## UNDP-GEF TE Management Response

**Management response to the Terminal Evaluation of**

Project Title: Removal of Barriers to Solar PV Power Generation in Mauritius, Rodrigues and the Outer Islands

UNDP Project ID (PIMS) #:4333

GEF Project ID (PMIS) #: 4099

Terminal Evaluation Mission Completion Date: 30 Sept 2017

**Date of Issue of Management Response: 25 Nov 2017

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**Context, background and findings**

The principal conclusions of the Terminal Evaluation Report are as follows:

The project has been very successful and achieved its objectives in terms of key targets, institutional and capacity building, providing an enabling environment for PV market uptake, and leveraging co-financing from the government both in cash and in-kind, private sector investment, and follow-up programme. The PV plants installed under the project will realize a direct GHG emission reduction of 352,621 tons CO2eq over the lifecycle of investments and have thereby exceeded original ER targets. The project has clearly played a catalytic role in promoting both medium scale and small scale (rooftop) installations, and significantly contributed to the kick-starting of the PV market as well as raising awareness among the population to reduce GHG. Various financial incentives such as FiTs provided by the project, the exemption of import duties and VAT on PV systems, and favourable interest on green loans, provided an impetus for the PV market take-off. The future of PV energy generation in Mauritius is sound and sustainable.

The management of the project within the state-owned utility CEB was a key factor contributing to the project success. CEB took over the leadership role in the project and became the champion (rather than the opponent) for grid-connected PV in Mauritius. Their know-how, intellectual leadership, technical expertise and enthusiasm have ensured the overall success and sustainability of the project.

Even though the project experienced a 30-month implementation start-up delay, the project was able to complete most of the planned activities within a period of only 32 months - as opposed to the planned four years (48 months); it has even carried out additional essential activities such as the Smart Grid Roadmap which was not originally planned, as well as achieved results far exceeding the original targets of 3 MW and co-financing amounts.

**Recommendations and management response**

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| **It is recommended that the few remaining project activities be completed as soon as possible, including the booklet for awareness campaign, SSDG and PV market review by Deloitte, early implementation of the Smart Grid Roadmap, and the operationalization of the solar mapping system. For the latter, it is recommended to complete the installations of the pyranometers in Mauritius first, latest by the second quarter of 2017, then test and fine-tune the system if need be. This will help reduce any technical or operational problems that could arise for the pyranometers in Rodrigues and Agalega.** |
| **Management response: In general, we agree with this recommendation. Work is under way to comply** |
| **Key action(s)** | **Time frame** | **Responsible unit(s)** | **Tracking[[1]](#footnote-1)** |
| **Comments** | **Status[[2]](#footnote-2)** |
| 1.1 Completion of Smart Grid Road Map | January 2018 | UNDP CO |  | initiated |
| 1.2 The SSDG and PV market review to be completed by the consultants.  | February 2018 | CEB | UNDP have already provided comments on the draft deliverables | initiated |

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| **Terminal Evaluation recommendation 2. here should be increased quality control on PV panels at the point of import. CEB/MEPU to request Ministry of Trade, Commerce and Consumer Protection (MTCCP) to declare importation of PV panels as controlled product and to establish acceptable certification standards.** |
| **Management response: Management agrees with the recommendation and same will be communicated to the CEB/MEPU. In addition, with the balance of cost sharing funds, the possibility of a small assignment on this issue can be considered.** |
| **Key action(s)** | **Time frame** | **Responsible unit(s)** | **Tracking** |
| **Comments** | **Status** |
| 2.1 Inform the CEB of the recommendation. | November 2017 | UNDP CO |  | completed |

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| **Terminal Evaluation recommendation 3. Grid absorption capacity presently has limitations to meet the increased solar energy to be produced by future PV installations. CEB should fast-track the upgrading of its grid absorption capacity in order not to block the huge momentum in the PV market created under the project.** |
| **Management response**: Management agrees with the recommendation which is being implemented under the GCF project. |
| **Key action(s)** | **Time frame** | **Responsible unit(s)** | **Tracking** |
| **Comments** | **Status** |
| 3.1 Launch tenders for Battery Energy Storage system | October 2017 | CEB |  | completed |

