**SDC Results Reporting Template (2018)**

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| **Project Title:**   **China-Ghana South-South Cooperation on Renewable Energy Technology Transfer** |
| **Name of IP: Energy Commission** | **Date:1st January – 30th December 2018** |
| 1. **RESULTS PERFORMANCE/ACHIEVEMENTS**
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| **Project Results** *State project results (outcomes of Output from approved project document or work plan* | **Indicators***The project outcome or output indicators as stated in the M&E Framework and/or AWP* | **Targets***Targets agreed by project team on each on each indicator* | **Update on Results***A brief analysis on any relevant changes pertaining to the outcome or output achieved with respect to targets* | **Comments** |
| **Outcomes** |
| **Outcome 1: Ghana has an enabling environment in place for the transfer, production and regulation of the use of Renewable Energy Technologies in Ghana.** |
| **Outputs**  |
| ***Output 1.1: Strategy and policies for enhanced use, regulation and promotion of RET in Ghana in place***Activity Results: 1.1.1: Review Chinese and Ghanaian RE policies and strategies to identify capacity building gaps and solutions to address them1.1.2: Draft and submit to Parliament the Renewable Energy Master Plan (REMP)1.1.3: Launch and disseminate the REMP. | 1. # of joint reviews, consultations held and more than % of participants giving positive feedback. 2. # of launch workshops/ seminars organized and # participants 3. Master plan approved | At least 3 consultative meetings on RE policies and gaps in Ghana held Minimum of 2 reviews held with minimum 60% positive feedback REMP drafted and submitted for Parliamentary approvalREMP launched at a minimum of 2 launch events with minimum 100 participants  | The “Baseline Study on Renewable Energy Projects in Ghana” were published. The document provides a comprehensive list of major Renewable Energy Projects in the country. Four hundred copies were printed and widely distributed to stakeholders in Government, Private Sector, Academia and Donor Partners. The document has gained wide acceptance as a reference material that helps project developers and other actors to appreciate the efforts made so far and what remains to be done. This is expected to prevent duplication of efforts in the development of RE projects in Ghana.The project has been supporting the development of a Renewable Energy Master Plan (REMP) that is expected to serve as a long-term planning tool to accelerate the development and promotion of Renewable Energy Technology in Ghana. In 2018, the Plan was completed and submitted to the Ministry of Energy. The Ministry referred the document to the Parliamentary Select Committee for their review. The Committee suggested minor revisions to the targets set up to 2030. These changes have been made and submitted back to the Committee for their consideration and approval. The plan seeks to increase the mix of RE in the electricity supply from 42.5MW in 2015 to 1363.63 MW (with grid connected systems totalling 1094.63 MW) by 2030. |  |
| **Outcome 2: Access to and use of relevant Renewable Energy Technologies (RETs) increased in Ghana.** |
| **Output 2.1 Appropriateness of selected technologies (biogas, improved cook stoves, solar and wind power, and mini hydro) for transfer demonstrated** Activity Results:2.1.1: Selection and adaptation of appropriate RETs to be transferred2.1.2: Facilities to receive, test, demonstrate and exhibit equipment and publish performanceresults | 1. Number of baseline reports/surveys of technologies developed and published 2. Demonstration sites identified and functional 3. Number of users and percentage of users of demonstration sites reporting satisfaction with sites. | Minimum 1 Survey report developed for RET demonstrationAll demonstration sites identified /establishedSelected Technologies exhibited at demonstration sites | In 2018, activities on the development of key demonstration projects started. The first project involved development of the Tsatsadu Mini-Hydropower Project in collaboration with the Bui Power Authority. The second initiative involved the establishment of Biogas facilities for animal farms and small-scale industries and the third project is the design of institutional clean cookstoves for schools. A summary of timeline of activities is presented below:***Mini-Hydropower demonstration project -***The Project Coordinator was part of an evaluation committee that selected a local Contractor to work on all the civil works related to the mini-hydropower project. The civil works was awarded to Eunitac, a Ghanaian company.Work started on site in the new year of 2018. By December, the civil works was about 60% completed. UNDP worked on the procurement of a 45kW generating set for the project. The Generating set was shipped from the Chinese manufacturer to Ghana in December 2018.It is planned that the work will be completed by the first quarter of 2019.***Biogas technology for medium to large scale enterprises***: The project has almost completed all the various stages of procurement of biogas equipment that will be deployed at selected sites to serve as a showcase of improved Biogas technology that will demonstrate a sustainable business model and train people on installation and maintenance. Installation of the Biogas equipment is expected to begin in the March 2019.***Improved Cookstoves:*** A company has been selected through competitive bidding process to design and develop an Institutional Cookstoves that will be used at various schools in Ghana to replace their inefficient stoves. The Company is expected to complete the designs and deliver a fully constructed cookstove by April, 2019. Artisans will be trained to replicate these designs which will be distributed to training institutions in Ghana.  |  |
| **Output 2.2: Increased use of Renewable Energy Technologies in Ghana supported through capacity building and financing mechanisms**Activity Result 2.2.1: Support to training facilities within existing institutions for increased capacity building on RETs 2.2.2: Develop institutional financing mechanisms to up-scale RETT in Ghana 2.2.3: Develop business models to support private sector involvement and public – private partnerships in RETT in Ghana | 1. # and type of training packages developed 2. # of people trained and % of people trained with increased knowledge and skills 3. # of participants in community of practice 4. # and type of business and financing models developed and published | Minimum of 5 training packages developed Minimum of 20 stakeholders participate in community of practice Minimum of 2 each of Business models; public private partnership; and financing mechanisms developed | An Individual Consultant was engaged to develop sustainable business models for Biogas technology, mini-hydropower, Solar for Irrigation and Institutional Cookstoves. A validation workshop was held in June, 2018 and based on the comments received the report was reviewed and finalized by end of August, 2018.The report is a useful reference document for private sector operators who can use it to further develop their proposals and business plans.The business model has also been shared with Chinese partners who are developing an Investment framework that could support the proposed business models. |  |
