



LESOTHO

Sustainable Energy for All

INVESTMENT PROSPECTUS



SUSTAINABLE
ENERGY FOR ALL



INVESTMENT PROSPECTUS

Table of Contents

EXECUTIVE SUMMARY	5
PREAMBLE	6
INTRODUCTION	7
INVESTING IN LESOTHO	9
Country Overview	9
Legal and Regulatory framework	12
Attractiveness of Lesotho's Energy Sector	15
LESOTHO PROJECTS PORTFOLIO OUTLINE	19
APPENDIX – Project Fiches – Energy Access	22
APPENDIX – Project Fiches – Renewable Energy	36
APPENDIX – Project Fiches – Energy Efficiency	38
APPENDIX – Project Fiches – Enabling Action Areas	55

Table of Figures

Figure 1 – Pipelines considered in Lesotho SEforAll Investment Prospectus	8
Figure 2 – Investments timeframes considered in Lesotho SEforAll Investment Prospectus	8
Figure 3 – Historical Evolution of Population in Lesotho (1996 – 2017) (Source: Lesotho Bureau of Statistics)	9
Figure 4 – Lesotho Sectorial Contribution to the GDP (Source: Lesotho Bureau of Statistics)	10
Figure 5 – Energy Demand and Supply in Lesotho (SREP - RE Options Study - March 2017)	10
Figure 6 – Current Electricity Sector Framework in Lesotho	13
Figure 7 – “World Bank “Doing Business” 2018 ranking.....	15
Figure 8 – “World Bank “Doing Business” 2018 comparative Sub-Saharan Africa ranking	16

Listing of Tables

Table 1 – Key Sector Legislation.....	14
Table 2 – Key Regulations and Guidelines	14
Table 3 – Current Lesotho Tax Rates (Lesotho Revenue Authority)	16
Table 4 – Selected short and medium-term investments.....	19
Table 5 – Selected long-term investments.....	21

DRAFT

REPORT DATA SHEET

Project Name:	“Lesotho SEforAll Country Action Agenda and Investment Prospectus”
Country:	Lesotho
Developed by:	Department of Energy (DoE) - Ministry of Energy Meteorology and Water affairs Lengeta Mabea Musio Raliselo Nthomeng Seepheephe Keketso Jobo Itumeleng Ramone
Project Implementation Agency	United Nations Development Programme (UNDP) Project Manager: Mabohllokoa Tau International Expert: Carlos Matos Gueifão
Funded:	GEF – Global Environment Fund
Published:	xx/xxxxxxxx/2018

EXECUTIVE SUMMARY

The SE4LL Investment Prospectus provides an approach for operationalizing the Lesotho SE4ALL Action Agenda towards achieving SE4All goals by identifying and developing a set of implementable programs and projects, including their investment requirements, that can be presented to potential private and public investors.

This Investment Prospectus presents a total of approximately ##### \$USD (### maloti) investment, contains 24 different Projects and Initiatives based on different pipelines: Energy Access; Renewable Energy; Energy Efficiency and Enabling Actions to reach the SE4All goals.

Government of Lesotho recognises the Projects and Initiatives included in this Investment Prospectus as relevant and critical for achieving the National goals and SE4All targets and is willing to support its promotion and execution in all phases.

The SE4LL Investment Prospectus is an informative document that should serve as a “conversation starter” for a variety of investment opportunities, providing prospective investors and financiers enough information to decide whether or not they might want to liaise with specific project and/or program promoter to get further details.

The document presents a Country overview and the attractiveness of Lesotho Energy Sector from the Investors point of view. It also provides an overview of the current relevant Legal and Regulatory framework.

All Investment opportunities seeking for funding are presented in a form of standard “Project Fiches” which are provided as appendix of the SE4All Investment Prospectus.

PREAMBLE

This document presents the SE4All Investment Prospectus (IP) for Lesotho.

The SE4ALL Investment Prospectus is designed to provide an approach for operationalizing the Lesotho SE4ALL Action Agenda towards achieving SE4ALL goals by identifying and developing a set of implementable programs and projects, including their investment requirements, that can be presented to potential private and public investors.

The development of the Lesotho Investment Prospectus has been synchronized with the development of the Country Action Agenda under the leadership of the Ministry of Energy Meteorology and Water affairs.

Guidelines developed by NEPAD/Africa Hub were used to draft the Lesotho Investment Prospectus

The Lesotho SEforAll Investment Prospectus was developed by the Department of Energy (DoE) of the Ministry of Energy Meteorology and Water affairs, supported by UNDP and funded by GEF.

The Lesotho Investment Prospectus should be seen as a living/rolling document as the identified projects and proposals, presented in a summarized “Project Fiche” format, may change over the years. The Investment Prospectus should be revised every 1-2 years.

The Lesotho Investment Prospectus was developed during the second and third quarters of 2018 based on previous studies, published reports and Lesotho Energy Sector Coordination Forum consultation meetings outcomes.

INTRODUCTION

The Lesotho SEforAll Investment Prospectus (IP) provides an approach to operationalizing the Country Action Agenda, by identifying and developing a set of implementable programs and projects, including their investment requirements, that can be presented to potential private and public investors.

The IP is not intended to be a "bankable document" but a conversation starter for a variety of investment opportunities that will provide prospective financiers just enough summarized information to decide whether or not they might want to liaise with specific project and/or program sponsors to get some further detail on the opportunity.