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| **Terminal Evaluation recommendation 4. During the TE Workshop with project stakeholders, the need for norms and standards for solar PV installation works, including mechanical mounting and electrical wiring, was strongly voiced. While the electrical specifications are prescribed in the grid codes, the mechanical and electrical works and installations should be regulated and monitored, for quality controls, safety and ensuring that the installations can withstand cyclonic exposures. It is therefore recommended that MTCCP consider introducing a system of licensing of trained and certified PV installers, and their performance be tracked; this necessarily requires putting in place a system of performance feedback from end-users on PV installers contracted. The performance record should be taken into consideration at the time of their license renewals. It may be envisaged to register independent PV Inspectors much in the way of the Machinery and Boiler Inspectors scheme.** |
| **Management response**: Management agrees with the recommendation. To be taken up under Recommendation 2 above. |
| **Key action(s)** | **Time frame** | **Responsible unit(s)** | **Tracking** |
| **Comments** | **Status** |
| 4.1 Inform the CEB of the recommendation. | November 2017 | UNDP CO |  | completed |

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| **Terminal Evaluation recommendation 5. To maintain the uptake momentum of solar PV installations, it is recommended that all present fiscal incentives be maintained at least for the next 8 years to 2025, including but not limited to zero customs duty (including on partial shipments) and VAT on all solar PV components including their spare parts, and green energy investment tax relief.** |
| **Management response**: Management agrees with the recommendation and will communicate same to the Government of Mauritius. |
| **Key action(s)** | **Time frame** | **Responsible unit(s)** | **Tracking** |
| **Comments** | **Status** |
| 5.1 Inform the CEB of the recommendation | November 2017 | UNDP CO |  | completed |

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| **Terminal Evaluation recommendation 6. Design and establish the much needed Central Data Management System to capture and analyse vector data for effective monitoring of water borne diseases** |
| **Management response**: MITD offers courses on solar PV installation and students benefit from on-site demonstration and hands-on practice. It is recommendation that a 5 kW PV system be installed in Rodrigues for training and demonstration purposes so that students can have actual hands-on, practical experience in installing solar PV panels. |
| **Key action(s)** | **Time frame** | **Responsible unit(s)** | **Tracking** |
| **Comments** | **Status** |
| 6.1 A PV system has been installed at MITD Le Choux in Rodrigues | August 2017 | UNDP CO |  | completed |
| **Terminal Evaluation recommendation 7. Presently, local insurers are sharing and re-insuring their risks with international insurers at high premium rates. It is recommended that CEB/MEPU, MTCCP and the Association of Commercial Banks in Mauritius negotiate for a group insurance policy for all the solar PV owners - and even for all renewable energy installations – in order to benefit from economies of scale.** |
| **Management response**: This recommendation will be transmitted to the parties concerned. However, it is difficult to implement owing to the varying interests of the stakeholders concerned. |
| **Key action(s)** | **Time frame** | **Responsible unit(s)** | **Tracking** |
| **Comments** | **Status** |
| 7.1 Inform the CEB of the recommendation in the IVM process. | November 2017 | UNDP CO |  | completed |

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| **Terminal Evaluation recommendation 8. The performance data from solar PV installations and the grid would be of great value for analyzing and planning future market development. It is recommended that data on actual PV generation and electricity use be cross-validated with the solar maps to be generated, to guide plans for future solar PV programmes.** |
| **Management response**: Management agrees with this recommendation. The exercise is ongoing at corporate level by the CEB since the solar map is now operational. - solarmap.uom.ac.mu |
| **Key action(s)** | **Time frame** | **Responsible unit(s)** | **Tracking** |
| **Comments** | **Status** |
| 8. 1 set up the solar map | June 2017 | CEB |  | completed |

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| **Terminal Evaluation recommendation 9. PV generation remains more expensive than conventional electricity generation, even with the drop in price of PV installations, at about 15% worldwide over the past years. With the added removal of the 15% VAT by the government of Mauritius in 2016, in the Mauritian context, this comes to about 30% overall cost reduction for PV investors. While the price differential between conventional generation and RE is decreasing, the price gap needs to be tracked. Tracking the differential will help determine the future of PV sector in Mauritius and to plan the extent of future funding necessary to close the gap between conventional generation and solar PV and other renewable energy technologies.** |
| **Management response**: Management takes note of the recommendation which can be passed on to the relevant stakeholders namely the CEB and the Mauritius Renewable Energy Agency which has the mandate for the tracking of RE prices and promoting implementation thereof. |
| **Key action(s)** | **Time frame** | **Responsible unit(s)** | **Tracking** |
| **Comments** | **Status** |
| 9. 1 Inform the CEB and the Mauritius Renewable Energy Agency of the recommendation | November 2017 | UNDP CO |  | completed |

1. If the TE is uploaded to the ERC, the status of implementation is tracked electronically in the Evaluation Resource Centre database (ERC). [↑](#footnote-ref-1)
2. Status of Implementation: Completed, Partially Completed, Pending. [↑](#footnote-ref-2)