

EXECUTIVE SUMMARY

Objectives of the Joint Mission

The main objective of the Maldives SREP Joint Mission is to support the Government of Maldives (GoM) in finalizing and completing the SREP Investment Plan (IP). In consultation with the national stakeholders, the Joint Mission will primarily (i) validate the suggested investment priorities, (ii) review all the necessary elements to ensure the timely finalization of the IP, (iii) identify potential co-financiers and (iii) initiate the preparation of projects to be supported by the IP under SREP Phase 2.

Dates of the Mission

The proposed dates for the Joint Mission are September 5-9, 2011 which will take place under the leadership of GoM. Prior to the Joint Mission, a technical mission will be conducted by the joint Multilateral Development Bank (MDB) team from June 15-21, 2011 to review progress on the IP preparation.

Government Contacts

The Joint Mission will be led by Mr. Ahmed Ali, Deputy Director of the Climate Change and Energy Department at the Ministry of Housing and Environment (MHE), under the guidance of Mr. Ahmed Saleem, Permanent Secretary, MHE and SREP National Focal Point. Contact details for the Government and all mission members are included in these Terms of Reference.

Activities undertaken before the Joint Mission

Since October 2010, various activities were conducted by GoM with support from the MDBs including:

- i. A stocktaking exercise was carried out to provide a basis for defining investment priorities under the joint supervision of the MHE and MDBs;
- ii. Carbon audit for Maldives;
- iii. An Scoping Mission was conducted by the joint MDB team from January 24-27, 2011 to initiate preparation of the IP including, prepare for the Joint Mission and conduct preliminary stakeholder consultations;
- iv. An advance preparation grant request for \$315,500 for SREP Phase 1 (IP preparation) activities was submitted and approved by the MDB Committee;
- v. Selection and appointment of a consultancy firm by GoM to assist in IP preparation;
- vi. A technical mission to be conducted in June 2011 to review the draft inception report comprising of the results of the stocktaking exercise and the preliminary stakeholder consultations on the proposed investment priorities prepared by GoM with support from the IP consultant;
- vii. Preparation of an advanced IP by GoM to be presented and discussed during the Joint Mission;
- viii. The identification of key development partners and other stakeholders to be consulted during the IP preparation process prior to the proposed Joint Mission dates.

Activities to be undertaken during the Joint Mission

The main activities of the Joint Mission will be to:

- i. Conduct stakeholder consultations through workshops and meetings to discuss the investment priorities proposed by the Government, and to identify potential co-financiers;

- ii. Assist GoM in finalizing and validating the investment priorities identified in the advanced IP, and support GoM in completing the IP;
- iii. Initiate the work related to the IP environmental and social assessments and policy support.

Expected results and outcomes

The main deliverables to be expected at the completion of the Joint Mission are:

- i. An Aide Memoire describing the process, key findings and recommendations of the Joint Mission
- ii. The final draft SREP IP for Maldives. The proposed roadmap (see paragraph 19) indicates that the IP should be finalized by early September 2011 in order to be made available for public consultations by mid-September;
- iii. Monitoring and evaluation (M&E) results framework based on the finalized investment priorities and the environmental and social management framework.

It is understood that the IP should meet as many criteria as possible from the ones listed in the Annex 1.

