

PROJECT ANNUAL WORKPLAN JANUARY – DECEMBER 2017


Darfur Solar Electrification Project



Youth club equipped with solar system to run satellite TV set and provide lighting services

UNDP Sudan - Annual Work Plan 2017 [Darfur Solar Electrification Project]

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|--------------------------------------|--|---|
| Project Title (award): | Darfur Development Strategy (DDS) FaST Projects | |
| Output Title (project): | Darfur Solar Electrification | |
| Output/s ID: | 00096657 | |
| Expected SP Outcome(s): | Outcome 1 - Growth and development are inclusive and sustainable, incorporating productive capacities that create employment and livelihoods for the poor and excluded | |
| Expected SP Output(s): | Output 1.5 - Inclusive and sustainable solutions adopted to achieve increased energy efficiency and universal modern energy access (especially off-grid sources of renewable energy) | |
| Expected Outcome(s): | UNDAF/CP | Population vulnerable to environmental risks and climate change become more resilient and relevant institutions are more effective in the management of natural resources |
| Expected Output(s): | UNDAF/CP | Investment in green energy and access by needy communities to sustainable energy improved |
| Project Duration: | January 2016 – June 2017 | |
| Overall Project Budget: | US\$ 5,317,900 | |
| Project Budget for 2017: | UNDF: US\$ 4,765,273.86 | |
| Funds Available for 2017 by Sources: | UNDF: US\$ 1,605,667.28 | |
| Implementing Partner (s): | National Energy Research Center, 5 State 5 Ministries of Physical Planning and Public Utilities, Ministry of Water Resources, Irrigation and Electricity | |
| Responsible Parties: | UNDP | |

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| Approved by |
| Selva Ramachandran Country Director |
| Signature:  |
| Date: 16/2017 |

I. Project Overview

Project Rationale

The project is grounded in the outcome of the Doha Document for Peace in Darfur (DDPD) signed in 2011 between the Government of Sudan and The Darfur Regional Authority (DRA) built the foundation for strengthens the peace and development processes. The needs and priorities identified by the project for solar systems is based on the results of the Darfur Joint Assessment Mission (DJAM) taken place in 2012 which determined needs and priorities of communities for the recovery and reconstruction of their region. With regard on the suggestion of the DJAM, the UNDP formulates the project on “Promoting Access to Clean Energy Services in Darfur Region” in consultation with the development partners including government agencies and private sector. The objective of the project is to build a transparent energy data system and carry out the solar energy activities in the Darfur Region. The basis for this energy data system is creating a network among the development partners for communicating their plans, projects and activities in the Darfur Region. This energy data system allow the sharing of information, experiences, capabilities and resources between all stakeholders creating a favourable environment for the market up-take in the provision of energy services to the different segments of the Darfur communities and different economic sector.

The core activities of the project are to install Solar Photovoltaic (SPV) systems in different community services for 70 villages in Darfur. The project contributed to the achievement of pillar II and pillar III of the Developing Darfur: A Recovery and Reconstruction Strategy (DDS). Besides the installation of solar systems, the project will initiate and set up a coordination mechanism among various development partners. The project is implemented as a joint programming between UN agencies (UNDP, UNIDO, WHO and UNHABITAT), two government institutions (MWRE and NERC) and the Darfur Regional Authority (DRA). A series of consultative meetings were held with all those partners to ensure their agreements on the project objectives, planned outcomes, detailed activities and implementation arrangements.

The stated overall objective of this action is to provide *“PV lighting to 70 villages including community services such schools, health clinics, streets, police stations, women centres and others”*. Access to energy services through solar energy provides direct benefits to 7,000 returnees households who are settled in the selected villages. Besides the project indirectly benefits about 20,000 - 35,000 returnee households in the satellite villages (3 to 5 satellite villages surrounding each centre village where solar systems will be installed) which share the some services such as education and health services. Thus a total population of 25,000 to 35,000 will expected to be benefiting directly and indirectly through upgrading the delivery of energy services in the central village. The project’s aims, through implementation of all these activities, to initiate a sustainable process for scaling up the uptake of energy and improve the delivery of renewable energy services to upgrade the social services in Darfur.

