

**Aide-Memoire for
Scaling-up Renewable Energy Program in Low Income Countries (SREP)
Joint MDB Scoping Mission to Zambia
April 8-10, 2015**

I. Introduction

1. A joint World Bank Group (WBG), including the International Finance Corporation (IFC), and African Development Bank (AfDB) Mission Team¹ visited Zambia over the period April 8-10, 2015 to support the Government of Zambia (GoZ) with the preparation of the Zambia Investment Plan under the Scaling-up Renewable Energy Program (SREP). In June 2014, Zambia was selected as one of the new pilot countries to participate in the SREP program. In September 2014, Zambia was invited to develop an Investment Plan (IP) based on the Expression of Interest submitted to the SREP program.

2. The objectives of the Mission were to: (i) introduce the key features of the SREP program to the relevant government ministries, other development partners, and other key stakeholders who are expected to interact with the Government of Zambia in the development of the investment plan; (ii) hold preliminary consultations with key stakeholders; (iii) do an assessment of necessary technical assistance and resources required to develop the investment plan based on the country readiness and available relevant studies and documents; (iv) agree on next steps, including a detailed timeline for the preparation of the investment plan.

3. The Mission had extensive discussions with officials of the Department of Energy (DoE) of the Ministry of Mines, Energy, and Water Development, the Zambia Electricity Supply Company (ZESCO), the Energy Regulation Board (ERB), and the Rural Electrification Authority (REA), as well as various stakeholders from private sector, academia and non-governmental organizations. The Mission wishes to express its sincere appreciation to Government officials and others for the productive discussions and excellent cooperation during the scoping mission. The main findings of the aide memoire were agreed through a wrap-up meeting chaired by the Acting Director of Department of Energy. The Government confirmed this aide memoire to be classified as public document under World Bank's access to information policy.

II. Mission Activities

4. The Mission introduced the objectives, scope, and type of investments which could be supported under the SREP program, as well as the activities involved in the country-led SREP process. The Mission also clarified key features of the SREP program, including: (i) transformational impact, (ii) barrier reduction, (iii) leveraging investments, including private participation, (iv) scaling-up renewable energy capacity and access to energy. The mission informed the discussions that the SREP financing can be provided to all renewable energy technologies including solar, geothermal, wind, hydropower (below 10MW per facility), and

¹ The MDB Mission Team comprised of Raihan Elahi (Senior Energy Specialist, World Bank), Joseph Kapika (Senior Energy Specialist, World Bank), Federico Qüerio (Energy Specialist, World Bank), Dan Croft (Senior Investment Officer, IFC), Brunno Maradei (Investment Officer, IFC Blended Climate Finance), and Elizabeth Muguti (Senior Power Engineer, AfDB).

bioenergy. The Mission informed that the SREP funds are expected to leverage additional financing in a ratio of 1 to 4, noting that the investment plans approved so far under the SREP program have an average leverage ratio of 1 to 7.

5. The Mission informed GoZ that the SREP Sub-Committee has agreed to an indicative allocation of US\$40 million for Zambia, which includes US\$300,000 grant funding already available for preparing the investment plan. The Mission clarified that the composition of the funding is yet subject to approval by the SREP Sub-Committee, but will likely be 45% in the form of grant and 55% in the form of concessional loans. The Mission also clarified that recent pledges made to the SREP are not enough to cover the implementation of projects/programs proposed in the investment plans for the 14 new countries.² Nevertheless, the SREP Sub-Committee agreed to endorse investment plans from the new pilot countries on a first-come, first-served basis taking into account the quality of the investment plans, regardless of funding availability under the SREP. It is expected that funding for the projects/programs identified in the investment plans could come from the SREP or other sources of climate finance such as the Green Climate Fund (GCF).

III. Mission Findings and Agreements

6. The main findings and agreements from the discussions that the Mission held with GoZ and relevant stakeholders, including representatives from private sector, academia and non-governmental organizations are summarized below.