The IP covers the short and medium-term horizon, as investment opportunities and market conditions can vary quickly. The IP is a living/rolling document that should be updated frequently (every 2 to 3 years) during the lifetime of the SEforAll Country Action Agenda.

Lesotho's Government is committed to transform its energy sector and to deepen the reforms needed to scale up public and private investments in the sector to meet its SEforAll 2030 goals:

- Ensuring universal access to modern energy services.
- Doubling the rate of improvement in energy efficiency (EE).
- Doubling the share of renewable energy (RE) in the global energy mix.

The Lesotho SE4All Investment Prospectus was developed with the aim to present the Lesotho Energy related projects pipeline and to attract investment in the Country's Energy Sector in order to ensure the achievement of the SEforAll 2030 goals.

This document was developed following the NEPAD Agency guiding principles¹ and will provide an approach to operationalizing the Country Action Agenda, by identifying and characterizing a set of implementable programs and projects, including their investment requirements.

The selected specific investments (Projects/Initiatives) are presented in summarized and standardized "Project Fiches" with adequate level of detail to allow potential investors to make a preliminary project evaluation.

Within the scope of the IP, the projects are categorized by different Pipeline types as shown in Figure 1.

Pipeline 1	Pipeline 2	Pipeline 3	Pipeline 4
•Energy Access Investments	•Renewable Energy Investments	•Energy Efficiency Investments	•Enabling environment Investments

¹ <http://www.nepad.org/resource/guiding-principles-development-investment-prospectus-template>

Figure 1 – Pipelines considered in Lesotho SEforAll Investment Prospectus

The pipeline of investments included in the IP covers the entire planning period up to 2030 and are structured in short, medium and long term Investments as presented in the table below (Figure 2).

Short Term	Medium Term	Long term
Projects to be implemented between 2018 - 2020	Projects to be implemented between 2021 -2025	Projects to be implemented between 2026-2030

Figure 2 – Investments timeframes considered in Lesotho SEforAll Investment Prospectus

The IP is focused on short and medium-term investments for which a “Project Fiche” is presented. The long-term investments, for which the available information is scarce and not accurate, are identified but not detailed².

² Since the IP is a living/rolling document with a 2-3 year timeframe, the long-term investments will be looked closely in the forthcoming IP periodic update, as they become medium-term investments.

INVESTING IN LESOTHO

Country Overview

Lesotho is a mountainous country with a land area of 30,355sqm landlocked and completely surrounded by Republic South Africa. It has a population near 2,007 million³ which has been growing at a constant rate from 1980 to 2017. Currently 66% of the population lives in rural and scattered areas, and the remaining 34% living in urban areas (Figure 3).

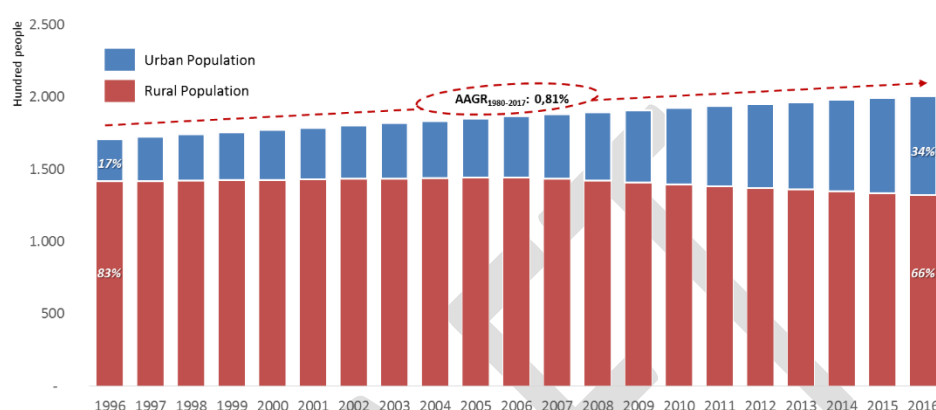


Figure 3 – Historical Evolution of Population in Lesotho (1996 – 2017) (Source: Lesotho Bureau of Statistics)

Due to its high altitude the country has a temperate climate with hot summers and severe cold winters with temperatures reaching 30°C in summer and winter temperatures as low as -7°C in the lowlands and -18°C in the highlands (mean summer and winter temperatures are 25°C and 15°C respectively). The annual rainfall ranges between 600mm in the lowlands and 1200mm in the northern and eastern parts of the country.

Lesotho is moving from a predominantly subsistence-oriented economy to a lower middle income, diversified economy exporting natural resources and manufacturing goods, presenting a 2016 GDP of 24.244 million Maloti at 2012 constant prices⁴. GDP contributions per Sector are presented in Figure 4.

³ Source: Lesotho Census 2016 (BoS)

⁴ Source: Lesotho BoS website www.bos.gov.ls (as consulted in Sep 10th 2018)