CONTEXT OF THE MISSION

1. The Climate Investment Funds (CIF) was established in 2008 with the goal of promoting international cooperation on climate change issues, and supporting the mitigation and adaptation efforts of low income countries. Scaling Up Renewable Energy in Low Income Countries Program (SREP) was developed under the CIF umbrella that was approved in 2009 to demonstrate the social, economic, and environmental viability of low carbon development pathways in the energy sector. It seeks to create new economic opportunities and increase energy access through the production and use of renewable energy.
2. Maldives was selected by the SREP Expert Group, set up by the SREP sub-committee, to be a pilot country under the program primarily due to the past efforts made by the Government of Maldives (GoM) to promote renewable energy projects and a carbon neutral economy, vulnerability of the country to the effects of climate change, the scale of impact achievable by moderate funding, and strong private sector participation in the energy sector among others. In June 2010, the SREP sub-committee agreed on an indicative allocation of up to \$30 million for Maldives, which is expected to leverage an additional US\$120 million co-financing for renewable energy and energy efficiency investments. GoM confirmed its interest in SREP participation to the sub-committee in July 2010.
3. GoM has pledged to be carbon neutral by 2020 while enhancing greater energy security and reaping economic, social and environmental benefits. Towards achieving this goal, the MHE formulated the Maldives National Energy Policy & Strategy in October 2010 to “Provide all citizens with access to reliable and sustainable energy services at lowest possible cost”; “Achieve carbon neutrality in the energy sector by year 2020”; “Promote energy conservation and energy efficiency” and “Increase national energy security”.
4. The Maldives is entirely dependent on fossil fuel imports for power generation which presents a challenge to the goal of carbon neutrality by 2020. Fossil fuels provide the majority of energy used in the Maldives for generation of electricity (diesel), road and marine transport (gasoline and diesel), aviation (jet kerosene), household consumption and other uses (Liquefied Petroleum Gas and kerosene). SREP will support GoM in its pledge to become carbon neutral by 2020, and enable Maldives to initiate the process to achieve a transformational change in the energy sector.

5. SREP will support investments to scale-up renewable energy generation in the Maldives, and facilitate the development of the country's sustainable energy agenda. The Maldives engagement in SREP activities is expected to result in:
 - Development of a clean energy IP for the first five years that would help the Maldives move towards achieving its 2020 carbon neutrality pledge;
 - Improved investment climate for private sector participation in the energy sector;
 - Enhanced legal and regulatory frameworks in the energy sector;
 - Increased access to energy while maximizing the social, environmental and gender benefits.
6. There are a number of activities related to the mainstreaming of climate change into the development process that are currently ongoing which will be helpful to the implementation of SREP in Maldives. The World Bank has mobilized funds from the Energy Sector Management Assistance Program (ESMAP) to help GoM develop a regulatory framework in the energy sector. Additionally, the South-South Experience Exchange Trust Fund (SEETF) is facilitating a knowledge exchange program with other small island territories focusing on the promotion of renewable energy through policy development, regulation, and private sector participation.
7. In addition, GoM is receiving support from the World Bank managed multi-donor Climate Change Trust Fund (CCTF) to deal with climate change adaptation and mitigation. The CCTF is a multi-donor program established on December 29, 2010 with the European Union supporting the program to the amount of EUR 6,500,000 over a period of 3 and 1/2 years. The CCTF will support the development and implementation of the climate change strategy for Maldives to build a climate resilient economy and society through adaptation and mitigation activities.
8. The Asian Development Bank (ADB) is also currently working with GoM in strengthening the energy regulatory sector, and on several renewable energy initiatives in the Maldives. ADB supported Asia Solar Energy Forum has been facilitating knowledge exchange between the Maldives sector agencies and international utilities, governments, and the private sector since 2010.

PREPARATORY ACTIVITIES

9. Since Maldives was selected as a pilot country for the SREP, the Government supported by the MDBs has undertaken a number of preparatory activities including: (i) Joint MDB team dialogue with GoM on SREP commencement, (ii) the creation of a National Task Force under the leadership for MHE for preparation of SREP IP, (iii) a stocktaking exercise, and (iv) a Scoping Mission including a technical workshop and consultations with national stakeholders.
10. Initial discussions among the MDBs and GoM in November 2011 focused on identifying the SREP team, and the proposed timeline for completion of the SREP Phase 1 activities.
11. GoM has designated MHE as the lead agency for SREP engagement. A Task Force representing various stakeholders was also setup by GoM under the leadership of MHE and comprising GoM officials, utility representatives, Maldives Energy Agency (MEA) and other stakeholders to support the preparation of the SREP IP. MHE will ensure close coordination between government agencies, the President's Office (PO), the MDB team and other stakeholders on SREP activities. In addition, MHE and the Task Force will be supported by consultants and experts assisting them with preparation of the SREP IP.

