Distribution Materials for New Mini Grid Operator	Various	As per Bills of Quantities		1	4	72200	100,000		USD	UNDP Support Service	15th April 2017		Etta Mmangisa
Procurement of Step Up and Step Down Transformers for MEGA	Various	As per Bills of Quantities		1	4	72200	30,000		USD	UNDP Support Service	1st May 2017		Etta Mmangisa
Procurement of Prepayment Equipment/System for MEGA	Various	As per Bills of Quantities		1	5	72200	45,000		USD	UNDP Support Service	1st July 2017		Etta Mmangisa
Request for Proposals for Identification of 2 Mini Grid Operators (Grantees) to replicate MEGA Business Model in other parts of Malawi	1	No		2	1	72200	50,000		USD	UNDP Support Service	1st February 2017		Etta Mmangisa
Procurement of Construction Materials for Power Generation,	Various	As per Bills of Quantities		2	1	72200	50,000		USD	UNDP Support Service	1st December 2017		Etta Mmangisa

Transmission and Distribution for 1st Mini Grid Operator													
Procurement of Construction Materials for Power Generation, Transmission and Distribution for 2nd Mini Grid Operator	Various	As per Bills of Quantities		2	2	72200	40,000		USD	UNDP Support Service	1st December 2017		Etta Mmangisa
Professional Consultancy Services for Annual Audit	1	No		4	3		3,000		USD	UNDP	1st December 2017		Etta Mmangisa

	Note:
	IP shall request UNDP Country Office to provide project support services by specifying "UNDP Support Service" under "Method of Procurement."
	If any changes to be made on the procurement plan for UNDP Support Services, such as descriptions, specifications and quantity of the procured items, IP shall notify the changes by writing to UNDP Country Office.
	The procurement of goods and services and the recruitment of project personnel conducted through UNDP Support Service method, the UNDP country office shall be in accordance with the UNDP regulations, rules, policies and procedures.
	The costs incurred by the UNDP country office in providing such support services shall be recovered from the administrative budget of the office.

PROJECT RISK REGISTER

Rating for Likelihood or Probability (P) and Seriousness or Severity or impact (I) for each risk			
1-2	Rated as Low	X	Rated as Extreme (Used for Seriousness only)
3-4	Rated as Medium	NA	Not Assessed
5-6	Rated as High		

Grade or Risk Score: Combined effect of Likelihood/Seriousness (P x I)					
	Seriousness, Impact				
Likelihood (Probability)		Low (1-2)	Medium (3-4)	High (5-6)	EXTREME (>7)
	Low (1 -2)	N	D	C	A
	Medium (3 - 4)	D	C	B	A
	High (5-6)	C	B	A	A

Recommended actions for grades of risk (Risk Score)	
Grade	**Risk mitigation actions**
A	Mitigation actions, to reduce the likelihood and seriousness, to be identified and implemented as soon as the project commences as a priority.
B	Mitigation actions, to reduce the likelihood and seriousness, to be identified and appropriate actions implemented during project execution.
C	Mitigation actions, to reduce the likelihood and seriousness, to be identified and costed for possible action if funds permit.

D	To be noted - no action is needed unless grading increases over time.
N	To be noted - no action is needed unless grading increases over time.

Change to Grade since last assessment			
NEW	New risk	↓	Grading decreased
—	No change to Grade	↑	Grading increased

Id	**Description of Risk** (including any identified 'triggers')	**Impact on Project** (Identify consequences [1])	Assessment of **Likelihood**	Assessment of **Seriousness**	**Grade** (combined Likelihood and Seriousness)	**Change**	**Date of Review**	**Mitigation Actions** (Preventative or Contingency)	**Responsibility** for mitigation action(s)	**Cost**	**Timeline** for mitigation action(s)	**Work Breakdown Structure**
1	*MERA Delays in processing Electricity Generation and Distribution Licence applications from Operators* • *Change of requirements after applications have already been submitted* • *Delays in getting feedback from MERA on progress of application*	*Operators will not be able to generate and distribute electricity after installation without the necessary licences or they will face a MK5 million kwacha fine. Failure to generate and retail power will jeopardise the business model being promoted on the Project as a sustainability strategy*	*2*	*5*	*B*	—	*03/01/2017*	• *Short-term: MERA in PSC and participating the review and selection process of the BOOs* • *Elevate delayed applications to higher levels* • *Long term: Revising and streamlining the regulatory processes for mini grid*	*PMU DEA MERA UNDP*		*2017*	*3.1 3.3*
2	*Government not approving cost recovery tariffs proposed by Mini Grid Operators in their business plan*	*Without cost reflective tariffs, the mini grid operators would not be able to sustain their operations as*	*2*	*3*	*C*	—	*03/01/2017*	• *Use MEGAs approved tariffs as a benchmark*	*PMU DEA*		*2017*	*1.1, 2.1, 2.2*