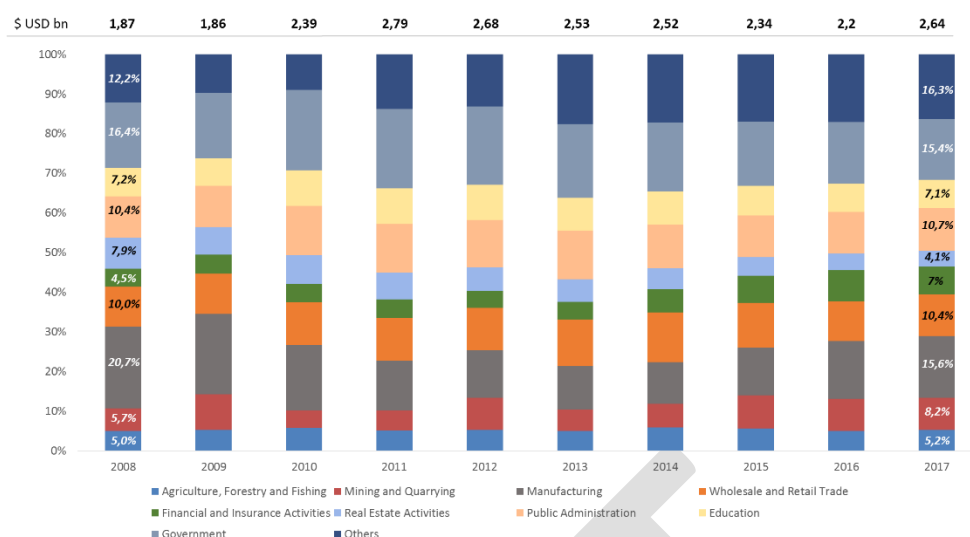


Figure 4 – Lesotho Sectorial Contribution to the GDP (Source: Lesotho Bureau of Statistics)

Lesotho's energy mix is dominated by biomass. As shown in the leftmost chart on Figure 5, biomass constitutes over half of Lesotho's energy balance. The rightmost chart on Figure 5 shows that most biomass derives from wood. Fossil fuels such as coal and petroleum also make up a substantial portion of Lesotho's energy mix while electricity contributes very little.

Since Lesotho has no proven reserves of oil or gas, it imports nearly all its fossil fuel from South Africa. Because of dwindling forest reserves Lesotho has also started importing fuelwood to meet energy demand needs. In 2012, fuel imports accounted for 13 percent of total trade from South Africa, and 7 percent of Lesotho's GDP.⁵

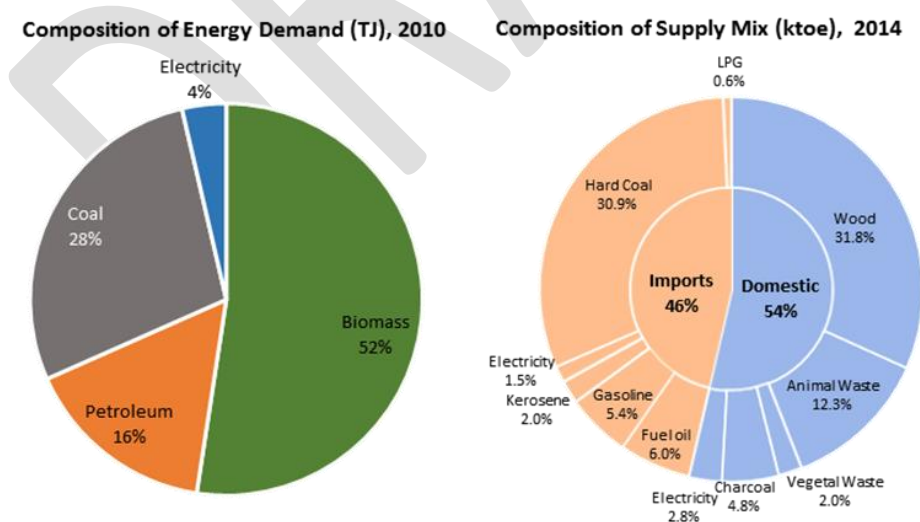


Figure 5 – Energy Demand and Supply in Lesotho (SREP - RE Options Study - March 2017)

In terms of energy use, the households of Lesotho require energy mainly for lighting, cooking, and space heating. Data shows that there is a difference in level of energy access hence use between urban and rural households in Lesotho, with a higher proportion of urban households having access to more modern forms of energy compared to rural

⁵ UN Comtrade Database, accessed February 14, 2017, <https://comtrade.un.org/data/>

Data derived from SITC revision 2 classification; since Comtrade uses current dollar values, the GDP comparison is based on current 2012 values. In terms of constant PPP USD, fuel imports represent 3% of Lesotho's GDP.

households. However, there is generally low access to modern forms of energy in Lesotho.

Households use a combination of traditional fuels (i.e. fuelwood, agricultural residues and dung), intermediate fuels (i.e. coal and kerosene/paraffin) and modern fuels (i.e. electricity and LPG).

Electricity is mostly used for lighting rather than for cooking and therefore represents a small share of the domestic energy consumption. Paraffin is mainly used for cooking, space heating and lighting while the use of solar energy such as solar photovoltaics (PV) for lighting is growing

Because many households in Lesotho lack access to electricity (electricity access rate of 38% in 2016⁶), they rely on traditional fuels such as biomass for their energy needs. Biomass (wood and dung) is used for cooking and space heating, especially in rural areas. Urban households are less reliant on biomass and mainly use paraffin and gas for space heating and cooking. Paraffin (kerosene) is the main source of fuel for lighting: 60 percent of all households use paraffin while the rest use electricity or candles.⁷

For a more detailed and comprehensive Country and Energy Sector overview, please refer to *“Lesotho SE4All Action Agenda”*.

⁶ Lesotho Bureau of Statistics *“2017 Energy Report”* (Pg.13)

⁷ Lesotho Bureau of Statistics, *“2011 Lesotho Demographic Survey: Analytical Report, Vol. 1,”* 2011.

