



RURAL DEVELOPMENT IN NAMIBIA THROUGH ELECTRIFICATION WITH RENEWABLE ENERGIES

NAMA Profile # 4

Seeking Support for Implementation

July 2015

Background

Access to modern energy services is a prerequisite for sustainable development. Namibia has made good progress in electrification, and major grid lines can be found in all of the country's provinces. However, rural electrification is still limited, as is access to clean energy sources, and according to the Rural Electricity Distribution Master Plan (REDMP), 61% of localities lacked access to electricity in 2010. Electricity demand is met through the national grid by supplying electricity generated from domestic electric power plants (thermal and large-scale hydro) and imports from neighboring countries. Approximately 41% of Namibia's electricity demand is supplied by domestic power plants, while the rest is covered by electricity imports.

The Konrad Adenauer Stiftung's study of renewables in Namibia's electricity sector (KAS, 2012) found that the country has significant renewable energy (RE) potential. However, RE uptake and use for mainstream electricity generation remain slow due to existing barriers such as, *inter alia*: access to the national transmission system; difficulties regarding power purchase agreements with the state utility; guarantees required by the Government for capital infrastructure projects; and the need for generation licenses from the Electricity Control Board (ECB).

NAMA Objectives

The proposed NAMA was designed to support Namibia in achieving its strategies for rural electrification and to complement ongoing activities in this field. Therefore, the NAMA's overall target is to support Namibia in achieving



the goal defined in the Off-Grid Energisation Master Plan (OEGMP): "To provide access to appropriate energy technologies to everyone living or working in off-grid, pre-grid and 'grey' areas."

More specifically, the NAMA aims to:

- Improve electricity access to those regions, households and companies that currently lack access;
- Improve the share of REs, mainly from solar energy and potentially from wind and small hydro;
- Reduce greenhouse gas (GHG) emissions by replacing fossil fuels with REs;
- Provide conditions for income generation and new business opportunities;
- Increase private sector involvement; and
- Achieve additional sustainable development benefits.

NAMA Interventions

The NAMA interventions were selected through a consultative process involving key Namibian stakeholders. During a workshop in September 2014, ideas regarding potential interventions were presented to these stakeholders, and were based on strategic policy documents, such as the OGEMP and the REDMP. Following discussions, the two following interventions were selected:

Intervention A: Mini grids

Mini grids will be established in rural communities, preferably in the vicinity of schools and potential future tourism projects, such as eco-lodges. The mini grids will use RE sources (solar, wind, hydro) and will provide electricity to households for daily lighting (two lamps minimum), radio and phone charging. The mini grids will also: ensure capacity for income-generating opportunities for entrepreneurs and community projects; and provide electricity to public buildings, like schools and health centers.

Intervention B: Energy zones

The OGEMP defined the concept of Energy Shops, which are generally established within a reasonable distance of targeted communities and sell suitable, approved energy products and compatible appliances to consumers. Under Intervention B, this concept is developed further into energy zones, with the addition of a rural productivity zone component, which will:

- be in centers in off-grid areas as defined in the OGEMP (UNDP, 2007);
- be new stand-alone RE installations (solar PV, wind, hydro) providing electricity in one building/compound;
- promote new entrepreneurial activities by providing space and electricity for Internet cafes, sewing workshops, ice-making, agro-processing, etc.;
- be located in places where village households can charge their batteries, on a daily basis or after two days, for lighting and other basic needs; and
- provide an outlet for the sale of energy appliances (solar lanterns, light bulbs, etc.), with a focus on rural electrification with renewable energies.

NAMA Baselines

The baseline scenario for this NAMA consists of two components: a GHG baseline and a sustainable development baseline. Setting the baseline scenario in this way allows all effects to be properly assessed and quantified through the monitoring activities described in the measurement, reporting and verification (MRV) system. In the Namibian context, the baseline scenario assumes that people use fossil fuel technologies to meet their basic energy needs, which leads to significant GHG emissions. The UN Framework Convention on Climate Change's (UNFCCC) "Small-scale Methodology: AMS-I.L.: Electrification of rural communities using renewable energy, Version 03.0" will be used to monitor GHG emission reductions.

NAMA Institutional Coordination

National NAMA Approver/Focal Point: The role of the NAMA Approver/Focal Point is to provide strategic and financial oversight of NAMA activities and guidance to sectoral NAMA coordinating entities. The Ministry of Environment and Tourism has already been appointed as the NAMA Approver/Focal Point.