| **Outcome 3: China has strengthened capacity for South-South Cooperation in relation to RET transfer** |
| **3.1.1: Map, update and share China’s experience and approaches to technology selection and transfer** Activity Result 3.1.2:Organize exchange visits to share knowledge on the Chinese and Ghanaian contexts and build foundations for technology transfers Activity Result 3.1.3: Share and disseminate knowledge on mission findings and project achievements | 1. # of reports and surveys developed and published; 2. # of exchange visits 3. Web platform established with access to reports, surveys and other resources 4. # of stakeholders participating in Chinese community of experts | Minimum of 3 reports on China’s national and regional planning approaches, laws and programs, institutional set ups, technology capacity, and financial models produced and shared Minimum of 15 project stakeholders participates in visits exchange visits | As part of experience sharing on RE technologies and the potential of the South-South Cooperation model, the PMU participated in two key missions.The first mission was held in Zambia in July 2018 with participation from China, Ghana and Zambia PMUs and associate Government institutions and experts.During the four-day event, participants visited several RE projects in Zambia and exchanged.In October 2018, the Project Coordinator and an Official of the Energy Commission were invited to participate in a knowledge sharing workshop in Beijing, China. The key contributions of the project were highlighted at this meeting particularly regarding the development of long term plans to promote the sector, development of demonstration project and key findings on studies undertaken so far.Based on the prior technical solicitation activities and collaboration between China and Ghana PMU, 100 selected technologies and products were compiled into an applicable renewable technical manual, in both printed and digital forms, Chinese and English. The manual could better disseminate and promote the applicable RETs to parties of interest and lay a good foundation for the future RETs transfer work.  |  |
| **Outcome 4: Project management and coordination mechanisms established**  |
| **Output 4.1 Project Management Structures established and implementation supported** Activity Results: 4.1.3: Support project implementation | 1. Regular meetings held in Ghana and China | PSCs meet at least once per year | The project management unit organized a Project Steering Committee Meeting on 30th January, 2018 to approve the Annual Workplan for 2018.A Global Steering Committee Meeting was held on 9th  July, 2018 to review the project. The Ghana PMU participated through teleconference with other parties based in China and Zambia.A key decision of the Global Steeting Committee was to develop a Roadmap to address forex losses that reduced the 2018 budget by a total of USD429,931.95 for the Ghana and China component of the project.On the sidelines of the mission to Zambia, the PMUs from China, Ghana and Zambia developed the roadmap to focus attention on priority activities and how the reduced funds could be effectively utilized.A website was developed and published in July, 2018. The website features key reports and publications on the project.  |   |
| 1. **GENDER SPECIFIC RESULTS** *[Please report specific gender disaggregated results]*
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| Among all the activities delivered throughout this year, the percentage of female participants occupied almost 40%. |
| 1. **PROJECT IMPLEMENTATION CHALLENGES** *[Observed or experienced challenges that are generic, related or not related to any specific output, which have or could affect the project implementation and propose a way forward]*
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| In 2018, the project realized a significant exchange rate loss of USD429,931.95 as a result of fluctuations from 2014-2018 between the Danish Kroner and the USD. This development had a major impact on project activities planned for 2018 – some planned activities have been cancelled, others have been delayed until additional funds is obtained. |
| 1. **LESSONS LEARNED AND OPPORTUNITIES** *[Please describe new understanding or insights gained from project activities that can contribute to improving project implementation and future project design]*
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|  * It is expected that going forward there will be a stronger focus on the use of technical committees to support the work of consultants who will be engaged to render various activities. It is expected that the technical committees will be composed of key Government institutions and stakeholders. This will enhance buy-in of key recommendations and deliverables that require cooperation of these stakeholders.
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| 1. **RECOMMENDATIONS AND PROPOSED ACTION**  *[Actions on any matter related to outcome, progress of outputs and corrective measure taken or to be taken with responsibilities time time]*
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| * Skype meetings have been useful tools for information sharing and decision making among the PMU offices. However, to improve the quality and efficiency of the communication, new methods of regular meetings are still needed. Face-to-face meetings are recommended to be organized at least twice a year to ensure good team approach to project administration. In 2018, there were two opportunities for the PMUs in Ghana and China to meet and these took place in Zambia and China as part of missions to those countries.
* The procurement processes for the Cookstoves and Biogas experienced some delays because some of the submissions provided by the Chinese companies were in Chinese. In order to facilitate the evaluation process in the future, it is advised that a representative from either UNDP China office or ACCA21 be included in the evaluation panel to help with translation and confirming the appropriateness of some of the documents that are submitted in Chinese.

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| 1. **KEY ACTIVITIES FOR 2018** *[Please outline key activities planned for 2019]*
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| * Seek Parliamentary approval of Renewable Energy Master Plan conduct an official launch of plan.
* Complete the following demonstration projects: Tsatsadu Mini-Hydro project, Biogas Installations at selected sites and Design and fabrication of Improved Institutional Cookstoves.
* Conduct training on installation, operation and maintenance on the demonstration projects.
* Monitor performance and based on testing and demonstration, capture lessons learned to develop training programs for stakeholders, incl. operators, administrators, etc in Ghana
* Develop work plans and longterm funding and outreach strategies for the training facilities
* Organize exchange visits from China to Ghana and vice-versa to study each country’s energy sectors
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