

AIDE MEMOIRE
Lesotho SREP IP preparation mission
January 09 –January 13, 2017

Introduction

1. This Aide Memoire summarizes the findings of a World Bank support Mission for the preparation of the SREP IP for Lesotho which was held in Maseru from January 09 to 13, 2017.
2. The Mission¹ wishes to express its appreciation for the courtesies received and for the support and cooperation accorded to them by the Ministry of Development Planning, the Ministry of Finance, and the Ministry of Energy and Meteorology².

Objectives of the mission

The main objectives of the mission were (a) to commence implementation of the SREP activity to support the Government of Lesotho (GoL) in preparing an Investment Plan following the recruitment of the consulting firm, DHInfrastructure; and (b) to meet with stakeholders that are involved in the implementation of the project to compile background information and an overview of the country's energy sector.

Key outcomes of the mission

3. **Setting-up of the National Task Force (NTF):** The Ministry of Energy and Meteorology (MEM) informed the mission that a National Task Force under the leadership of the MEM will be established by mid-February 2017. The selected Consultant will work closely with the NTF to ensure that the draft IP will be prepared in line with the sector priorities and inputs, taking into account stakeholder comments. The Bank has already shared a sample ToRs outlining the main responsibilities of a National Task Force. The mission reiterated the importance of the Task Force in ensuring broad involvement of the Government in preparation of the IP.
4. **Project timelines and responsibilities.** The mission discussed and revised the project timelines and responsibilities with MoE. The mission and the MEM agreed that the draft IP will be prepared and will be circulated for comments by end of March 2017. The joint mission with Multilateral Development Banks (MDBs) is scheduled to be held in early April 2017 to discuss the draft IP. The final IP is expected to be completed by end of May 2017 for SREP expert quality review. The timelines and responsibilities are detailed in Annex 2.

¹ The mission comprised: Vonjy Rakotondramanana (Sr Energy Specialist and Task Team Leader,) and Reynold Duncan (Lead Energy Specialist and Co-TTL.). Experts from the consultant are Brendan Larkin-Conolly and Deborah Ong. Melanie Jaya (Program Assistant), Masekeleme Esdorine Sekeleme (Team Assistant) and Edmund Motlatsi Motseki (Operations Officer) supported the mission respectively from the South Africa Country Office and the Lesotho Country Office. The mission received guidance from Janet Entwistle (Representative).

² Messrs T. Aumane , Principal Secretary, Ministry of Development and Planning, Emmanuel Lesoma, Principal Secretary, Ministry of Energy and Meteorology (MEM); Tom Mpetla, Principal Secretary, Ministry of Finance, Thabang Phuroe, Director of Energy, MEM; Mr. Jerry Seitlheko, Deputy Director and SREP Focal Point

5. **Challenges:** The mission identified that the energy sector in Lesotho has some challenges in terms of availability of data. There is a lack of basic data and/or studies. In addition, financing and delivery mechanisms for electrification need to be strengthened (e.g. rural access where there are cash flow problems, weak local capacity for maintenance of RE equipment, need to import RE components). Moreover, it has been acknowledged that capacity development and training are necessary for key stakeholders from the institution to end user level. Improvement of the sector legislation and regulatory frameworks is also required to attract private sector investment.
6. **Ongoing initiatives:** To avoid duplication of efforts, the mission took stock of the ongoing initiatives in the energy sector. The UNDP (SE4All financed by GEF) and the European Union (EDF10 and 11) are supporting similar activities including the preparation of an Investment Plan for off-grid solutions which has not yet commenced. The GoL through the National Task Force with the support of the WB should ensure that coordination is well handled. The preparation of SREP IP is in advance in terms of schedule so this could be an opportunity to prepare a national RE Investment Plan acceptable for all the stakeholders, taking into account initiatives such as the above.
7. **Renewable Energy Technologies:** The mission had an initial discussion with the DoE about the different technologies that could be studied in the context of the preparation of the SREP IP. The identified RET include the following: utility scale solar and wind; solar water heating; clean cook stoves; mini-grids; and solar home systems. Waste-to-energy may also be considered if there is enough information for an analysis to be undertaken. For mini grids, the mission suggests consideration of solar PV or wind with battery storage as opposed to PV / wind with diesel hybrid. It was also agreed that other potential uses of energy will be discussed in the plan including water, irrigation, and agricultural uses. The mission informed the client that discussion on technologies to be evaluated and on SREP priority criteria and government criteria for project selection should be held as soon as possible to allow the Consultant to prepare the technical and financial evaluation of selected technologies as well as the development of projects and periodization.