Project strategy and main objectives

The core activities of the project are to install Solar Photovoltaic (SPV) systems in different community services for 70 villages in Darfur. The project contributed to the achievement of pillar II and pillar III of the Developing Darfur: A Recovery and Reconstruction Strategy (DDS). Besides the installation of solar systems, the project will initiate and set up a coordination mechanism among various development partners.

The theory of change for this project is based around the project objective ***“Increased access to clean, reliable and affordable energy in the Darfur Region”***

The increased access to clean energy services through:

- Demonstrate solar energy technologies to raise awareness of energy end-users towards using available renewable energy sources.
- Develop local capacity for installation operation and maintenance. Thus necessary aftersales services are all available locally.
- Encourage financial institutions to provide microfinance for household to buy and install the solar systems.

The sustainability measures is planned to be taken during implementation include the trained workforce in the field of solar energy mini-grid installation, operation and maintenance. The project will depends on the activities of the vocational training centres in the region to introduce the solar systems and other renewable energy components in their curriculum. The project will also support the creation of market environment through setting up of conducive policies and financial mechanisms to scale up the use of solar and other renewable energy sources in the Darfur States.

The project is implemented as a joint programming between UN agencies (UNDP, UNIDO, WHO and UNHABITAT), two government institutions (MWRE and NERC) and the Darfur Regional Authority (DRA). A series of consultative meetings were held with all those partners to ensure their agreements on the project objectives, planned outcomes, detailed activities and implementation arrangements.

Project Design Parameters:

The project will provide the following technical assistance to ensure for users of both gender to operate and maintain the PV lighting and productive use of solar energy.

- a) *Development of institutional framework and strengthen regulations for off-grid rural electricity service, including solar energy service provision.*
- b) *Capacity building for identification and development of solar energy, which are effectively linked to Darfur Regional development plan.*
- c) *Promotion of solar energy, including: (i) link with the UNDP funded projects – Solar Pumping Project – and development of appropriate policies and gender sensitive incentives for the solar energy; (ii) learn lessons from the project and share the best experiences, particular how to include women, for future activities and (iii) carrying out technical studies. This component would focus on solar energy including other renewable energy for rural electrification and supply to the grid in future.*

Key Achievements so far

The project has so far attained the following achievements:

- Project manager appointed, June 2016, in addition to selection of 5 IC Engineers (one in each State). However, only two have signed IC contracts, while for the other it is still dragging.
- Project team organized a couple of meetings discussing challenges and constraints, including a presentation to UNDP - DDS top management.
- Selection of Solar PV demonstration sites/villages (70 villages,14 in each of the 5 darfur Staes) in close coordination with other DDS projects, DRA and States' partners - Ministries of Physical Plannibg and Public Utilities.
- The project's technical adviser (National research Center, NERC) completed energy needs assessment for the 70 villages, in addition to two hospitals (Elfasher and Nyala).
- The project's technical adviser, NERC, completed Solar systems' designs for the 70 villages and the two hospital of Elfasher and Nyala.
- In cooperation with Procurement Department, ITB forms for 8 villages completed, advertised, bids evaluated and selected company started transportation of PV systems to 3 villages in Central Darfur

State after equipment being tested at NERC laboratory and further goods' inspection at the warehouse before transportation to the sites.