Legal and Regulatory framework

The current energy sector of Lesotho is mainly a responsibility of the Ministry of Energy and Meteorology. The main actors in the sector are:

- The Ministry of Energy and Meteorology: The Ministry of Energy and Meteorology through the Department of Energy is responsible for the overall administration and coordination of energy sector in Lesotho.
- LEWA: From August, 2004 until April, 2013 the Authority was mandated with regulating the electricity sector. In 2007 the Government decided that the Lesotho Electricity Authority (LEA) should be transformed to be a multi-sector regulatory body assuming additional powers to regulate urban water and sewerage services in the country. LEWA officially started regulating both electricity and urban water and sewerage services sector on May, 2013. The Authority independently deals with matters such as electricity pricing, complaints handling and resolution and the supervision of the implementation of the Quality of Service and Supply standards (QOSSS) by its licensees.
- Department of Energy (DoE): Responsible for the development of policies, strategic plans, strategy formulation, formulation and development of programs in the energy sector, law and policy enforcement, as well as information dissemination.
- Universal Access Fund (UAF): Responsible for funding viable energy projects and research and development in the electricity sector
- Petroleum Fund: Responsible for funding viable energy projects and research and development in the petroleum sector
- Rural Electrification Unit (REU): Build, operate and transfer of electricity transmission, distribution network grids. Mainly develops projects funded by the UAF and then transfers them to LEC
- Lesotho Electricity Corporation (LEC): Lesotho Electricity Corporation (LEC) generates, transmits, and distributes electricity. The company also owns and operates hydro power stations. LEC is wholly owned by the Government of Lesotho (GoL).

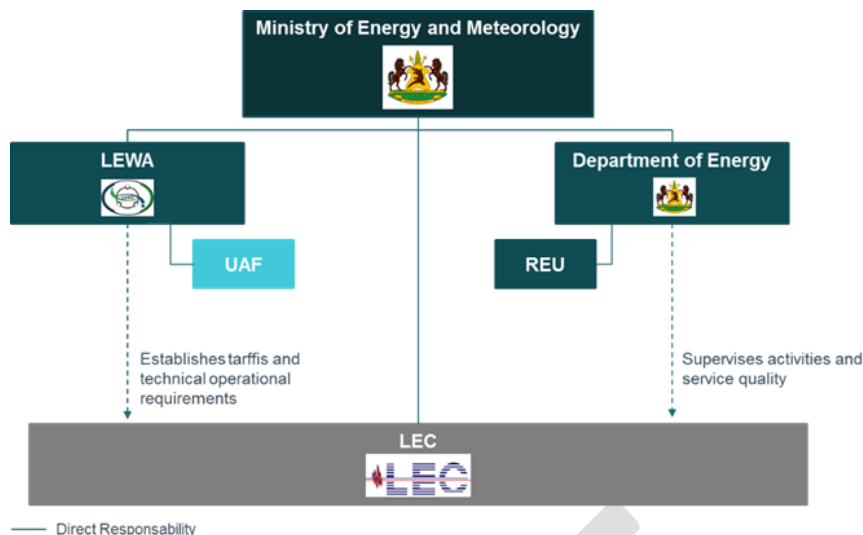


Figure 6 – Current Electricity Sector Framework in Lesotho

The energy sector in Lesotho face challenges which include: low access to modern and clean forms of energy, reliance on imported electricity and fuels (an energy security problem), and dwindling forest reserves. The Government of Lesotho recognizes that these challenges are a barrier to the country's development and has set targets to expand electricity access and increase generation. The Government of Lesotho (GoL) is also committed to promoting the safe use of biofuels, reversing environmental degradation, and increasing the use of renewable energy sources to increase energy security.

Lesotho has three policy documents for the energy sector which support achievement of the goals described in Vision 2020 and the NSDP I. The main energy sector policies are:

- The **Lesotho Energy Policy 2015-2025** has 15 policy statements in support of reliably and affordably ensuring energy access in order to improve the economy of Lesotho and the livelihoods of its citizens. Policy objectives include: introduction of an appropriate institutional and regulatory framework for the sector; sufficiency and availability of energy sector data; sustainability of bioenergy resources; improved access to renewable energy services and technologies; promotion of energy efficiency; security of electricity supply; development of a reliable and efficient transmission network; increased access to electricity for all socio-economic sectors; development of a transparent and competitive electricity market; creation of an enabling environment attractive to investment and financing; and introduction of a transparent price-setting structure that ensures cost recovery. The Energy Policy must still be enacted into law.
- Lesotho's **Intended Nationally Determined Contributions (INDC) (2015)** outline the country's commitments towards mitigating and adapting to climate change. Policy objectives related to the energy sector include: continued development of hydropower resources; implementation of demand-side management techniques to ensure efficient use of existing distribution infrastructure; promotion and development of renewable energy, particularly wind and solar; improved distribution efficiency; and development of a low energy IP. Lesotho's INDC also sets certain targets

for the energy sector including targets to improve energy efficiency, increase electricity coverage, and increase renewable energy generation by 2020

Table 1 provides an overview of the relevant Lesotho's energy sector laws.