Agreed next steps

8. The mission and the government agreed that the following actions will be implemented:
 - a. The MEM will set in place a National Task Force by mid-February 2017;
 - b. The Bank and the MEM with the support of the Consultant will agree on the technologies to be evaluated based on SREP priority criteria and government criteria by mid-February 2017;
 - c. The Bank and SREP focal point will draft the ToRs of the joint mission with MDBs and send them to SREP Sub-Committee by the end of February and circulate the mission announcement letter by March 2017.
 - d. The Consultant will submit the draft IP for comments by the end of March 2017.

Annex 1: List of people met

NAME	POSITION	EMAIL
MINISTRY OF ENERGY AND METEOROLOGY		
Emmanuel Lesoma	Principal Secretary	emmanuel.lesoma@gmail.com
M. J. Seitlheko (Jerry)	Deputy Director	peo.re@energy.gov
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MINISTRY OF DEVELOPMENT AND PLANNING		
T. Aumane	Principal Secretary	tlohelang@yahoo.co.uk
MINISTRY OF FINANCE		
Khotso Maleleki	Director Public Debt	Kmoleleki90@gmail.com

Annex 2: Proposed project timeline

#	Actions	Deadline	Responsible
1	Submit Preparation Grant Proposal To SREP Subcommittee	Done	SREP Focal Point with WB
2	TORs for Consultant and Candidate	Done	SREP Focal Point with WB
3	Hire consultant	Done	WB
4	TORs for the Joint Mission sent to the SREP Sub Committee	End of February 2017	WB/SREP Focal Point
5	Clearance of TOR for Joint Mission by CIF AU	Mid-March 2017	SREP Sub-Committee/CIF Admin Unit
6	Finalization of the draft IP	End of March 2017	SREP Focal Point/ National Task Force and WB
7	MDB Joint Mission and stakeholder consultations to review the results of the draft IP and way forward	Mid-April 2017	MDBs/National Task Force, other Stakeholders
8	Revision of the draft IP	End-April 2017	SREP Focal Point/WB and National Task Force (MDBs can be involved as well)
10	Disclosure of IP for public consultations (online posting on website for 2 weeks)	End-April 2017	SREP Focal Point
11	Address comments received and complete IP	Mid-May 2017	SREP Focal Point and MDBs (WB as lead)
12	SREP Expert quality review of the IP	End-May 2017	Independent Expert / MDBs / SREP Focal Point
13	Revision of the IP based on comments received	Mid-June 2017	SREP Focal Point/WB (MDBs can be involved as well)
14	Submission of the IP to the SREP Sub-Committee	End-June 2017	WB/SREP Focal Point
15	Endorsement by SREP Sub-Committee	(Date to be confirmed)	CIF Admin Unit

Annex 3:

Draft Terms of Reference Preparation of the Scaling-up Renewable Energy Program (SREP) Investment Plan – Lesotho Energy Sector Development Project

INTRODUCTION

Lesotho, a small country of 2.2 million people, is completely surrounded by the Republic of South Africa. Highlands constitute more than two-thirds of the country, of which less than 10 percent is suitable for cultivation.