The NAMA Coordinating Authority (NCA): The NCA manages and coordinates the NAMA, maintains contact with donor institutions, oversees the implementation process and approves annual monitoring reports. The Ministry of Environment and Tourism will also act as the NCA.

NAMA Implementing Entity (NIE): The NIE will be responsible for handling financial flows from funding entities to beneficiaries, as well as for project approval. The Environmental Investment Fund (EIF) will take on the role of NAMA NIE.

NAMA Executing Entities (NEEs): The NEEs are the companies and/or institutions, which will implement projects under the two interventions. The existing Namibia Climate Change Committee will act as the supervisory board for the NAMA with the power to establish working groups and subcommittees as needed.

NAMA Financing Mechanisms

In the context of this NAMA, the main focus will be on how to build and integrate a reliable and transparent financial governance structure into the NAMA and how to manage the financial flows and controls required to ensure the sustainable use of funds.

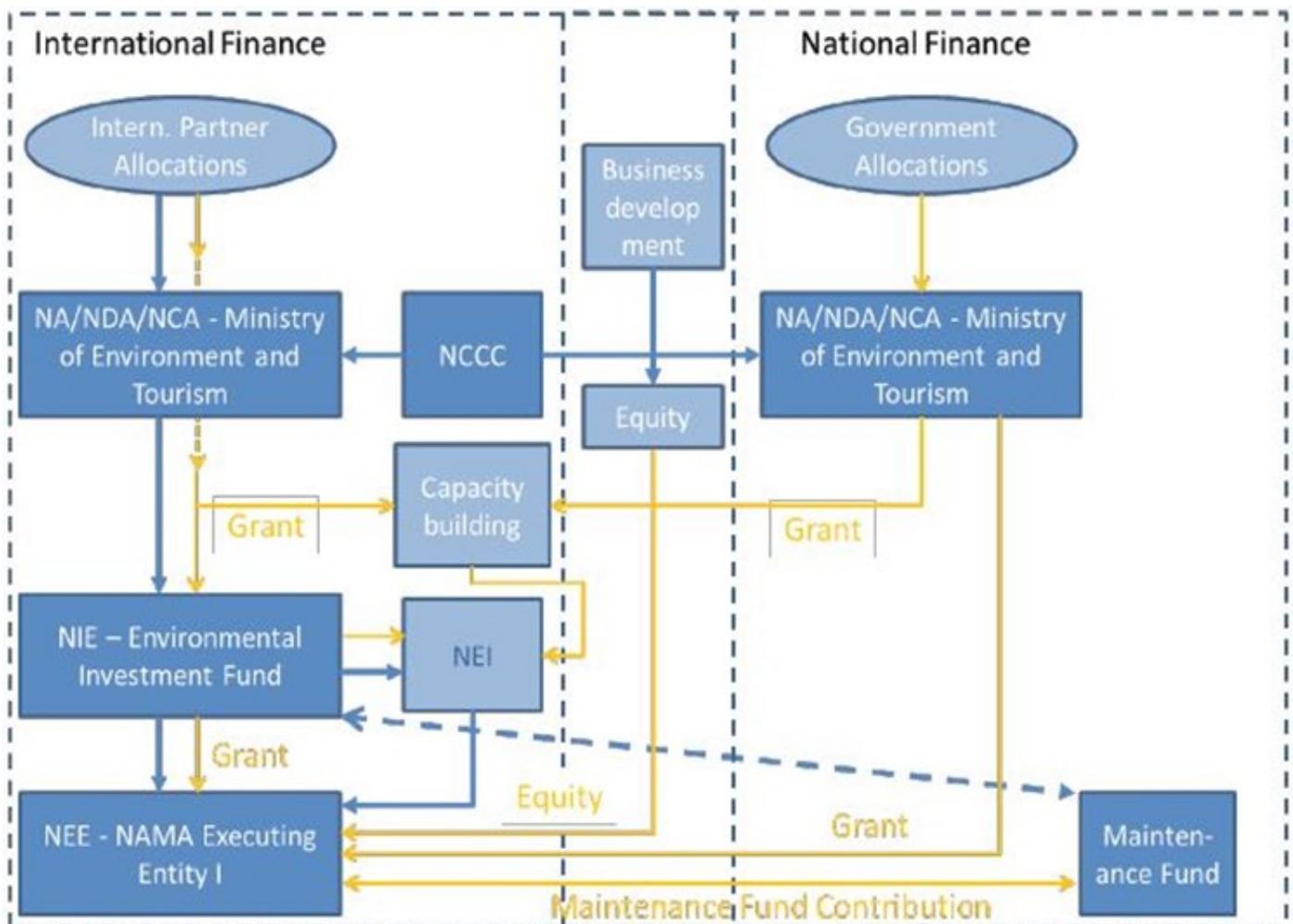
This NAMA will be co-financed by the Government of Namibia and international partners/NAMA donors. Therefore, this NAMA considers two primary finance tracks: national finance and international finance.