12. As part of the knowledge sharing and capacity building and fostering partnerships South-South partnerships, a group of MHE staff, GoM officials and representatives from the private sector and regional utilities participated in several experience exchange activities with other island states, most notably the Philippines and the island of Réunion. Through these study tours, which took place between January-March 2011, participants from the Maldives were able to learn first-hand from the experiences of other island states in developing and putting into practice their renewable energy programs and projects, their experimentation with innovative renewable energy technologies and challenges of integration and scale-up of renewable energy in the generation mix. The activities were part of the World Bank's South-South Experience Exchange program.
13. The MHE prepared a pre-investment plan with the support of a consultant provided by ADB. The consultant's main functions were to aggregate and consolidate available data and studies previously carried out in Maldives, and to develop an indicative roadmap for reducing energy sector carbon emissions. The initial findings were presented to MHE by the consultant during the Scoping Mission. The following are some of the key points emanating from the stocktaking exercise:
 - The Maldives is one of the most exposed countries to the threat of climate change due to its particularly low lying geography;
 - Electricity demand is expected to double by 2020, led by an increase in usage by resorts;
 - Maldives has no domestic fossil fuels resources, and is currently entirely dependent on imported diesel and fuel oil for electricity generation;
 - Energy efficiency measures in resorts, public buildings and households as well as waste heat recovery from DG sets to reduce demand from water desalination and air conditioning, if implemented on a wide scale, would serve to reduce fossil fuel usage and resulting carbon emissions;
 - Renewable energy use is at present minimal and limited to solar water heating in resort islands and a few pilot off-grid and rooftop installations;
 - The Government has been proactive in dealing with Climate Change issues including the completion of a carbon emissions audit to identify sectors with high greenhouse gas emissions, and demonstration of strong political willingness to increase the share of renewable energy portfolio in the country;
 - An indicative two phase roadmap on next steps to be considered while implementing energy efficiency and renewable energy projects was identified.
14. From January 24-27, 2011 Asian Development Bank (ADB) and the World Bank Group (WBG) participated in a Scoping Mission led by GoM. The objectives of the Scoping Mission were to:
 - Identify key development partners and other stakeholders who should be consulted in the course of preparation of the IP;
 - To facilitate in the identification of potential SREP co-financiers;
 - Undertake a stocktaking of existing activities and documentation available on a range of analytical, strategic and programming activities related to renewable energy;
 - Agree on a timetable as well as financial and human resources required to prepare the IP;
 - Agree on the outline of the IP.
15. During the Scoping Mission preliminary consultations were held with government agencies, private sector, and local lending institutions to explore the barriers to renewable energy development in Maldives, and approaches for leveraging SREP funds to address these barriers. Lack of consumer awareness, a weak regulatory system, absence of favorable government policies, lack of access to

long term financing, weak capacity within the utilities, and lack of long term renewable resource data were reported as the key impediments.