- ITB forms for 14 villages, Northern Darfur State, completed and awaiting advertisement by the Procurement Department. However, these ITB forms need further revision in order to include rural hospitals undeliberately omitted by NERC team during the design process.
- ToRs for three studies prepared, namely: Solar PV market demand study for Darfur States; Preparation of awareness and dissemination strategy, plan and materials; Feasibility study for solar water pumping in 5 Darfur States. ToRs awaiting Quality Assurance and further preparation advertisement by Procurement Department.
- ToR for SC engineers prepared and awaiting approval and advertisement. This is intended to replace the 5 IC engineers, which proved unpractical, by 5 SC engineers stationed at UNDP offices in each State.
- Two batches of villages' technicians (49) from 4 States received training, at NERC, on solar PV systems installation, operation and maintenance.
- Cooperation and coordination with Global Fund - Solar for Health Project to accelerate the provision of solar PV systems for three hospitals (Elfasher, Nyala and Golo) through UNDP LTA procurement system.
- Some work done on preparation of Renewable Energy Atlas for Darfur, however, it seems that the allocated fund is far beyond the required for undertaking this activity. However, further consultation of available information (IRENA website) might produce something.
- Project manager participated in DDS's projects coordination meetings at Elfasher level.

Main Challenges & planned responses

- The main challenge for this project is security situation which might delay the installation of the solar systems in some areas.

The planned response is to include security criteria with the criterion of site selection for the installation. Keep flexibility within the selection and be able to change sites when proved to be insecure to ones that are more secure.

- The selected villages are scattered all over Darfur, where accessibility, (in particular in terms of land transport for example in N.D. State) is posing a real cost problem for NERC (during energy needs assessment and certification of installed solar PV systems. Also the Contractors may face similar problem, but it has to be managed within the bids.

The adopted and planned response is that (depending on specific site case) the project will bear the air transport cost using UNHAS flight schedules in Darfur. For example: access to Kornoï in North Darfur by vehicle from Elfasher is not, security wise, advisable, which justifies the use of UNHAS flight.

- The project staffing is so far based on full time project manager and 5 IC engineers (one for each State). The 5 IC engineers are only contracted for 75 days/year, and mainly intended to cover the energy assessment with NERC team. This incidence created a gap in project staffing – only project manager working alone with no project representation at States' level.

The planned response is to replace the 5 IC engineers by 5 SC engineers (project officers), each stationed at UNDP offices in the 5 States. The one stationed in Elfasher will have additional responsibility as direct assistant to the project manager.

- The NERC assessment and PV systems design reports lack precision. This created undeliberate omission of rural hospitals during the design process, oversizing and allocation of PV systems for institutions/services, which are not functioning or not existing.

The response is intense revision reports and data/information provided by NERC and compare it that provided in IC engineers' reports (whenever available – some IC engineers failed to produce reports). For the hospitals, the project will closely work with the Global Fund – Solar for Health Project, to revise the design of solar PV systems and proceed to procurement through UNDP LTA system.

- Coordination with other DDS projects to provide their needs of solar PV systems is a real challenge, even though, the selection of the demonstration sites took place through wide consultation with the partners. In addition some of the DDS projects have not even conducted assessment to determine its needs of PV systems.

The response is that: The process of energy needs assessment, design of PV systems, preparation of ITB forms/tender documents, advertisement, bids evaluation/contractor selection, procurement/import of PV systems, transportation to the sites and finally PV systems installation is a very long process. In this regard the project will endeavor to enhance coordination and exchange information through DDS monthly coordination meetings. In addition the project can only provide technical assistance to DDS projects' interventions that missed the provision of PV systems by the project.

- As main partner, the DRA is no longer existing. However, this short –cuts the communication line with the States' Ministries of Physical Planning and Public Utilities as well as direct access to Local Authorities and beneficiaries/communities. However, project engagement with the States' Ministries is not well defined.

The response is to replace IC engineers with SC engineers with full time presence at States' level and endeavor to create a sort of understanding (for example MoU) with the States's Ministries.

- The selection of some solar PV demonstration sites/villages was based on IDPs return information/data, which often not precise and created misleading. In addition NERC assessment and PV design reports lack precision. All this resulted in the selection of return sites without returnees, unsecure sites, overdesign and oversizing of PV systems, Design of PV systems for unfunctioning services or without need and selection of services not ready to absorb or to install PV systems, particularly wells or boreholes for installation of solar pumps.