Over the last two decades Lesotho has diversified its economy from a reliance predominantly on subsistence agriculture and remittances to an economy based on manufacturing and water exports and services. It has achieved moderate economic growth, taking advantage of the preferential trade regime under the US African Growth and Opportunity Act. However, these structural transformations have not been sufficient to enable the economy to achieve high sustainable growth rates to withstand the external shocks, or substantially to improve Lesotho's social indicators.

Indeed, poverty remains high with 40% of the population living below the poverty line. Poverty is concentrated in populations living in rural isolated areas, 72.4% of the population, with limited income opportunities and high cost of service delivery due to the country's difficult terrain and scattered settlements (population density at 72.3 inhabitants per square kilometer). As a consequence, Lesotho's highland population has been migrating to the lowlands, attracted by economic opportunity and better services. As people move, Maseru, the capital, has emerged as an important economic node with the potential to become a growth hub and a key driver of Lesotho's development.

Electricity is supplied mainly by Lesotho's own 'Muela Hydro Power Plant (72 MW) and imports from South Africa and Mozambique (55 MW). This is insufficient to supply the current estimated peak demand of about 145 MW, of which a significant proportion comes from manufacturing/garment industry. Estimates of the future supply/demand gap vary. The World Bank estimates that the gap may increase to 130 MW by 2020. A recent study commissioned by IFC puts the gap at between 210 MW (4.2% annual growth scenario) and 315 MW (9% annual growth scenario), also by 2020.

As a result of power shortages in South Africa in 2008, ESKOM (the South African utility) reduced the supply of electricity to Lesotho and other neighbouring countries, leading to widespread load-shedding in that year. There are fears that further load shedding might be required in the future until generation investments are completed in South Africa and other demand-side measures are implemented. For this reason the Government of Lesotho wishes the country to become self-sufficient in the next few years. However to date this remains an informal policy, as further analysis is required. In particular, the Government needs to assess the economic impact of such a policy, including the cost premium that would result from full self-sufficiency.

1. Lesotho has been selected as one of the countries eligible for the Scaling-up Renewable Energy Program in Low Income Countries (SREP). The objective of the SREP is to pilot and demonstrate the economic, social and environmental viability of development pathways in the energy sector by creating new economic opportunities and increasing energy access through the use of renewable energy. SREP has approved the indicative allocation of US\$ 30 million for Lesotho. The SREP will endorse the investment plans from the new countries on a first-come, first-served basis taking into account the

quality of the investment plans, regardless of funding availability, but funding for the projects and programs proposed in the investment plans will be contingent upon the availability of funds under the SREP.

2. The Government is committed to promoting the development of renewable energy in Lesotho and to that end, expressed its interest to be one of the pilot countries under SREP and was selected in the pilot country list. The GOL therefore seeks to engage a firm consultant to assist it with the development of a renewable energy investment plan for SREP.

3. The consultant should also note that some of the projects are at an early stage (e.g. prefeasibility stage) and that data may be lacking. In providing a proposal to undertake this work, the consultant should have access to its own sources of data, which may be adapted for use for Lesotho.

OBJECTIVES

4. The objective of this assignment is to support the GoL to prepare a renewable energy investment plan for consideration by the SREP for funding. The plan should be comprehensive, clear and effective in demonstrating how SREP resources and other donor and private sector financing would be used in Lesotho to overcome current obstacles to the wider penetration of renewable energy.

5. The study will be conducted in two phases. Phase I will assess the potential and costs of applicable renewable energy technologies, prioritize potential interventions and facilitate discussions of these results with stakeholders. Based on the outcomes of Phase I, Phase II will develop the draft investment plan in for the prioritized renewable energy investments that can be undertaken.