		stipulated in the Business plans										
3	Lack of in-house capacity for BOO Operators for construction, installation, operation and maintenance of mini grid schemes • Delays by the BOO in grant absorption • Compromised quality of installations • Lack of an Operation and Maintenance Plan	Without in-house technical expertise MEGA or any of the selected BOOs would rely on external assistance for design, construction, installation, operate and maintain the Mini Grid schemes. Affect the quality and sustainability of the interventions	3	5	B	—	3/1/2017	• Project to support recruitment and / or remuneration of the BOO technical staff during the life of the Project.	PMU MEGA BOO		Q1, 2017	1.2 2.3, 2.4
4	Lack of community sensitization and /or involvement in the development of the Mini Grid Concept	Without Community sensitization and engagement, the mini grid operator will lack buy in from the community as well as ownership of the service from the mini-	3	4	C	—	03/01/2017	• Formation of Village Electricity Committee / Cooperative by the Mini Grid Operator as an interface with the community/customers (MEGA has one in	PMU DEA MEGA Mini Grid Operators		Q1, 2017	2.1 2.2

		grid						Place)				
5	Localised environmental Risks from the installation and operation of the mini-grids. E.g. vegetation clearance, water use conflicts, lead acid battery disposal	Mini Grid installations will involve construction leading to clearance of vegetation. The risk relatively high with Micro Hydro and low in Solar/Wind Systems. Expired Lead acid battery banks will need safe disposal	2	3	D	—	06/01/2017	• EMPs to be developed approved by EAD for each Mini-Grid in accordance with Environmental Management Act 1996	PMU,DEA, UNDP MEGA BOO Operators	30000	Q1, 2017	2.1, 2.2
6	Co-financing Commitments on Investments from Mini Grid Operators may not materialise • Lack of confirmed funding	Affect project output delivery in terms of Time-Quality and Cost.	2	5	C	↑		• The risk of co-finance is built in as a selection criteria for the new BOO operators	PMU, PSC MEGA BOO Operators		Q1 2017	2.1, 2.2

Expected output and indicators including annual targets	PLANNED ACTIVITIES *List all activities including M&E to be undertaken during the year towards stated CP outputs*	Q 1	Q 2	Q 3	Q 4	RESPONSIBLE PARTY-(IES)	Source of Funds	ATLAS Budget Description	Budget Account Code	Amount in USD
Outcome 3: Institutional Strengthening and Capacity Building for Promotion of Decentralized Mini-Grid Applications Across the Country										
Outcome 3.1: increased capacity of key stakeholders especially at the sub-national levels to effectively plan and implement mini-grids **Indicator 3.1.1** Number of districts where sub-national training and capacity building programmes on clean energy mini-grids conducted **Baseline:** 0 2017 Target: 14 **2019 Target:** 28 **Indicator 3.1.2** Number of people trained on planning and/or implementing of clean energy mini-grids. **Baseline:** 0 2017 Target: 150 **2019 Target:** 300 **Indicator 3.1.3** % share of women recipients of the capacity building **Baseline:** 0 2017 Target: 40% 2019 Target: 30%	**Output 3.1:** Training and Capacity Development on Mini Grid Deployment Models									
	3.1.1-Development and Harmonisation of Training Materials for District and Community trainings	X				DoE	GEF	Materials and goods	72300	5,000.00
	3.1.2-Conduct training of and awareness raising to DPDs, DECs and District Extension Workers on Clean Energy Mini Grid Planning and Implementation comprising 30% Women participants		X		X	DoE UNIMA, MZUNI, LUANAR	GEF	Trainings, Workshops & Conferences	75700	25,000.00
	3.1.3-Support to specialised short training courses on Planning, Development, Standards, O &M of Clean Renewable Energy Mini Grids (RE Practitioners comprising 30% Women Participants)	X	X	X	X			Contractual services	72100	20,000.00
	3.1.4-Development of compendium of potential district renewable mini grid trading centres/communities	X	X	X	X	DoE	GEF	Travel	71600	5,000.00