The response is close work and cooperation/consultation with communities and Local Authorities to address the above flaws. For example: for excess PV systems, first the community will be consulted if there is an alternative services to be provided with solar PV systems, otherwise the Local Authorities will be consulted to displace the excess PV systems to a nearby village. For those services which are not ready to absorb the PV systems (water points), then the community and Local Authorities will be consulted for the reparation of the service and the PV system left in custody of community or Local Authority. In case where the site is not all secure for the installation of the PV system, again the community and Local Authorities will be consulted on their readiness to avail security. For example at some sites the water points are located at a distance from the village and coupled with the fact that the PO did not anticipate the provision of fencing. In addition some water points sites do not have water storage facility/tank, which necessitate the on-demand operation of the solar PV pump.

- Finally, the project component, capacity building, to be implemented by UNIDO is lacking behind. The UNIDO project manager is off-contact.

The response is: for project at Khartoum to seriously consider and address this issue. This activity has to go in parallel with the PV systems demonstration activity, so that once the project at the stage of roll out of commercialization and scale up, there should be enough numbers of technicians to provide after sales services.

II. Annual Workplan 2017

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| Relevant SP outcome indicators: | 1.4. Coverage of cost-efficient and sustainable energy, disaggregated by rural/urban |
| Relevant SP output indicators: | 1.5.2 Extent of change in: a) energy efficiency, and/or b) modern energy coverage by users and specific sectors. |
| Relevant CPAP Outcome | 2.2. Number of communities with access to alternative sources of renewable energy-based services /Baseline: Limited access to renewable energy /Target: 50 communities improved |

| EXPECTED OUTPUTS | PLANNED ACTIVITIES | Quarter | | | | RESPONSIBLE PARTY | PLANNED BUDGET | | | |
|---|---|---------|---|---|---|-------------------|----------------|-------------|-----------------------------------|---------------|
| | | 1 | 2 | 3 | 4 | | Funding Source | Budget code | Budget Description | Amount (US\$) |
| Output 1: Different solar systems procured and installed in 70 villages (7,000 households) including community services such as schools, health clinics, streets, police stations, women centres and others Indicators: 1.1: number of villages equipped with solar system 1.2: numbers of system installed by type 1.3: number of persons access and use solar systems by gender. Baseline: 1.1: 30 villages 1.2: SHS 150 , pumps 70 and St. lighting 700 1.3: 30,000 Targets: 1.1 : 70 villages 1.2: SHS 670, pumps 70 & S. lighting 700 | 1.2 Activity Result | | | | | | UNDF | 72100 | Contractual Service-Companies | 3,845,000 |
| | 1.2.1 contract companies to procure solar system | | | | | RC UNDP | | 73100 | Rental and Maintenance – Premises | 20,000 |
| | | | | | | | | 73120 | Utilities | 15,000 |
| | | | | | | | | 73125 | Common services - Premises | 5,000 |
| | 1.3. Activity Result | | | | | UNDP | | 71600 | Travel | 40,000 |
| | 1.3.1 Install the systems in the 70 villages by contracted companies. | | | | | | | 74700 | Transport, Shipping and handle | 20,000 |
| | 1.4. Activity Result | | | | | UNDP NERC | | | | |
| | 1.4.1 – Prepare the Clearance Certificate for the installed solar systems | | | | | | | | | |
| | | | | | | | | | | |
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|--|--|--|--|--|--|------|------|-------|--------|--------------------------------|
| <p>1.3: 35,000 persons will benefit (60% women)</p> | <p>1.4.2 – Hand over the installed system to Communities' ommittees</p> | | | | | | | | | |
| <p>Output3: Enabling environment created and scaled-up plan implemented through establishment of financing and dissemination mechanism</p> <p>Indicators: 3.1: <i>No. Of policy documents formulated</i> 3.2: <i>No. of scale up plans put in place</i></p> <p>Baseline: 3.1: 1 3.2: 1</p> <p>Targets: 3.1: 2 3.2: 5</p> | <p>3.1 Activity Result 3.1.1 Put in place renewable energy polices proposal for Darfur States</p> | | | | | UNDP | UNDF | 71600 | Travel | 28,000 |
| | <p>3.1.2 Formulate Scale-up plans for Darfur States.</p> | | | | | | | | 75700 | Training, Workshops and Confer |