SCOPE OF WORK

6. In order to achieve the above objective, the Consultant shall carry out the following principal tasks.

PHASE 1 – Assessment of Renewable Energy Technologies for Lesotho and Identification of Priority Renewable Energy Projects to Receive SREP funding

Task 1: Compile background information on the country and energy sector overview

7. Under this task the Consultant is specifically expected to:
- Prepare a background section with description of the country context, including main demographic, social and economic indicators as of the most recent date.
 - Prepare an overview of the energy sector, including (a) basic energy balance (for at least 2009-2014/15); (b) description of the sector structure; (b) legislation and regulatory framework; (c) electricity generation, transmission and distribution assets; (d) electricity generation mix; (e) tariffs and tariff structures; (f) key entities involved in regulation of the energy sector, and (g) key challenges facing the sector.
 - Prepare an overview of the estimated potential for various renewable energy technologies and detailed renewable energy penetration targets as well as the review of on-going and planned activities and projects in Lesotho in the field of renewable energy. Include in the overview the expected country-specific environmental and social opportunities and risks (social, environmental, technical, financial, etc.) associated with the development of the considered renewable energy technologies in Lesotho.
 - Summarize the key barriers (technical, regulatory, financial, social, environmental) hindering the development of renewable energy technologies reviewed and proposed measures to overcome them. This activity should provide a detailed description of availability of private or other government financing for renewable energy projects, including terms of financing,

discuss bottlenecks to development of renewable energy associated with availability and/or terms of financing.

Task 2: Conduct a comprehensive assessment of various renewable energy technologies applicable in Lesotho

8. Under this task the Consultant is specifically expected to:
 - Assess the levelized economic costs (LECs) of various renewable energy technologies, including micro-grids, wind, solar, geothermal, biomass, biogas, hydro power (less than 10MW capacity), hybrids/mini grids and any other technology suggested by the Government of Lesotho. Build a supply cost curve using the potential and estimated LECs of renewable energy technologies.
 - Simulate combinations of assessed renewable energy based electricity generation options for meeting the electricity demand considering the planned commissioning of the generation plants under construction, those projects for which feasibility studies are currently being prepared, and their future availability to meet domestic demand. The simulation analysis shall be conducted assuming base-case electricity demand growth scenario and commercial and concessional financing terms for all types of new generation assets.
 - Determine generic environmental and social opportunities, risks and costs of various renewable energy generation technologies considered for Lesotho. Based on the available information on the physical, natural and social environment of various provincial areas of the country, identify those areas where environmental and social risks and benefits of individual renewable energy technologies are expected to be particularly significant and/or areas where additional information is required to estimate these risks and benefits. The analysis will be based on the World Bank's safeguard policies as well as national legislation.
 - Based on the above analysis, determine the viable and least cost renewable options which should be pursued in Lesotho. Besides the purely economic considerations, evaluation of technologies should also consider other costs and benefits, including, but not limited to: energy security, training costs, local employment and economic development, climate change, environmental and social costs. If some of the economic and other benefits / disadvantages are not quantifiable, the Consultant should provide a description of those benefits / impacts.

Task 3: Identify specific prospective renewable energy projects for SREP funding

9. Under this task the Consultant is specifically expected to:
 - Identify specific renewable energy projects based on the above analysis, existing assessments of renewable energy resources and potential; pre-feasibility and feasibility studies; as well as resource mapping.
 - Conduct trade-off analysis of promising renewable energy projects considering advantages and disadvantages, and prioritize the projects based on at least four criteria agreed with the Government. The criteria may also include, but not be limited to, LECs, employment impacts, energy security, GHG reduction, finance-ability, the technical and financial capacity of proponents, timetable for development etc.
 - Recommend workable business models and financing schemes for the identified priority projects, including discussion of the potential sources of funding, support if any, from the providers of funds and the technical and financial capacity of developers and operators of the project. As part of this activity, the Consultant should review existing financial mechanisms used for renewable energy projects, and consider whether it is best to expand those same mechanisms to cover the new renewable energy technologies or set up new financial mechanisms.