Expected output and indicators including annual targets	PLANNED ACTIVITIES *List all activities including M&E to be undertaken during the year towards stated CP outputs*	Q 1	Q 2	Q 3	Q 4	RESPONSIBLE PARTY-(IES)	Source of Funds	ATLAS Budget Description	Budget Account Code	Amount in USD
	3.1.5-South to South Exchange visits to countries in different regional blocks learning on decentralised mini- grid experiences, policy, commercialisation and regulations with 30% female participation		X	X		DoE/ UNDP	GEF	Training, confrences and meetings	75700	25,000.00
	3.1.6- Social and economic impact survey of beneficiaries with access to renewable mini-grids			X	X	UNDP	GEF	Contractual services	72100	15,000.00
Outcome 3.2: Increased awareness about relevant business models, policy/ regulatory issues, and financing of mini-grids in the Malawian context Indicator 3.2.1 Number of web-sites in Malawi which stakeholders could use to plan and implement clean energy mini-grids. **Baseline:** 0 2017 Target: 4 2019 Target: 6	**Output 3.2:** Information Clearing House for Mini Grids									
	3.2.1-Development and dissemination of Mini Grid Tab Content on DoE Website	X				DoE	GEF	Supplies	72200	10,000.00
	3.2.2- Database development of Mini Grid Sites in Malawi (Operational, underdevelopment and potential)		X			DoE	GEF	Training	75700	10,000.00
	3.2.3-Operationalise Renewable Energy Website and enable linkages to stakeholders			X		DoE	GEF	Local Consultant	71300	10,000.00

Expected output and indicators including annual targets	PLANNED ACTIVITIES *List all activities including M&E to be undertaken during the year towards stated CP outputs*	Q1	Q2	Q3	Q4	RESPONSIBLE PARTY-(IES)	Source of Funds	ATLAS Budget Description	Budget Account Code	Amount in USD
Indicator 3.2.2 Number of case studies and toolkits on Malawi on clean energy mini-grids **Baseline:** 0 2017 Target: 2 2019 Target: 6	3.2.4-Support to stakeholders in maintaining/Updating RE websites on Mini Grid developments	X	X	X	X	DoE	GEF	Contractual Services-Companies	72100	20,000.00
	3.2.5-Launch of Information Clearing House Facility				X	DoE	GEF	Conference	75700	10,000.00
Outcome 3.3: Improved policy and regulatory environment to facilitate the sustainable development of mini-grids in Malawi	3.2.6-Conduct an Advanced GIS Training for Information Clearing House Database Administrators	X				DoE	GEF	Conference	75700	10,000.00
	Output 3.3: Case studies and tool kit development and knowledge management									
Indicator 3.3.1 Extent to which current energy policies and regulations consider or promote clean energy mini-grids for rural electrification **Baseline:** Policies do not consider or recognize mini-grids as a viable electrification option nor allow for funding under the REF 2017 Target: (a) New NEP launched (b) National Renewable Energy Strategy Launched (c) Rural Electrification Act amended to include establishment of Rural Electrictrification Agemcy	3.3.1 Engage an international consultant to develop case studies and tool kit on minigrids		X	X		DoE	GEF	International Consultant	71200	25,000.00
	3.3.2 Engage local consultant to develop case studies and tool kit on mini-grids		X	X		DoE	GEF	Local Consultant	71300	10,000.00
	3.3.3 Monitoring of progress on Mini-Grids under development	X	X	X	X	DoE	GEF	Travel	71600	7,500.00
							GEF	Audio Visual	72800	2,500.00
							GEF	Materials & goods	72300	3,000.00
	3.3.4 Dissemination of Mini-Grids Case studies through National Workshop				X	DoE	GEF	Training & conferences	75700	15,000.00