16. A workshop organized by MHE, was held in parallel to the Scoping Mission to review the existing regulatory arrangements in various sectors in the Maldives, and present options on possible regulatory structures for the energy sector as identified by the ESMAP study. The study indicated that the MEA in its current form lacks the proper regulatory framework and legal mandate to effectively regulate the energy sector. Stakeholders underscored the need for an independent multi-sector regulator for the Maldives with a role in licensing, compliance monitoring, data collection, tariff determination and oversight of IPing for the overall development of the energy sector in Maldives. The Minister of MHE as well as the PO staff endorsed the findings and recommendations of the workshop.
17. The results of the mission were discussed at the wrap-up meeting with the PO, MHE and Ministry of Finance. Some of the primary areas of technical and financial engagement identified by the stocktaking exercise and the preliminary stakeholder consultations were (not exhaustive):
 - Short term technology solutions are likely to be solar photovoltaic (PV) and small wind turbine hybrid schemes;
 - Use of waste heat or solar thermal for desalination, refrigeration, and hot water are options that also may have promise on selected islands;
 - Public-Private Partnerships (PPPs) where GoM enters into a concession agreement with private developers on a turn-key basis to supply renewable energy systems;
 - Channeling funds through utilities that will supply, install and commission a system and be responsible for its operation and maintenance;
 - Power Purchase Agreements (PPAs) between the utilities and private developers who would supply, install and operate renewable energy power plants under the terms of the PPA;
 - Utilizing financial intermediaries (such as local Banks, Funds or Credit agencies).
18. Following the completion of the Scoping mission, GoM and the MDBs agreed on the following actions prior to the Joint Mission:
 - The stocktaking exercise will be continued and completed by February 2, 2011 to provide basis for the development of the IP, and to finalize the Terms of Reference (TOR) for preparing the IP;
 - Preliminary identification and characterization of a set of priority investments and technical assistance to be considered in the IP by GoM;
 - Initiation of the consultant or consultant firm procurement by GoM to assist in the development of the SREP IP;
 - Finalize the TOR for the Joint Mission by May 20, 2011;
 - Selection of the most suitable option for regulating the energy sector, and proceed with the development of a detailed regulatory framework by GoM;
 - Submission of a preparatory grant request for SREP Phase 1 activities by GoM; the funds will be channeled through the World Bank.
19. The Government indicated its intension to formally submit its SREP IP for approval at the SREP sub-committee meeting in November 2011. The following timetable was agreed upon to ensure the timely submission of the IP:
 - *By April 4, 2011:* Commence preparation of SREP IP by MHE with support from consultants
 - *June 15-21, 2011:* Conduct joint technical mission and discuss the preliminary draft SREP IP

- By *July 31, 2011*: First draft of SREP IP on the basis of the results of the joint technical mission
 - *September 5-9, 2011*: Conduct Joint Mission and hold Donor / Investor conference to finalize IP
 - By *September 19, 2011*: Publication of SREP IP for public consultations and submission for formal review by MDBs and an external reviewer
 - By *September 30*: Finalize SREP IP on the basis of comments received from the public consultations
 - *October 3, 2011*: Submission of SREP IP to CIF Administrative Unit
20. GoM and the MDBs continued working in close consultation post Scoping Mission primarily to complete the Scoping Mission Aide Memoire, the stocktaking exercise, and the TORs for the Joint Mission and the consultant to assist GoM in developing the IP. GoM with the assistance of the MDBs has initiated the process to hire a consultancy firm to develop the SREP IP. The preparatory grant for \$315,500 has been approved by the MDB committee. The grant is intended to assist GoM with the preparation of the SREP IP.
21. A technical mission will be conducted from June 15– 21, 2011 under the leadership of GoM and with participating from the joint MDB team. The primary objective of the mission will be to review a preliminary draft IP comprising of the results of the stocktaking exercise and undertake initial stakeholder consultations on the proposed investment priorities. In addition, the MDB team, together with GoM and the IP consultants will review the knowledge management and capacity building activities, and conduct technical discussions on proposed renewable energy schemes and preliminary economic analysis, environmental and social screening and development impact of investment priorities for SREP Phase 2. The MDBs and GoM will enhance and finalize the list of stakeholders (Annex 2) and initiate plans for hosting the investor / donor conference expected to be held concurrently with the Joint Mission to ensure maximum effectiveness and capitalize on the presence of the MDB team in Maldives.

JOINT MISSION ACTIVITIES

22. On the basis of the preparatory activities carried out during the past few months, the Government and the MDBs have agreed on having a Joint Mission that could support the MHE in elaborating and finalizing the IP. The main objectives of the Joint Mission are: (i) completion of the consultation process engaging key stakeholders in the design of the SREP IP for Maldives; (ii) validation of the investment priorities and projects in the preliminary IP; and (iii) identification of other donors or investment partners who have expressed interest and willingness to co-finance, and levels of financing such partners would be willing to commit and timing of availability of such funds.