For the purposes of this NAMA, national finance is defined as financial flows or capital directly influencing the ventures and incentives designed under the NAMA, and which are within the operational control of the national Government.

International finance is defined as financial flows or capital directly influencing the interventions designed under the NAMA and which originate from and are controlled by international partners (consisting of multilateral financing institutions and/or multilateral/bilateral programmes).

The capital provided by international partners will only be used for direct investment grants in Interventions A and B. The contributions will be channeled directly from the partners to the NIE (the EIF), which will then disseminate the funds to NEEs in both Intervention A and Intervention B.

Fig 1 : Flow Chart of National and International Finance



NAMA Measurement, Reporting and Verification (MRV)

The NAMA MRV system is based on two components: emission reductions and sustainable development benefits.

The NAMA’s total GHG emission reductions in a given year are the sum of the emission reductions achieved by implementing Intervention A and Intervention B. Emission reductions achieved are calculated by comparing actual (project) emissions with emissions under the baseline scenario.

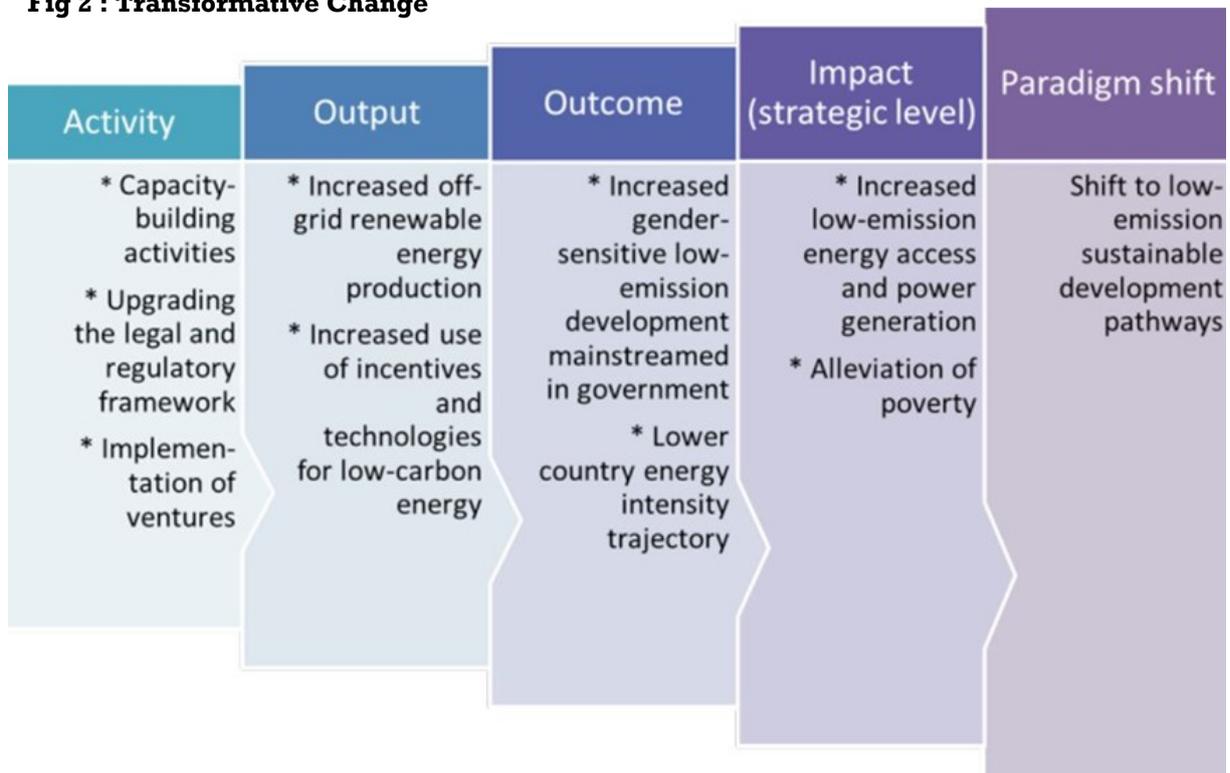
The NAMA will monitor the impact of the interventions on selected sustainable development indicators, which are selected using the Sustainable Development Evaluation Tool (SD Tool) developed by UNDP. The tool requires that each Intervention decide whether an indicator is selected, identify the impact, add an explanation on the chosen indicator, define the effect (positive, negative or both) and indicate whether monitoring is undertaken.