Legislation	Overview
Lesotho Establishing and Vesting Act (2006)	Establishes the Lesotho Electricity Corporation as the Lesotho Electricity Company, vested with all of its assets, liabilities, rights, and obligations as the national electricity transmission and distribution company
Lesotho Electricity Authority (LEA) Act (2002)	Establishes the Lesotho Electricity Authority as regulator for electricity sector
LEA Amendment Act (2006)	Amends LEA Act (2002) regarding composition of Board, funding, powers to enter and use land for regulated activities, and acquisition of land required for regulated activities
LEA Amendment Act (2011)	Amends LEA Act (2002) to give the Authority power to regulate Lesotho's water and sanitation sector and renaming the regulator as the Lesotho Electricity and Water Authority

Table 1 – Key Sector Legislation

The LEA act 2002 gives LEWA the authority to draft economic regulations for the electricity and water sector.

The Ministry of Energy and Meteorology is responsible for approving the regulations.

Table 2 presents an overview of the Lesotho's Energy Sector's relevant regulations.

Regulation	Purpose
Electricity Price Review and Structure Regulations (2009)	Regulates reviews of tariff structure and prices
License Fees and Levies Regulations (2009)	Regulates funding Regulator activities via licensing fees and customer levies
Resolution of Disputes Rules (2010)	Regulates dispute resolution between licensees and customers
UAF Rules (2011)	Establishes a fund for electrification and sets administrative rules
Application for Licenses Rules (2012)	Sets procedures and requirements for license applications and exemptions

Table 2 – Key Regulations and Guidelines

Attractiveness of Lesotho's Energy Sector

The Government of Lesotho is aware of the challenges it faces as a small, landlocked, and least developed country in facilitating investment and is committed to improving the climate for investment.

Lesotho is nowadays scored by World Bank in the 8th position in the “Ease of Doing Business”⁸ index among the Sub-Saharan Africa Countries (Figure 7 and Figure 8) with a rank of 104 and a distance to frontier of 60,42.