- Conduct environmental and social screening and ensure that environment and social safeguards requirements of the World Bank and GOL are adequately addressed as part of the identification of specific renewable energy projects for inclusion in the investment plan. Depending on the scope and nature of the projects: (i) identify possible gaps in the coverage of the expected positive and negative environmental and social impacts of the proposed projects, pointing out whether the existing information and data gaps will preclude proper analysis/prioritization of a project and will need to be filled in before it is recommended for the inclusion into the investment plan; (ii) note any environmental and social issues (such as land issues or disputes, local pollution or noise etc.) and (iii) conduct environmental and social assessment of any available pre-feasibility and feasibility studies. As part of this activity, the Consultant should also discuss the potential gender benefits from identified priority renewable energy projects.

PHASE 2 – Preparation of Draft SREP Investment Plan for Lesotho

Task 4: Prepare the draft Investment Plan for developing renewable energy in Lesotho, based on the findings from Phase 1 analysis and the consultations with key stakeholders.

10. As part of this task, the Consultant is specifically expected to:
 - Prepare the draft Investment Plan following the structure defined in Annex A, based on prioritized list of renewable energy investments. The draft Investment Plan, among other key aspects, shall: (a) describe the role of SREP in initiating a process leading to transformational growth; (b) describe likely development impacts and co-benefits from SREP investments; (c) provide estimates of the financing requested from SREP; and (d) assess the absorptive capacity of SREP and leveraged resources.
 - Prepare concept briefs of the priority investments for SREP funding as per template presented in Annex B.
 - Facilitate further consultations with a broad segment of stakeholders, including civil society and traditional organizations, on the Investment Plan and proposed specific investments, including their potential environmental and social impacts and benefit, and the level of public support for the proposed investments.
 - Identify the issues, including environment and social, that need to be addressed in order to successfully allow the implementation of the proposed Investment Plan, including the requirement that further preparation of any project for SREP funding include an environmental and social impact assessment; consultations with beneficiaries and potentially affected communities, including representatives of the different ethnic groups in the proposed project area as well as the local council of chiefs; and the preparation of environmental and social management plan or framework, as appropriate and as provided in the World Bank's safeguard policies.

15. The Investment Plan shall also meet the requirements of, and be compatible with, the procedures and goals of the SREP. The draft investment plan will be revised and finalized in response to comments received from stakeholders.

IMPLEMENTATION

16. The Consultant shall closely coordinate the implementation of the activity with the SREP focal point and the task force team and will report to the designated staff of the task force team. The Consultant should closely collaborate with the project team representing the Multilateral Development Banks (MDBs), utilities, and other stakeholders and keep them posted/up-to-date on the progress, deliverables and issues during all stages of the project. The Consultant should consult with and ensure the investment plan is broadly supported by the key stakeholders in Lesotho.

DEADLINES AND DELIVERABLES

17. The Consultant should submit the following reports and deliverables as specific in the below Table 1. All reports and deliverables should be submitted in English language. The Consultant should also make available all the relevant analytical material in MS Word, MS Excel or other software format.

Table 1: Consultant Deliverables

Deliverable	Deadline
Task 1 and Task 2 Reports	Contract signing + 7 weeks
Task 3 Report	Contract signing + 10 weeks
Draft Investment Plan	Contract signing + 14 weeks
Consultation meetings and comments	
Final Investment Plan	Contract signing + 22 weeks

CONSULTANT QUALIFICATIONS

18. The consultant will be a firm.

19. The firm to be contracted is expected to bring together a balanced level of national and international expertise. Consortiums of local and international firms are particularly encouraged. The Consultant that will perform the scope of work shall contain, but not be limited to, the following key expertise:

- A broad range of knowledge, skills and experience covering energy planning, renewable energy, economic and financial analysis of energy investment projects, and the following minimum qualifications:
- Expertise in developing and managing energy projects or programs and in renewable energy investments such as solar PV, wind, biomass and biogas projects;
- Expertise in conducting environmental and social screening of energy projects, programs or investments, including good knowledge of the World Bank's safeguard policies;
- Expertise in design and implementation of national energy plans or SREP investment plans, inclusive of a mix of energy technologies (diesel, hydro, solar, geothermal, and wind etc);
- Expertise in technical assessment, economic and financial analysis of energy sector projects or programs, including renewable energy projects;
- Expertise in the areas of policy and regulatory requirements in energy sector development, including renewable energy development;
- Expertise in rural electrification through grid extension, off-grid renewable energy and mini and micro-grid projects;
- Relevant experience in the energy sector of Lesotho;
- Experience in conducting key stakeholder workshops and consultations;
- Experience in working with government;
- Experience in working on donor funded and supported projects and working with multilateral and bilateral donors;