| | | | | | | | | | | |
|--|--|--|--|--|--|----------------------|------|-------|--------------------------------|---------|
| <p>Output4: Awareness for the renewable energy potential raised and Renewable Energy ATLAS for Darfur region developed and implemented</p> <p>Indicators: 4.1: <i>number of awareness materials (leaflets, news letter, website)</i> 4.2: <i>number of research's topics proposedland</i></p> <p>Baseline: 4.1: 0 4.2: 0</p> <p>Targets: 4.1: 6 4.2: 2</p> | 4.1. Activity Result 4.1.1 Produce audio-visual materials for awareness (films, pamphlets, prochures and newsletters) | | | | | UNDP | | 71600 | Travel | 40,000 |
| | 4.1.2 Conduct awareness campaigns | | | | | UNDP | UNDF | 74200 | Audio Visual&Print Prod Costs | 30,000 |
| | 4.1.3 Conduct workshops and seminars | | | | | | | 75700 | Training, Workshops and Confer | |
| <p>Output 5: Project management</p> <p>Indicators: 5.1: <i>No.of project staff recruited</i> 5.2: <i>NO. of meetings held by project board</i></p> <p>Baseline: 5.1: 1 5.2: 0</p> <p>Targets:</p> | 5.1 Activity Result: staff and office 5.1.1 : Recruit project staff and issue contracts. | | | | | UNDP/ NERC/ MWRE | UNDF | 61300 | Salary & Post Adj Cst-IP Staff | 210,000 |
| | 5.1.2 Rent offices and warehouses | | | | | UNDP/DRA/ NERC/ MWRE | | 71300 | Local Consultants | 40,000 |
| | 5.1.3. procure office equipment | | | | | | | 71600 | Travel | 44000 |
| | | | | | | | | 72200 | Equipment and Furniture | 10,000 |
| | | | | | | | | 72400 | Communication & AV | 5,000 |

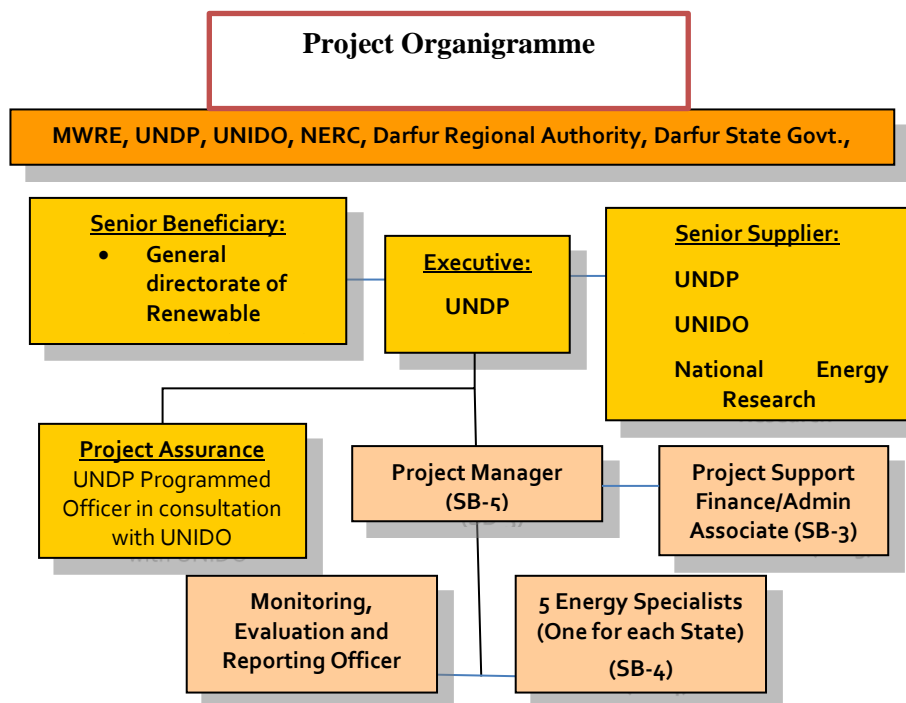
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|---|---|--|--|--|--|--|--|--|--|-------|---|---------------------|
| 5.1:- | 5 | and furniture | | | | | | | | | | |
| 5.2: | 3 | 5.2.1Activity Result: project board formulated and operationali zed | | | | | | | | 72800 | Equipment Information Technology Equipment | 10,000 |
| | | 5.2.1.1 Formulation of the project board and names its members. | | | | | | | | 73100 | Rental & Maintenance- Premises | 15,000 |
| | | 5.2.2.1 held the board meeting and allocates responsibiliti es among the board members | | | | | | | | 74500 | Miscellaneous Expenses | 14,000 |
| Total | | | | | | | | | | | | 4,453,413.9 |
| GMS (7%) | | | | | | | | | | | | 311,859.96 |
| Grand Total Annual Budget (UNDP) | | | | | | | | | | | | 4,765,273.86 |