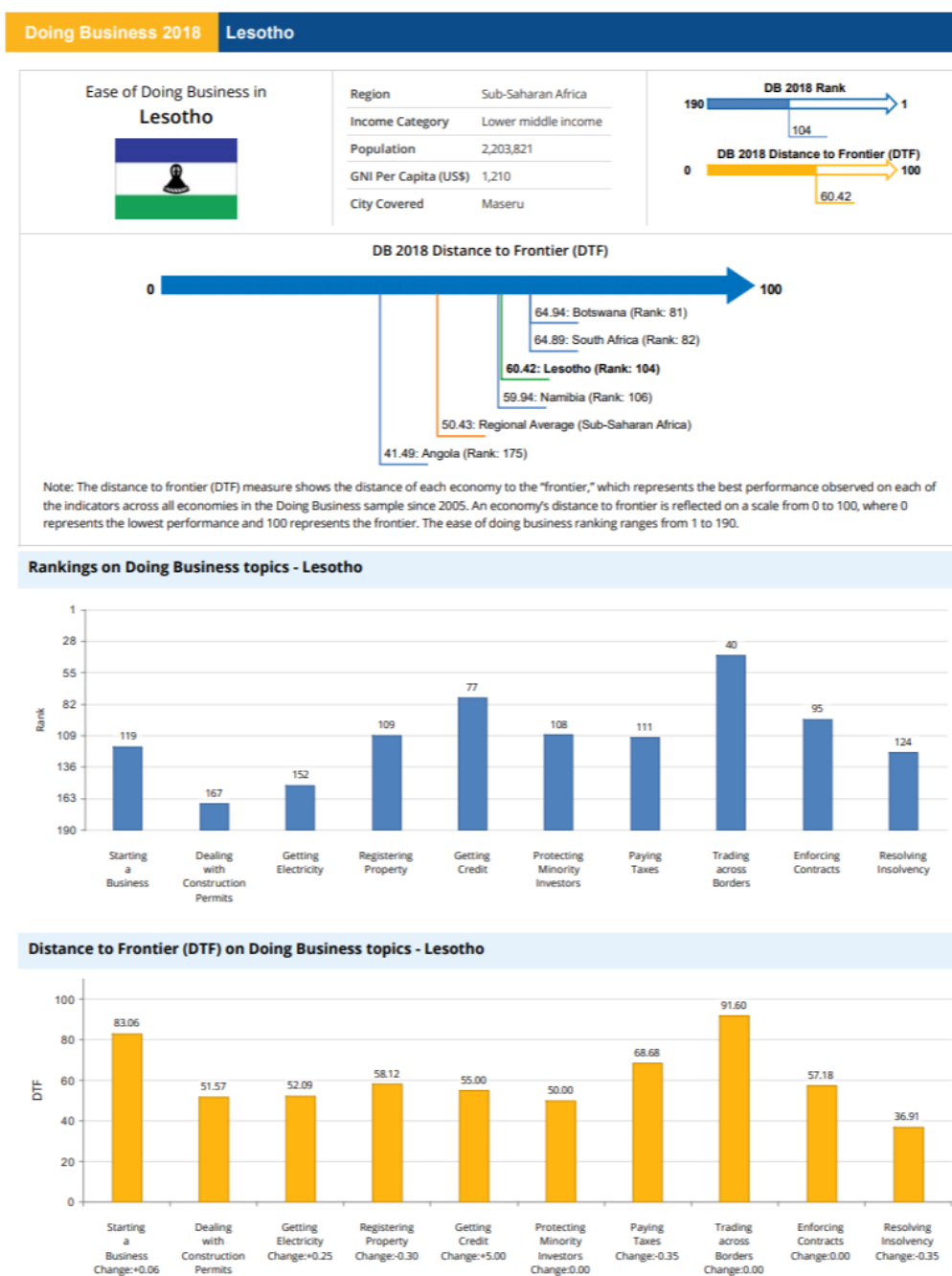


Figure 7 – “World Bank “Doing Business” 2018 ranking

⁸ <http://www.doingbusiness.org/data/exploreeconomies/lesotho>

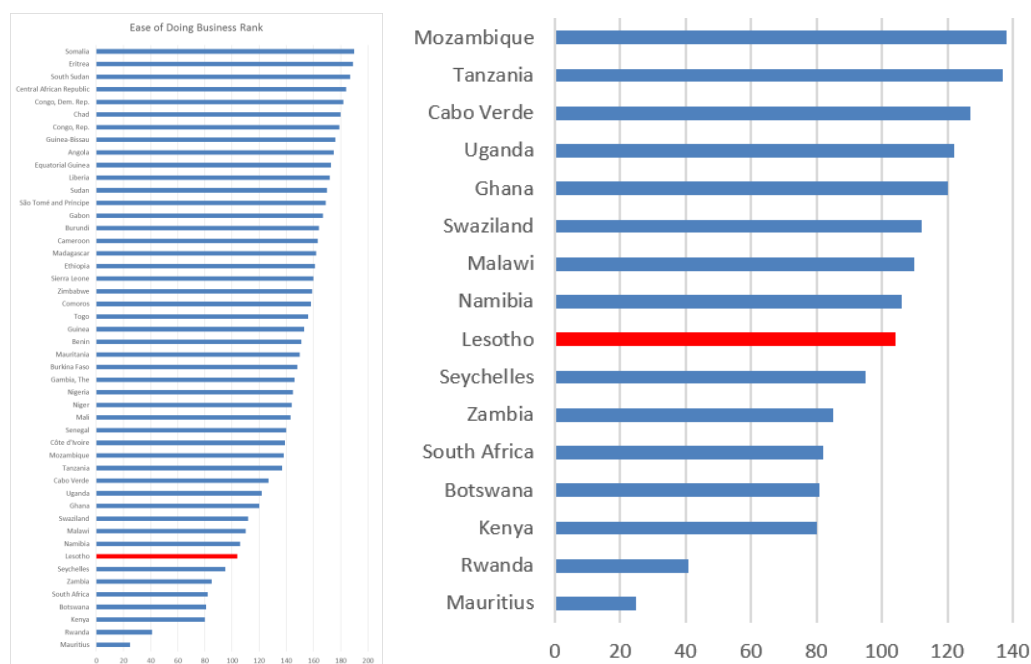


Figure 8 – “World Bank “Doing Business” 2018 comparative Sub-Saharan Africa ranking

Regarding Taxes, Lesotho have one of the lightest tax policy in the region. Table 3 summarizes the current applicable taxes in Lesotho.

INCOME TAX	VALUE ADDED TAX (VAT)
<p><u>Company Income Tax (CIT)</u></p> <ul style="list-style-type: none"> For manufacturing companies and commercial farming 10% Other companies 25% <p><u>Withholding Tax</u></p> <p>The applicable rates for WHT are classified as follows:</p> <ul style="list-style-type: none"> Resident contractors 5% Non-Residents (Technical services) 7.5% <p><u>Personal Income Tax (PIT)</u> (Employees and Sole Traders)</p> <p>Two marginal rates are applicable when calculating PIT. 20% and 30%</p>	<p>Rates for VAT are as follows:</p> <ul style="list-style-type: none"> 0% - Exports and basic commodities 8% - Electricity 9% - Telecommunications 15% - Other goods and services

Table 3 – Current Lesotho Tax Rates (Lesotho Revenue Authority)⁹

Lesotho have a lot of attractive investment opportunities in Energy Sector being a Country with a very favourable investment climate due to several reasons from which stand out:

- Peaceful Country with political stability
- Free market economic system
- Inflation rate with a consistent decreasing trend

⁹ <http://www.lra.org.ls/tax-rates>

- Low currency exchange rate risk¹⁰
- Ease of getting credit
- Special Tax regimen for manufacturing industry
- Signed Treaties for avoidance of double taxation for taxes on income (South Africa, United Kingdom and Mauritius)
- Energy Sector legal and regulatory framework in force
- Abundant unexploited renewable energy resources
- Import tax exemption foreseen in Energy Policy¹¹
- Ongoing facilitation on IPP licensing processes
- High literacy rate
- Skilled and productive labour force
- Proximity to South African Market and part of the Southern African Customs Union (SACU)
- Commonwealth member
- English speaking country

The Government of Lesotho (GOL) keeps a strong commitment to private investment and is generally open to Foreign Direct Investment (FDI), with the exception of limited restrictions on foreign ownership of small businesses.

The GOL welcomes foreign investments that:

- Create jobs and open new markets and industries in accordance with the national objective of diversifying Lesotho's industrial base;
- Improve skills and productivity of the workforce and nurture local business suppliers and partners;
- Support knowledge and technology transfer and diffusion;
- Improve the quality and accessibility of infrastructure.

Foreign investors have the same rights and protections as Basotho investors and GOL has been implementing reforms in the recent years to improve the investment climate in Lesotho.

Government of Lesotho is strongly committed to meet SE4All goals by 2030, and encouraging the investment on energy access, renewable energies use and improvement of efficiency on energy use.

Lesotho's energy sector priority areas are identified as:

1. Increase the energy access in all economy sectors
2. Promotion on renewables and energy efficiency

¹⁰ Loti is indexed to the South African rand on a 1:1 basis through the Common Monetary Area

¹¹ Not yet regulated

To engage and attract private sector investment for energy sector, the Government of Lesotho is available to evaluate risk mitigation solutions (such as Sovereign guarantees), in a case by case basis, depending on the specific Project characteristics.