Consultations with the Stakeholders

23. During the Joint Mission, consultations with key stakeholders will be held in Malé. This includes national institutions / authorities, development partners, NGOs, local communities and the private sector. The MDBs will work with the Government to ensure that it has a good understanding of the need to get the private sector involved in the program.
24. The preliminary consultations with stakeholders was initiated during the Scoping Mission organized in January, 2011 with the aim to strengthen national ownership of the SREP, mobilize co-financing for SREP investments, harmonize support to public policies and promote complementarity with ongoing or planned climate change and energy activities in Maldives. The consultation meetings and workshops to be organized during the Joint Mission will identify concrete opportunities for investment that can lead to large-scale deployment of renewable energy technologies.

25. Bilateral and multilateral partners will also be involved in the mission to provide inputs to the IP, contribute to the discussions on the investment priorities, and assess the opportunities for potential co-financing among other activities.
26. The Joint Mission will conclude the stakeholder consultations through meetings (group or bilateral) or as part of the planned workshop¹. The preliminary stakeholder list to be consulted is provided in.

Support to GoM with preparing the IP:

27. GoM will prepare the IP with assistance from the MDBs. The MDBs staff and members of the MHE (with support from consultants) will work together to review the draft IP, in parallel with other mission activities. The IP will be finalized following the mission by the same group with assistance from additional MDB specialists or consultants as needed.
28. In accordance with the SREP "programming guidelines", the IP will consist of the sections mentioned in Annex 2.

COMPOSITION OF THE MISSION

29. The mission will consist of MDB SREP focal points, renewable energy experts from the three MDBs, and consultants supporting GoM with SREP Phase 1 activities. The assessment of country readiness and the availabilities of the experts participating in the Joint Mission will be assessed in the weeks prior to the mission to ensure adequate technical assistance to GoM. In addition, the mission will be based on the broad participation of national and international stakeholders. UNDP members will be closely associated to the mission. This broad participation is designed to ensure ownership of the program and support its implementation by the Government, national stakeholders and development partners.

MISSION CALENDAR

30. The calendar is a work in progress and will be finalized prior to the Joint Mission dates.

¹ The agenda for the workshop will be developed in September 2011 by GoM and the MDBs.

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Annex 1: Criteria for the Sub-Committee to Assess the Investment Plan

- a) **Increased installed capacity from renewable energy sources:** A high priority for most low income countries is expanding their generation capacity in order to ramp up modern energy use and energy access. Therefore, SREP-funded investments should result in increased MW from renewable energy, as well as increased energy (GWh) per capita in the country.
- b) **Increased access to energy through renewable energy sources:** SREP may support grid extensions and decentralized energy systems with a view to expanding the percentage of the population with access to non-fossil-fueled electricity. Investment proposals should demonstrate how the investments are part of the Government's long term commitment to increasing energy access.
- c) **Low Emission Development:** SREP may support the use of renewable energy technologies for electricity generation and services to replace fossil fuel technologies that would be deployed in a business-as-usual scenario aimed at substantially increasing commercial energy use in low income countries. In particular, benefits from SREP investments will often arise from “leap-frogging” technologies, in which low income countries will be assisted to mainstream renewable energy technologies into the overall energy system.
- d) **Affordability and competitiveness of renewable sources:** Affordability is essential for increasing access and for ensuring the long term renewable energy market development. SREP funding should address clearly-defined cost barriers to adoption of renewable energy technologies, such as connection costs for rural consumers, higher capital costs of new technologies, transmission costs related to grid-connected renewables, and risk adjusted rates of return sought by investors.
- e) **Productive use of energy:** SREP programs should promote the generation and productive use of energy.
- f) **Economic, social and environmental development impact:** Investment proposals for SREP financing should demonstrate the generation of economic, social and environmental benefits.
- g) **Economic and financial viability:** Investment proposals should demonstrate the economic viability of investments and the financial viability with the inclusion of time bound SREP resources.
- h) **Leveraging of additional resources:** Activities should maximize the leverage of funds from other partners.
- i) **Gender:** SREP investments should seek to strengthen the capacity of women to be active participants in the economic sector and avoid negative impacts on women.
- j) **Co-benefits of renewable energy scale-up:** SREP investments should include decreased air pollutants from energy production and consumption as well as the potential to reduce stress on forest resources. Investments and activities should elaborate on the potential positive effects on air quality and natural resource management through the adoption of renewable energy technologies.