III. Project Management Structure

The project will be jointly implemented with UNDP and UNIDO through the UNDP Direct Implementation Modality (DIM). The project will operate in the Darfur Region and UNDP will implement this project mainly through Letters of Agreements with the MWRE and NERC. The **Project Board** which is composed of **MWRE, UNDP, UNIDO, NERC, Darfur Regional Authority, Darfur States Governments, UNHABITAT, WHO** is responsible for making management decisions for the project and provide guidance whenever needed with regard to the project components and activities. The PB plays a critical role in the project monitoring and evaluations by quality assuring these processes and products, and using evaluations for performance improvement, accountability and learning. It ensures that required resources are committed and arbitrates on any conflicts within the project or negotiates a solution to any problems with external bodies. In addition, it approves the appointment and responsibilities. Based on the approved Annual Work Plan, the Project Board can also consider and approve the annual plans and also approve any essential deviations from the original plans. The Board contains three distinct roles, including:

- **An Executive:** Individual representing the project ownership to chair the group. A Representative of the UNDP.
- **Senior Supplier:** Individual or group representing the interests of the parties concerned which provide funding for specific cost sharing projects and/or technical expertise to the project. The Senior Supplier's primary function within the Board is to provide guidance regarding the technical feasibility of the project. UNDP, UNIDO and NERC will fill this role.
- **Senior Beneficiary:** Individual or mixed gender group of individuals representing the interests of those who will ultimately benefit from the project. The senior beneficiary's primary function within the board is to ensure the realization of project results from the perspective of female and male project beneficiaries. The Ministry of Water Resources, Irrigation and Electricity (Renewable Energy Dept.), Darfur Regional Authority, Darfur State Govt. and National Energy Research Centre.
- **The project Assurance** role supports the project board executive by carrying out objective and independent project oversight and monitoring functions. A UNDP and UNIDO Programme Officer will hold the Project Assurance role.

Project Manager: The NPM has the authority to run the project on day to day basis within the constraint laid down by the PB. The NPM is accountable to the UNDP, the IP and the PB for the quality, timeliness and effectiveness of the activities carried out as well as for the use of funds. The National Project Manager will be recruited by the UNDP according to its HR policy. He/she will also be responsible for coordinating budgets and work plans on the State Level and will be supported by monitoring, evaluation and reporting officer and two engineers. His/her salary and indemnities will be paid for by the