DRAFT

LESOTHO PROJECTS PORTFOLIO OUTLINE

The Government of Lesotho has identified and selected the priority projects included in this SEforAll Investment Prospectus as part of its efforts aimed at meeting the SE4All goals and national targets.

The prospective investment and project opportunities have been derived from the priority action areas that are presented in the “*Lesotho SEforAll Country Action Agenda*”.

Table 4 presents the selected short and medium-term investments. These investments are better detailed in the summarized “Project Fiches” below structured by pipeline.

Project Name	Promoter name	Pipeline	Expected date	Total Investment
Piloting The Potential For Credit-Based Energy Access To Incentivise The Purchase Of Sustainable Fuel Pellets	African Clean Energy Pty Ltd Lesotho	Energy Access	2019	€ 1,546,623
Community Scale bio-digesters	Department of Energy (Ministry of Energy Meteorology and Water affairs)	Energy Access	2019	To be estimated
Rural Energy Centers	Department of Energy (Ministry of Energy Meteorology and Water affairs)	Energy Access	2019	To be estimated
Economic growth for sustainable access to renewable energy in rural Lesotho	Positive Planet International (PPI) in partnership with Rural Self-Help Development Association (RSDA), supported by the consulting services of Reciprocity	Energy Access	2021	€1,252,420
Lesotho 25 Mini-grid Portfolio	OnePower Lesotho Pty Ltd	Energy Access	2021	9,2m
Renewable Energy User Groups – 7 districts	Solar Lights (Pty) Ltd, Lesotho based	Energy Access	2021	\$ 1,500,000
Semonkong Wind Power Project	Mos-Sun Clean Energy Technologies(PTY)LTD t/a MOSCET	Renewable Energy	2020	To be estimated
Building Energy Efficiency certification legal and regulatory framework	Department of Energy (Ministry of Energy Meteorology and Water affairs)	Energy Efficiency	2019	To be estimated
Efficient Building demonstration Project	Department of Energy (Ministry of Energy Meteorology and Water affairs)	Energy Efficiency	2022	To be estimated
Energy Efficiency Appliances labeling legal and regulatory framework	Department of Energy (Ministry of Energy Meteorology and Water affairs)	Energy Efficiency	2019	To be estimated
Energy Losses reduction program	LEC	Energy Efficiency	2020	To be estimated
Hourly based industrial and domestic tariff	Department of Energy (Ministry of Energy Meteorology and Water affairs)	Energy Efficiency	2019	To be estimated

LED technology Public lightning	Department of Energy (Ministry of Energy Meteorology and Water affairs)	Energy Efficiency	2019	To be estimated
Electricity Distribution Network losses reduction program	LEC	Energy Efficiency	2020	To be estimated
Public Buildings Energy Efficiency Improvement Program	Department of Energy (Ministry of Energy Meteorology and Water affairs)	Energy Efficiency	2020	To be estimated
Capacity Building for Public Institutions	Department of Energy (Ministry of Energy Meteorology and Water affairs)	Enabling Action Areas	2019	To be estimated
Clean Cooking Micro-Credit	Department of Energy (Ministry of Energy Meteorology and Water affairs)	Enabling Action Areas	2020	To be estimated
Concessional Rural Electrification	Department of Energy (Ministry of Energy Meteorology and Water affairs)	Enabling Action Areas	2019	To be estimated
Creation of a Renewable Energy Laboratory	Department of Energy (Ministry of Energy Meteorology and Water affairs) and National University of Lesotho	Enabling Action Areas	2019	To be estimated
Energy Awareness Measures	Department of Energy (Ministry of Energy Meteorology and Water affairs)	Enabling Action Areas	2019	To be estimated
Legal, Regulatory and Administrative Framework for On-Grid Household Renewable Generation Systems	Department of Energy (Ministry of Energy Meteorology and Water affairs)	Enabling Action Areas	2019	To be estimated
Renewable Resources Measurement Campaign	Department of Energy (Ministry of Energy Meteorology and Water affairs)	Enabling Action Areas	2019	To be estimated
Renewable Energy Land Zoning Development for Lesotho	Department of Energy (Ministry of Energy Meteorology and Water affairs)	Enabling Action Areas	2019	To be estimated
Small Scale Renewables Financing Conditions Improvement	Department of Energy (Ministry of Energy Meteorology and Water affairs)	Enabling Action Areas	2019	To be estimated

Table 4 – Selected short and medium-term investments

Table 5 presents the selected long-term investments for which, due to the early stage of development, the available information is still scarce and not accurate enough to be presented. These investments will be looked closely in the forthcoming IP periodic update as they become medium-term investments.