7. **Designated Task Force Team.** GoZ designated the Acting Director of the Department of Energy (DoE) of the Ministry of Mines, Energy, and Water Development as the focal point for the preparation of the SREP Investment Plan for Zambia. A task force will be established within the DoE to oversee the preparation of the investment plan.

8. **The stakeholders raised the following main issues during the consultations:**

- a. Lower than cost-reflective tariff is a major constraint to private sector participation in the Zambia power sector;
- b. Absence of a transparent and competitive procurement framework, standardized power purchase agreements, indicative term sheets to raise debt, etc. negatively affect the level of private investment in Zambia power sector;
- c. Lack of clarity on the future of mini-grids when national grid reaches the mini-grid areas, puts the mini-grid developers at risk and reduces attractiveness for new investments;
- d. Absence of a least-cost expansion plan does not allow ZESCO to efficiently expand the power sector;

9. **Potential Areas of Engagement.** The GoZ and the Mission agreed on the need to align the investment plan with the priorities identified in the National Energy Policy of 2008 (NEP2008),

² Bangladesh, Benin, Cambodia, Ghana, Haiti, Kiribati, Lesotho, Madagascar, Malawi, Nicaragua, Rwanda, Sierra Leone, Uganda and Zambia.

the Sixth National Development Plan (SNDP 2011-2016), and the Vision 2030, which aims to transform Zambia into a prosperous middle income country with universal access to clean, reliable, and affordable energy by 2030. Likewise, the prioritization of investments proposed in the investment plan will consider its alignment with both SREP objectives and GoZ priorities as outlined in the NEP2008³ and the Rural Electrification Master Plan (REMP)⁴. The investment plan shall demonstrate how the proposed activities will lead to barrier reduction for renewable energy development and market transformation, including increased private sector participation in the sector. The potential areas of engagement under the SREP may include renewable energy technologies such as small-hydro, solar, geothermal, and wind. During the preparation of the investment plan, the GoZ will identify and review all types of renewable energy applications (including cookstoves) and business models that have potential for replication in Zambia through consultation with relevant stakeholders. The investment plan will be developed to include a broader set of renewable energy priorities to help GoZ access not only SREP resources but also other climate finance resources such as the GCF.

10. **Preparation of the investment plan.** The GoZ will lead the preparation of the investment plan with support from the WBG (including IFC) and AfDB. The GoZ agreed to request and execute up to \$300,000 grant from SREP for investment plan preparatory activities (e.g., consultancy services, consultations, workshops). The GoZ will communicate the mechanism (e.g., template) for gathering proposals from interested stakeholders, which will be considered during the preparation of the investment plan. The GoZ will be assisted by the WBG (including IFC) and AfDB for the preparation of the terms of reference for consulting services.

IV. Next Steps

11. The Mission discussed with GoZ on a road map leading to the submission of the investment plan to the SREP Sub-Committee. Key milestones are as follows.

³ The objective of the National Energy Policy (NEP2008) is to harness the energy sector's potential for economic growth and poverty reduction. The NEP2008 also aims to address barriers to the wider deployment of renewable energy technologies in Zambia.

⁴ The Rural Electrification Master Plan (REMP) is the blueprint for rural electrification for the period 2008-2030. The successful implementation of the REMP would increase rural electrification rate from 3% (2008) to 51% (2030).

Actions	By whom	By when (tentative)
MDB Joint Scoping Mission	GoZ / MDBs ⁵	Completed (April 8 th -10 th , 2015)
SREP investment plan preparation grant request	GoZ	October 30 th , 2015
Processing of investment plan preparation grant request	WB	November 15 th , 2015
Selection of consultant to support with preparation of investment plan	GoZ	December 15 th , 2015
MDB Joint Mission and workshop to review draft investment plan with key stakeholders (including project concept notes)	MDBs and GoZ	February 2016
Finalization of investment plan	GoZ	May 15 th , 2016
Disclosure of investment plan for public consultation (two weeks for review and provision of comments) and independent technical review	GoZ	June 15 th , 2016
MDB internal quality review	MDBs	June 30 th , 2016
Submission of investment plan for Sub-Committee approval	GoZ	July 15 th , 2016
Approval by SREP Sub-Committee	SREP Sub-Committee	November 2016

⁵ MDBs (Multilateral Development Banks) represented by the WBG (including IFC) and AfDB.