Alignment of NAMA Objectives and Targets with National Strategies and Transformative Change

The NAMA focuses not just on emission reductions, but also on achieving sustainable development, national development goals and transformative change. This approach is also aligned with the Results Management Framework of the Green Climate Fund (GCF). The overall targets for the NAMA are described in the figure 2.

Namibia’s overarching objectives and targets are defined in Vision 2030, which was adopted in 2004. According to this document, the aim is to achieve “a prosperous and industrialized Namibia, developed by her human resources, and enjoying peace, harmony and political stability” by 2030. Most of the NAMA’s activities are also reflected in Namibia’s Fourth National Development Plan (NDP4) and in the OGEMP, which foresees electrification of rural public institutions and has the objective of reaching all public institutions.

Fig 2 : Transformative Change



Salient features of the Proposed NAMA

Sector : Energy Supply
Technology : RE
Type of action : National/Sectoral Goal/Projects
GHGs covered by the action : CO₂
Expected timeframe for the implementation: 5 years
Implementing entity : EIF
Total estimated cost of the action : \$14 million
Required support for the preparation of the action : \$8 million (financial support) and \$ 2.9 million (capacity building)

Relevant contacts

Benedict Libanda
 Phone: +264 61 431 7700
blibanda@eifnamibia.com

Petrus Muteyauli
 Phone: +264 81 1491944
pmuteyauli@yahoo.co.uk

Alexandra Soezer, Ph.D.
 Project Manager, UNDP MDG Carbon
alexandra.soezer@undp.org

A complete and in-depth description of all the aspects presented in this NAMA profile is available in the document produced by UNDP and Namibia's Ministry of Environment and Tourism titled "Nationally Appropriate Mitigation Action: Rural development in Namibia through electrification with renewable energies."

References

Government of the Republic of Namibia (GRN) (2015). About Namibia. Our Future and Vision. Vision 2030.
 Ministry of Mines and Energy (2010). Rural Electricity Distribution Master Plan for Namibia 2010. National Overview Report.
 Ministry of Mines and Energy (MME) (2011). OGEMP Solar Revolving Fund Fact Sheet. Windhoek.
 National Planning Commission (NPC) (2012). Namibia's Fourth National Development Plan (NDP4).
 The World Bank (2009). Namibia Country Brief.
 UNDP (2014). NAMA Sustainable Development Evaluation Tool.
 UNFCCC (2015). NS-197 - Rural Development in Namibia through Electrification with Renewable Energies. NAMA Registry.

This series of NAMA profiles is produced by the NAMA and Registry Unit of the Non-Annex I Support Sub-Programme of the Mitigation, Data and Analysis Programme (MDA) of the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat, based on the information recorded by Parties in the NAMA Registry. The objective of the NAMA profiles is to enhance visibility of NAMAs, which increases the probability of obtaining international support and encourages similar mitigation actions in other developing countries.

The NAMA Registry is a dynamic, web-based platform to record NAMAs in developing countries, as well as support available and/or provided by Parties and entities for such mitigation actions. Furthermore, the Registry aims to facilitate the matching of NAMAs with available support. Participation is voluntary and the Registry contains only information that has been submitted specifically for recording purposes. For any queries or assistance related to the NAMA Registry, please contact: NAMA-registry@unfccc.int or NAMA-support@unfccc.int

To read more stories about how developing countries, often with international support, are lowering global emissions, creating jobs, improving living conditions and preparing for a low-emissions world, please visit:

<http://www4.unfccc.int/sites/nama/SitePages/Home.aspx>
<http://namanews.org/news/>
<https://www.facebook.com/namamarketplace>
<https://twitter.com/NAMAPartnership>