ANNEX A: INVESTMENT PLAN TEMPLATE

- 1) Proposal Summary (2 pages)
 - a. Objectives
 - b. Expected outcomes
 - c. Program criteria, priorities and budget
- 2) Country Context (2 pages)
 - a. Energy sector description (market structure, demand supply, and dispatch composition, electricity cost and pricing) incl. renewable energy status
 - b. Gap/barrier analysis; needs assessment
- 3) Renewable Energy Sector Context (2 pages)
 - a. Analysis of Renewable Energy options (technology, cost, mitigation potential, barriers, environmental and social benefits and impacts)
 - b. Government plans or strategy for the sector (willingness to move towards renewable energy investments, existing or envisioned policy, regulation, plans, and resource allocation)
 - c. Institutional structure and capacity (technical, operational, financial, environmental and social, equipment supply, information)
 - d. Role of private sector and leverage of resources
 - e. Ongoing/planned investment by other development partners
- 4) Contribution to National Energy Roadmap (2 pages)
 - a. Likely development impacts and co-benefits of SREP investment
 - b. How SREP investment will initiate a process leading towards transformational growth
- 5) Program Description (6-8 pages)
 - a. Capacity building and advisory services
 - b. Investment preparation activities
 - c. Technology deployment investments
 - d. Parallel activities to be funded by other development partners
 - e. Environmental, social and gender risks, impacts and co-benefits, including a summary of provisions for further environmental and social assessments, consultations and development of mitigation and compensations measures as part of the implementation of any project identified in the IP, in view of World Bank safeguard policies and national legislation.
- 6) Financing Plan and Instruments (3-4 pages)
 - a. Budget envelop for investments
 - b. Costs and sources of funding
 - c. SREP assistance (grant, concessional debt, etc.)
 - d. Recipients of funding
- 7) Additional Development Activities (2-3 pages)
 - a. Leverage complementary co-financing with other development partners such as bilateral organizations, private sector, and financial institutions
- 8) Implementation Potential with Risk Assessment (2 pages)
 - a. Country/regional risks - institutional, technology, environmental, social, financial
 - b. Absorptive capacity for SREP and leveraged resources
- 9) Monitoring and Evaluation (1/2 page)

a. Results framework table

Annexes

Information should be included in annexes on the following areas:

- Assessment of countries absorptive capacity
- Stakeholder consultations
- Co-benefits
- Existing activities in the field of renewable energy, particularly activities of other development partners
- Independent Technical Review: matrix addressing comments and Government/MDB responses
- Social and environmental issues, benefits and constraints, including provisions for, and guidance on, further environmental and social assessments, consultations and development of mitigation and compensations measures and plans as part of the implementation of any project identified in the IP, in view of World Bank safeguard policies and national legislation.

Note that the Independent Technical Review report should be submitted as a separate file.

ANNEX B: CONCEPT BRIEF TEMPLATE

For each Investment Plan component, an investment concept brief (maximum two pages) should be provided as annex that includes:

- Problem statement (1-2 paragraphs)
- Proposed contribution to initiating transformation with reference to NERM(1-2 paragraphs)
- Implementation readiness (1-2 paragraphs)
- Environmental and social issues / constraints and recommended level of environmental and social assessments, consultations and mitigation/compensation plans to be done during Project preparation as per World Bank's safeguard policies (1-2 paragraphs)
- Rationale for SREP financing (1-2 paragraphs)
- Results indicators
- Financing plan
- Project preparation timetable
- Requests, if any, for investment preparation funding