ANNEX 1

MISSION AGENDA

Date	Meeting
April 8 th , 2015	<ul style="list-style-type: none">• Kick-off meeting chaired by Acting Director of Department of Energy of the Ministry of Mines, Energy, and Water Development with presence of various stakeholders.• Zengamina Mini Hydro
April 9 th , 2015	<ul style="list-style-type: none">• Zambia Electricity Supply Company (ZESCO)• Rural Electrification Authority (REA)• Kalahari Geo Energy
April 10 th , 2015	<ul style="list-style-type: none">• Copperbelt Energy Corporation• ZENGO Cook Stoves• Energy Regulation Board (ERB)• Wrap-up meeting chaired by Mr. Charles Mulenga of Department of Energy of the Ministry of Mines, Energy, and Water Development with presence of various stakeholders

ANNEX 2

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.

ANNEX 3

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 (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 or other climate financing (1-2 paragraphs)
- Results indicators
- Financing plan
- Project preparation timetable
- Requests, if any, for investment preparation funding

SREP SCOPING MISSION PRESENTATION



Scaling Up Renewable Energy Program in Low Income Countries (SREP)

Scoping Mission

Zambia
April 2015



1

Structure and Funding CIF

<p>Clean Technology Fund</p> <p>Finance scaled-up demonstration, deployment and transfer of low carbon technologies</p>	<p>Strategic Climate Fund</p> <p>Targeted programs with dedicated funding to pilot new approaches with potential for scaling up</p>		
	<p>Pilot Program for Climate Resilience (PPCR)</p> <p>Mainstream climate resilience into core development planning</p> <p>\$1.3 billion</p>	<p>Forest Investment Program (FIP)</p> <p>Reduce emissions from deforestation and forest degradation</p> <p>\$832 million</p>	<p>Scaling Up Renewable Energy in Low Income Countries (SREP)</p> <p>Create economic opportunities and increase energy access through renewables</p> <p>\$836 million</p>
<p>±\$5.5 billion</p>	<p>±\$ 3.0 billion</p>		

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Scaling Up Renewable Energy Program in Low Income Countries (SREP)

CIF

Purpose

To pilot and demonstrate the economic, social and environmental viability of low carbon development pathways in the energy sector by creating new economic opportunities and increasing energy access through the use of renewable energy

Scale

\$836 million in pledges for programs of investments and capacity building in renewable energy. Expected Co-financing 1:4

Private sector program for \$90 million SREP funding

Governance

- SREP Sub-Committee (recipient/donor countries)
- Administrative Unit
- Trustee
- Multilateral Development Banks (MDBs) - ADB,, IDB, EBRD, and WB/IFC
- Observers: civil society, Indigenous Peoples, private sector, GEF, UNDP, UNEP, UNFCCC

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Contributor	Contribution Type	Contribution in million USD eq. (as of Nov 2014)
Australia	Grant	10
Denmark	Grant	12
Japan	Grant	40
Korea	Grant	6
Netherlands	Grant	76
Norway	Grant	118
Spain	Grant	4
Sweden	Grant	44
Switzerland	Grant	26
United Kingdom	Grant / Capital *	449
United States	Grant	50
Total		836

* Near-zero interest loan

Types of Activities

CIF

Investments

- Eligible Investments:
 - Solar, wind, bio energy, geothermal, small-hydro (<10MW)
 - Electricity and thermal
 - On-grid, Off-grid, Mini-grid