Annex 2: Preliminary Stakeholder Consultation List (Not Exhaustive)

National Institutions:

- President’s Office (PO)
- Ministry of Housing and Environment (MHE)
- Ministry of Finance and Treasury
- Maldives Environmental Protection Agency
- Maldives Energy Authority
- State Electric Company Limited
- Northern Utilities Limited
- Upper North Utilities Limited
- Central Utilities Limited
- South Central Utilities Limited
- Southern Utilities Limited
- Upper South Central Utilities Limited

Private Sector Organisations:

- Renewable Energy Maldives
- Housing Development Finance Corporation
- Maldives Finance Leasing Company
- Linear Tech
- Bank of Maldives
- State Bank of India
- Bank of Ceylon
- HSBC

Development Partners (other than MDBs)²:

- United Nations primarily UNDP
- United States Agency for International Development (USAID)
- Department of International Development, UK (DFID)
- Australian Agency for International Development (AusAID)
- European Commission (EC)
- Danish International Development Agency (DANIDA)
- Japan International Cooperation Agency (JICA)

² The following development partners have been involved in energy projects in Maldives, or are involved or intend to be.

Annex 3: Suggested Structure for the Investment Plan

I. Proposal Summary (2 pages)

- Objectives
- Expected outcomes
- Program criteria, priorities and budget

II. Country Context (3-4 pages)

- Energy sector description (market structure, demand supply, and dispatch composition, electricity cost and pricing) incl. renewable energy status
- Gap/barrier analysis; needs assessment

III. Renewable Energy Sector Context (3-4 pages)

- Analysis of renewable energy options (technology, cost, mitigation potential, barriers)
- Government plans or strategy for the sector (willingness to move towards renewable energy investments, existing or envisioned policy, regulation, plans, and resource allocation)
- Institutional structure and capacity (technical, operational, financial, equipment supply, information)
- Role of private sector and leverage of resources
- Ongoing/planned investment by other development partners

IV. Contribution to National Energy Roadmap (2 pages)

- Likely development impacts and co-benefits of SREP investment
- How SREP investment will initiate a process leading towards transformational low carbon growth

V. Program Description (6-8 pages)

- Capacity building and advisory services
- Investment preparation activities
- Technology deployment investments
- Parallel activities to be funded by other development partners
- Environmental, social and gender co-benefits

VI. Financing Plan and Instruments (3-4 pages)

- Budget envelop for investments
- Costs and sources of funding
- SREP assistance (grant, concessional debt, etc.)
- Recipients of funding

VII. Additional Development Activities (2-3 pages)

- Leverage complementary co-financing with other development partners such as bilaterals, private sector, and financial institutions

VIII. Implementation Potential with Risk Assessment (2 pages)

- Country/regional risks - institutional, technology, environmental, social, financial
- Absorptive capacity for SREP and leveraged resources

IX. Monitoring and Evaluation (1/2 page)

- Results framework table

Annexes

Information should be included in annexes on the following areas:

- assessment of country's absorptive capacity
- stakeholder consultations
- co benefits
- existing activities in the field of renewable energy, particularly activities of other development partners

For each project to be implemented under the Investment Plan, an investment concept brief (maximum two pages) will be prepared as part of the Annex to the Investment Plan.

A suggested outline of an Investment Concept Brief includes:

- Problem statement (1-2 paragraphs)
- Proposed contribution to initiating transformation (1-2 paragraphs)
- Implementation readiness (1-2 paragraphs)
- Rationale for SREP financing (1-2 paragraphs)
- Results indicators
- Financing plan
- Project preparation timetable
- Requests, if any, for investment preparation funding