Expected output and indicators including annual targets	PLANNED ACTIVITIES *List all activities including M&E to be undertaken during the year towards stated CP outputs*	Q1	Q2	Q3	Q4	RESPONSIBLE PARTY-(IES)	Source of Funds	ATLAS Budget Description	Budget Account Code	Amount in USD
2019 Target: Recommendations put forth to government for the Rural Electrification Act, 2004 and Energy Regulation Act 2004 to be amended to include clauses promoting clean energy mini-grids	**Output 3.4:** Mainstreaming Mini-grids into policy and regulation									
	3.4.1 - Support finalisation of Revision of Energy Policy and Malawi Renewable Energy Strategy (MRES) to include RE Mini Grids development and Support Launch of Policy and MRES	X	X			DoE/ MERA	GEF	Conference	75700	6,000.00
								Materials & Goods	72300	3,000.00
								Contractual Services- ind	71400	2,500.00
	3.4.2 Establishment and Support to Malawi Renewable Energy Partnership Group (Secretariate)	X	X	X	X			Training and conferences	75700	20,000.00
								Contractual Services_ Individual	71400	15,000.00
	3.4.3 Support to Regulatory Changes to existing rural electrification regulations to mainstream Decentralised Energy Services	X	X	X	X	DoE/ MERA	GEF	Training and Conferences	75700	8,000.00
								Materials and Goods	72300	2,000.00
	3.4.4 Support to Pico Minigrids deployment models in Kavuzi	X	X			MERA	GEF	Contractual Services	71300	20,000.00
								Travel	71600	5,000.00
								Contractual Services Individual	71400	2,500.00

Expected output and indicators including annual targets	PLANNED ACTIVITIES *List all activities including M&E to be undertaken during the year towards stated CP outputs*	Q 1	Q 2	Q 3	Q 4	RESPONSIBLE PARTY-(IES)	Source of Funds	ATLAS Budget Description	Budget Account Code	Amount in USD
	TOTAL FOR OUTCOME 3						**GEF**			**312,000.00**
OUTCOME 4: Monitoring, learning and adaptive feed back and evaluation										
Component 4: ***Monitoring, learning and adapataive feed back and evaluation*** **Management**	**4.1** Monitoring visits to MEGA and New Mini Grid Operators by IP, Consultants and Advisor	X	X	X	X	DOE/ MEGA/ UNDP	GEF	Travel	71600	5,000.00
	4.2 Visibility Actions, Communication and Project Information disemmenation	X	X	X	X		GEF	Materials and goods	74200	5,000.00
	4.3 Engage an International Consultant for Mid Term Project Evaluation			X	X		GEF	Contractual Services	71200	20,000.00
	4.4 Engage a National Consultant for Mid Terma Project Evaluation			X	X		GEF	Contractual Services	71300	10,000.00
	4.5 Engage Professional Audit Services to conduct annual sudit of Project Financial Records, Procurement and Accounting Practices	X					GEF	Contractual Services	71400	3,000.00

Expected output and indicators including annual targets	PLANNED ACTIVITIES *List all activities including M&E to be undertaken during the year towards stated CP outputs*	Q 1	Q 2	Q 3	Q 4	RESPONSIBLE PARTY-(IES)	Source of Funds	ATLAS Budget Description	Budget Account Code	Amount in USD
	TOTAL FOR OUT COME 4						**GEF**			**43,000.00**
OUTCOME 5: Project Management										
Component 5: Project Management	**5.1** Renumeration for Project Manager and Project Accountant	X	X	X	X	UNDP	GEF	Contractual Services – Individual	71400	38,000.00
	5.2 Travel by Project Manager, Cordinator & other members for monitoring visits attending project related meetings	X	X	X	X	UNDP	GEF	Travel	71600	6,000.00
		X	X	X	X			Materials and goods	72311	6,000.00
	5.3 Procurement of office equipment computers, furniture & and supplies for Project Manager	X	X	X	X	UNDP	GEF	Stationery	72500	2,500.00
		X	X	X	X			Office Supplies	72300	3,500.00
		X	X	X	X			Equipment and furniture	72200	4,000.00
		X	X	X	X			Communication	72400	4,000.00
		X	X	X	X			Maintenance	73410	4,000.00
	5.4 UNDP direct support costs to the project relating to	X	X	X	X	UNDP	GEF	Direct Project Cost	74598	25,000.00