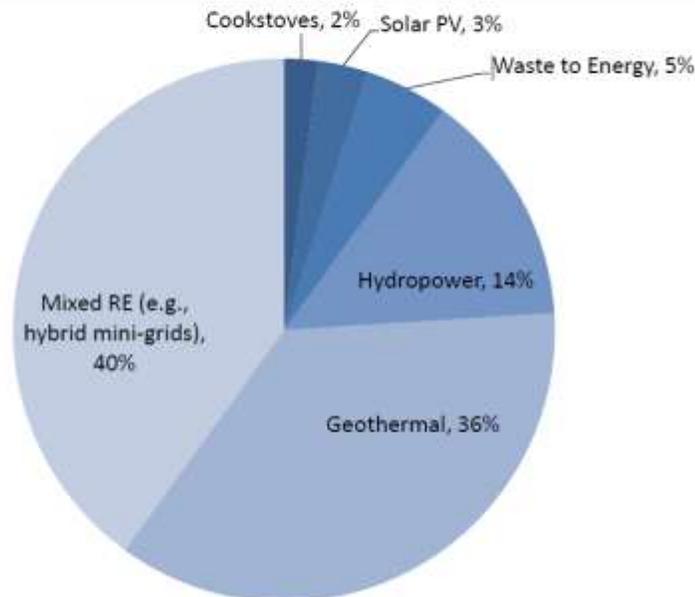
Capacity Building & Advisory Services

- Development of energy policies and legislation
- Assessment of technical resources potential
- Strengthening governance and institutional capacity
- Creation of incentive scheme to improve financial viability of RETs

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SREP: Distribution by Technologies

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Based on approved SREP Project Funding as of September 30, 2014

Pilot Countries w/Investment Plans

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Country	Endorsed by SREP Sub-Committee	SREP Funding (\$ million)	Total Funding (SREP and co-financing) (\$ million)	Type of Activities
Kenya	Sep '11	50	468	Geothermal, hybrid mini-grids (solar, wind)
Honduras	Nov '11	30	273	Strengthening RE policy and institutional framework, grid-connected renewables, cookstoves, stand-alone solar PV
Mali	Nov '11	40	258	Solar PV, hybrid mini-grids (biofuel, solar), mini/micro hydro
Nepal	Nov '11	40	514	Small-hydro, mini-/micro-renewables, stand-alone solar PV, biogas
Ethiopia	Mar '12	50	496	Geothermal, wind
Maldives	Nov '12	30	139	Hybrid mini-grids (solar, wind), waste-to-energy, rooftop solar PV
Tanzania	Sep '13	50	719	Geothermal, mini/micro grids, stand-alone solar PV, TA
Liberia	Oct '13	50	178	Mini-grids, stand-alone solar PV
Armenia	Jun '14	40	259	Geothermal, utility-scale solar PV
Sol. Islands	Jun '14	14	40	Mini-grids, utility-scale solar PV
Vanuatu	Nov '14	14	34	Mini-grids, small-hydro
Total		408	3,378 (1:7 leverage ratio)	

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Key Elements of Investment Plan

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- Country and energy sector context (national strategies, assessment of needs, institutional framework, etc.)
- Renewable energy sector context (status, strategies, potential, barriers, etc.)
- Prioritization of investments
- Program description
- Co-financing, leverage, partnership
- Transformational impact
- Implementation arrangements
- Risk assessment
- Results framework and co-benefits
- Project concept notes for priority investments proposed for SREP financing, including analysis of fulfilment of SREP criteria

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SREP Investment Criteria for Projects

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Projects and Investments should address the following criteria:

- Increased installed capacity from renewable energy sources
- Increased access to energy through renewable energy sources
- Low Emission Development
- Affordability and competitiveness of renewable sources
- Productive use of energy
- Economic, social and environmental development impact
- Economic and financial viability
- Leveraging additional resources
- Gender
- Co-benefits of renewable energy scale up