IV. Monitoring Framework And Evaluation

M&E Plan Matrix:

| Indicators | Indicator Type | Data collection method & source | Frequency | Quarter | | | | Responsible | Resources |
|--|----------------|---|-----------|---------|---|---|---|--------------------------------|--|
| | | | | 1 | 2 | 3 | 4 | | |
| <ul style="list-style-type: none"> • % Urban population with access to electricity • % Rural population with access to electricity • total number of joules of renewable energy consumption • Number of new development partnerships with funding for improved energy efficiency and/or sustainable energy solutions targeting underserved communities/groups and women • Number people with improved energy access as a result of UNDP-supported intervention • Energy generation from UNDP-supported renewable energy projects (Number of kWh of <u>wind</u> energy) | SP | What about the data collection methods? Please add such as (missions, field visits, joint surveys, assessment, etc) | Annual | | | | | MWRE UNDP | Any resources required? Otherwise please indicate NA |
| <ul style="list-style-type: none"> • Draft National Energy Plan • Conduct Rural Electrification Study • Develop National CDM Strategy • Develop Low Carbon Investment and NAMA strategy | CPAP | | Annually | | | | | Council for Strategic Planning | |
| <ul style="list-style-type: none"> • Install solar systems in 70 villages • 7000 households access solar energy services (lighting, water pumping and other energy services) • A total of 35,000 of which 60% are women will benefit from energy services. | Project | | | | | | | | |

V. Quality Management for Project Activity Results

Replicate the table for each activity result of the AWP to provide information on monitoring actions based on quality criteria.

| OUTPUT 1: | | |
|---|--|---|
| Activity Result 1 (Atlas Activity ID) | <i>Short title to be used for Atlas Activity ID: DDS_Access to Energy</i> | Start Date: End Date: |
| Quality Criteria <i>How/with what indicators the quality of the activity result will be measured?</i> | Quality Method <i>Means of verification. What method will be used to determine if quality criteria has been met?</i> | Date of Assessment <i>When will the assessment of quality be performed?</i> |
| Technical Quality Control | Manufacturers' standards and technical specifications | All through 2017 |
| | Physical test | All through 2017 |
| | Performance test | All through 2017 |
| Activity Result 2 (Atlas Activity ID) | <i>Short title to be used for Atlas Activity ID: DDS_Access to Energy</i> | |
| Operational Coordination Mechanism | Relevant members of the mechanism | All through 2017 |
| | Participants and meetings minutes and reports | All through 2017 |
| | Technical reviews of the regulations proposed and the stakeholders endorsement. | 2 nd and 3 rd quarters, 2017 |
| <i>Activity result 3</i> | <i>Development of institutional framework and strengthen regulations for off-grid rural electricity service</i> | 3 rd quarter, 2017 |
| | Expert evaluation of Policy documents | 3 rd quarter, 2017 |
| | Stakeholders review and endorse the scale up plans | 4 th quarter, 2017 |
| | | |
| <i>Activity result 4</i> | <i>Produce audio-visual materials for awareness (films, pamphlets, brochures and newsletters)</i> | 2 nd quarter, 2017 |
| | Types of awareness materials (leaflets, news letter, website) | 2 nd quarter, 2017 |
| | Research's reports and published materials | 2 nd to 4 th quarters, 2017 |
| | | |

VI. Risk Log : The project risk log as reflected in the latest project report, with updated and / or new mitigating measures to be implemented in 2016.