Expected output and indicators including annual targets	PLANNED ACTIVITIES *List all activities including M&E to be undertaken during the year towards stated CP outputs*	Q 1	Q 2	Q 3	Q 4	RESPONSIBLE PARTY-(IES)	Source of Funds	ATLAS Budget Description	Budget Account Code	Amount in USD
	procurement & financial support									
	TOTAL FOR OUTCOME 5						**TOTAL GEF**			**93,000.00**
	GRAND TOTAL									**932,600.00**

Increasing Access to Clean and Affordable Decentralized Energy Services: Annual Work Plan (AWP) Monitoring Tool
Year: 2017

CP Component: - ___ DRM, Climate Change, Environment and Sustainable Development

Implementing Partner: - ___ Ministry of Natural Resources Energy and Mining

EXPECTED CP OUTPUTS AND INDICATORS INCLUDING ANNUAL TARGETS	**PLANNED ACTIVITIES** List all the activities including monitoring and evaluation activities to be undertaken during the year towards stated CP outputs	**EXPENDITURES** List actual expenditures against activities completed	**RESULTS OF ACTIVITIES** For each activity, state the results of the activity	**PROGRESS TOWARDS ACHIEVING CP OUTPUTS** Using data on annual indicator targets, state progress towards achieving the CP outputs. Where relevant, comment on factors that facilitated and/or constrained achievement of results management issues
PROJECT OUTCOME: Innovative renewable and energy saving technologies piloted in targeted locations in rural and peri-urban areas enabling the development of a national programme. Indicator 1: *Contribution of renewable energy in the national energy mix (Baseline: 0.2% (2010); Target: 2016: 6%).* Indicator 2: *Percentage of the vulnerable population in the target districts and peri-urban areas using renewable energy services (Baseline: 2% (2010); Target: 2016: 20%);* Indicator 3 : *Percentage of the vulnerable population in the target districts and peri-urban areas using energy efficient measures.*				
OUTCOME 1: Expansion of the Mulanje Electricity Generation Agency(MEGA) Micro Hydro Power Plant				
Outcome 1. 1: **Increasing the installed capacity of the Mulanje Electricity Generation Agency's MHPP scheme** Indicator 1.1.1 Cumulative installed power generation capacity kWp Baseline 56kWp 2017 Target: 136 kWp	1.1 **Output 1: Commissioning of Clean energy mini-grid** Provide a grant to finance 38% of estimated costs for the proposed Lujeri Mini-Grid system		• Transmission and Distribution System • Number of Households connected	

216 kWp (all new MEGA MHPPs supported by the project			• Amount of energy generated and sold	
Indicator 1.1.2 Cumulative renewable electricity generation (kWh/year) **Baseline:** 220,752 KWh/Year **2017 Target:** 400,200 KWh/year **2019 Target:** 851,472 kWh/Year	1.2 **Output 2: Operation and energy generation from the micro-hydro powered mini grid.** Support MEGA in increasing in house skills to determine training capacity needs for increasing electricity utilization		• MEGA Number of Staff attending Trainings • Training Reports	
	1.3 **Output 3: Institutional support to MEGA**		• Technical Staff in Position • Business Operation Staff in Position	
	1.4 **Output 4: Strategies to improve business model viability**		• Productive End Use Report	
	2.1 **Output 1: Commissioning of pilot clean energy mini-grids** Finance a clean energy mini-grid on a PPP mode to cover 50% of either mini-grid system or micro-capital grant budgetary cap, whichever is smaller		• Successful Mini Grid Operators Identified • Feasibility Studies & Business Plan • Power Generation and Distribution Designs	

	2.2 **Output 2: Operation and energy generation from mini-grids** Finance a second clean energy mini-grid on a PPP mode to cover 50% of either mini-grid system or micro-capital grant budgetary cap, whichever is smaller		• Feasibility Studies & Business Plan • Power Generation and Distribution Designs	
	2.3 **Output 3: Institutional support to independent mini-grid operators** Provide financial support to 1st mini-grid operator to develop & implement EMPs, training staff and communities on O&M, develop and implement innovative payment system and provide information on case study and tool kit		• ESIA • EMP • Power Generation and Distribution Designs • Community Involvement Strategy	
	2.4 **Output 4: Institutional support to independent mini-grid operators** Provide financial support to 2nd mini-grid operator to develop & implement EMPs, training staff and communities on O&M, develop and implement innovative payment system and provide information on case study and tool kit		• ESIA • EMP • Power Generation and Distribution Designs • Community Involvement Strategy	