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SREP Pilot Countries

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11 countries with endorsed Investment Plans

Armenia, Ethiopia, Honduras, Kenya, Liberia, Maldives, Mali, Nepal, Solomon Islands, Tanzania, Vanuatu

9 countries with Investment Plans under preparation

Bangladesh, Cambodia, Ghana, Mongolia, Yemen, Rwanda, Haiti, Nicaragua, Uganda

7 countries starting preparation of Investment Plans

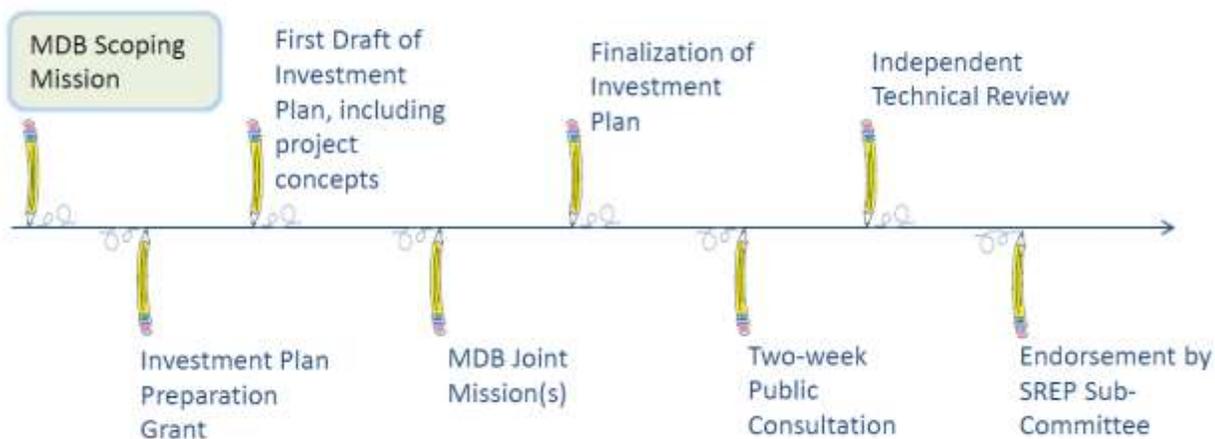
Benin, Kiribati, Lesotho, Madagascar, Malawi, Sierra Leone, and **Zambia**

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SREP Programming

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Phase 1 (pre-endorsement of Investment Plan)



Phase 2 (post-endorsement of Investment Plan)

The further processing of projects identified in the endorsed Investment Plan should follow the MDBs policies and procedures for appraisal, MDB Board approval and supervision.



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Illustrative SREP IP for Zambia

- SREP IP can include two phases:
 - ✓ Stage I: up to \$40M SREP funding
 - ✓ Stage II: up to \$50-100M from SREP or emerging Green Climate Fund (GCF)

Financing Plan SREP IP	Climate Finance (e.g., SREP, GCF) (\$M)	Other Sources (e.g., Gov't, Private, MDB, dev. Partners, etc.) (\$M)	Total (\$M)
Phase 1	Up to 40 (SREP)
Project A
...
Phase 2	50-100 (SREP and others – e.g., GCF)
Project D
...
Total	90-140

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Scoping Mission Objective

CIF

- Introduce SREP program, modalities of implementation, and supported activities
- Identify relevant government counterparts, development partners, and stakeholders for the proposed SREP activities
- Agree on the Government task force responsible for preparing the SREP “Phase 1”
- Undertake a stocktaking of existing activities and documentation
- Agree on the Terms of Reference and timing for the next Joint Mission
- Agree on timeline and financial/human resources (\$300k IP preparation grant)
- Agree on the scope and outline of the Investment Plan

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CIF

THANK YOU

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- Transformative impact
- Enabling environment
- Implementation capacity
- Catalyze increased investments in renewable energy
- Improve long-term economic viability of renewable energy sector
- Increase energy access