| # | Description | Status | Type | Impact & Probability | Countermeasures / Mint response | Owner |
|---|--|---|----------------------|--|---|------------------------|
| 1 | Due to the on-going conflicts and civil unrest in the Darfur, there is a potential of vandalism reactions results damage of the solar systems. | Conflicts in Darfur flared in 2003. | Political and Social | P = 4 I = 4 Out of 400 systems installed during 2012 by NERC in 30 villages in Darfur region, there were 2 systems subjects to such vandalism. | To address this risk participating villages in the project will selected among areas proved to be safe and will protected. The DRA, State governments, UNDP, local authorities and community leaders will be involved in the selection processes. Selection criteria will be developed with active participation of all shareholders and local actors in the development processes in the Darfur including NGOS, managers of projects currently under implementation. | UNDP |
| 2 | Risk of theft of solar systems. | In 2012 some solar system components such as batteries and modules. | Social | P = 2 I = 3 | The protection measures include: well fencing for the modules Use strong modules support and battery boxes | WMRE, NERC |
| 3 | Technical capacity of local communities and stakeholders lower the proper operation and maintenance of the system. | N/A | Institutional | P = 2 I = 3 | The project involves on the job training by involving communities and the stakeholders during the system installation in order to develop technical capacities. | UNDP, MWRE, NERC |
| 4 | Delay in the identification and installation of solar system due to security situation in some areas | N/A | Political | P = 3 I = 4 | The project will coordinate with the DRA and States Authorities to ensure the timely delivery of the system for installation and quick response to replace areas/villages that cannot be reached | UNDP, MWRE, NERC |
| 5 | Risk of conflicting interests among energy institutions reduces effectiveness of the coordination mechanism. | N/A | Administrative | P = 2 I = 3 | To minimize this risk the coordination mechanism should be established under a high level government authority to make mandatory recommendations and decisions. | UNDP, WMRE, NERC |

VII. Issues Log

Please specify all pending issues and how these will be addressed during the year.

| # | Description | Impact & Priority | Countermeasures / Mint response | Owner |
|---|--|--|---|-------------------|
| 1 | Implementation of peace Doha peace agreement | Affects the voluntary returns to villages. | Starts system installation with already existing villages | State Governments |

| | | | | |
|---|--|--|--|--|
| 2 | <p>Undertaking project studies: namely</p> <p>Development of awareness, education and dissemination strategy, plan and materials</p> <p>Market demand for PV systems in Darfur</p> <p>Feasibility study for Solar Pv pumping in Darfur</p> <p>Development of renewable energy Atlas for darfur</p> | <ul style="list-style-type: none"> - Delaying the production of audio-visual materials for awareness (films, pamphlets, brochures and newsletters) - Conduction of awareness campaigns - Technical reviews of the regulations - Formulation of Scale-up plans for Darfur States. | | |
| | | | | |

Annex 1: M&E tools

Under the management of the **National Project Manager**, a **Monitoring, Evaluation and Reporting Officer** will provide the monitoring and evaluation functions and will be responsible of the reporting and documenting the projects activities, gender sensitivity and successes; **Two Engineers** will provide technical back stopping of the rural electrification including solar energy activities; **A Project Associate** will be recruited to provide administrative, financial and technical support to the Project.

Within the annual cycle the following gender sensitive M&E activities will be ensured:

- On a quarterly basis, a quality assessment will record progress towards the completion of key results, including gender mainstreaming progress. .
- An Issue Log will be activated in Atlas and updated by the Project Manager to facilitate tracking and resolution of potential problems or requests for change.
- Based on the initial risk analysis submitted, a risk log will be activated in Atlas and regularly updated by reviewing the external environment that may affect the project implementation.
- Based on the above information recorded in Atlas, a Quarterly Progress Reports (QPR) will be submitted by the Project Manager to the Project Board through Project Assurance, using the standard report format available in the Executive Snapshot.
- A project Lesson-learned log will be activated and regularly updated to ensure on-going learning and adaptation within the organization, and to facilitate the preparation of the Lessons-learned Report at the end of the project, including a section on gender mainstreaming best practices and lessons learned.
- A Monitoring Schedule Plan will be activated in Atlas and updated to track key management actions/events
- **Quarterly Review Report.** A Quarterly Review Report will be prepared by the Project Manager and shared with the Project Board. As minimum requirement, the Quarterly Review Report will consist of the Atlas standard format for the QPR covering the whole year with updated information for each above element of the QPR as well as a summary of results achieved against pre-defined targets at the output level.
- **Final Project Review.** Based on the above report, a final project review will be conducted soon after the fourth quarter of the year to assess the performance of the project and appraise the Final Work Plan (AWP) for the following year, including how gender mainstreaming can be strengthened in the following year.. In the last year, this review will be a final assessment. It will focus on the extent to which progress is being made towards outputs, and that these remain aligned to appropriate outcomes.