Project Name	Promoter name	Pipeline	Expected date	Total Investment

Table 5 – Selected long-term investments

Interested potential Investors should contact directly the Project Promoters or contact the Lesotho Department of Energy (Ministry of Energy and Meteorology):

Mr. XXXXXXXXX
 Department of Energy
 XXXX Division
 Address
 Phone Number

DRAFT

DRAFT

Lesotho SE4All Investment Prospectus

Project Fiche

PROJECT NAME

Piloting The Potential For Credit-Based Energy Access To Incentivise The Purchase Of Sustainable Fuel Pellets

PROJECT OWNER/DEVELOPER/AGENCY

*African Clean Energy Pty Ltd
Lesotho*

TYPE OF ORGANIZATION

Private Company (B-Corp Certified)

PROJECT LOCATION

*Maseru
Butha-Buthe
Semonkong
Mafeteng*

TECHNOLOGY TYPE

*Smart-metering solar-biomass hybrid
Cookstove: achieving biomass gasification +
solar electricity provision (for mobile
charging and lighting)*

PROJECT DESCRIPTION

In collaboration with the EU, in the next 4 years ACE will build a network of 25 energy shops in rural areas of Lesotho to create more access to affordable, clean energy for off-grid households. The shops will sell a range of pico PV products, including the new ACE 1 which has a built-in microprocessor, allowing it to connect to smartphones and communicate data back to ACE's Salesforce database.

ACE is currently developing a mobile application (called ACE) which together with the new ACE 1 electronics, will enable us to:

- 1. switch to a Pay-As-You-Go (PAYG) sales model, subsequently allowing us to design customers' first-ever credit rating. ACE would be pioneering PAYG in the clean cooking sector, as it does not exist yet.*
- 2. get real-time data into ACE 1 usage and its impact*
- 3. incentivize customers to choose Sustainable Fuel Pellets (SFPs), by offering fuel discounts based on their credit rating with ACE and their fuel purchase history. This way, ACE incentivises the purchase of SFPs, as well as timely loan repayments.*

The new ACE 1 will be sold in a bundle with smartphones with the ACE app pre-installed. ACE is also in the process of setting up a project with TNO to monitor SFPs supply chain using blockchain technology. With support from SE4All, ACE can pilot this innovative distribution method for 5000 households. Additional to the primary objective of increasing access to clean energy, SFPs and connectivity, the project's impact has cross-sectoral reach:

- -Poverty reduction: extensive data shows that ACE 1 users in Lesotho are able to reduce their energy expenses by 83% on average*
- -Life on Land: Incentivising the purchase of SFPs prevents negative coping mechanisms, ameliorating environmental degradation. The ACE 1 reduces biomass need by 70% (1.3 kg/day), and CO2 by 2.5 tonnes/year*
- -Health: World Bank estimates every 25k units will avert 40 deaths and add 1,295 years of healthy life (aDALYs).*
- -Gender empowerment: Relieving cooking fuel burden has a documented positive impact on women.*

OPERATIONS

ACE has been manufacturing in Lesotho for 7 years, has sold over 55,000 units, has almost 70 staff on site and has been extending micro-loans B2C for 2 years. There is an extensive mobile survey data collection model in place, which has established baselines of household energy expenses in Lesotho. Currently, ACE is

scaling up local production and upgrading manufacturing processes in Maseru to include the new tech capabilities. The ACE/PAYG app is being developed in the Netherlands with a leading industry. Talks are underway with smartphone and telecom providers, to build the smartphone supply chain needed for the project. ACE has already opened the first shop as part of the EU project, in Butha Buthe. Before the end of 2018, a second shop will be opened in Semonkong with a third shop close behind.

MAINTENANCE

ACE extends 2-years warranty for the ACE 1 to all customers, and we have dedicated technicians & customer relations officers to expedite the maintenance process and much as possible for customers.

REPLICATION/SCALING

- **In Lesotho**

If the rollout of the first 5000 ACE 1 bundles doesn't pose serious bottlenecks and the pilot performance indicators point to a positive rollout, then ACE will continue to scale this sales process at all current and future locations in Lesotho. In 4 years, the new ACE 1 and SFPs will be sold in 25 direct retail shops in Lesotho.

- **Globally**

ACE is currently active in Lesotho, Uganda and Cambodia, with plans underway to also expand to Ghana. With support from 'Innovations Against Poverty' (IAP), a grant offered by the Swedish government, ACE is piloting PAYG at the beginning of 2019 in Cambodia, to test product-market fit. If both pilots are successful, ACE will introduce the new model as well in Uganda, and begin selling the bundle at scale. Piloting the SFP aspect of the business model in Lesotho first will provide valuable insight into the best go-to-market strategy for rollout in other countries.

EXPECTED RESULTS/OUTCOMES

The outcome of the project can be measured as:

- 5000 additional households (i.e. 25,000 people) will have access to an improved cookstove with basic electricity provision
- 25 MW additional clean energy generation capacity will be created
- 91,250 MWh additional clean energy generated during the project life cycle

Indicative IRR \pm 30% / Turnover US\$6M / Payback 3 years / breakeven 15 months

PROJECT STATUS	PROJECT TIME FRAME
<p>Studies undertaken:</p> <ul style="list-style-type: none"> • Business planning • Feasibility study • Piloting in a controlled environment • Field pilot Schedule & pre-planning 	<ul style="list-style-type: none"> • Nov 2018 – Feb 2019 completion of development phase • Feb 2019 - Expected financial closing • Mar 2019 - Expected start of project implementation • Mar 2019 - Expected date of commissioning/deployment
TOTAL PROJECT COST	FINANCING STRUCTURE
<p>Development Phase: EUR 118,771</p> <p>Implementation Phase: EUR 1,427,852</p>	<p>Development</p> <ul style="list-style-type: none"> • Grant 100% <p>Implementation</p> <ul style="list-style-type: none"> • Debt 13,3% • Equity 13,3% • Grant 73,35%

FUNDS SECURED	FINANCING GAP	PROCUREMENT MODEL
EU (signed): EUR 162,163 (10,5%) Alflex: EUR 5,000 (0,32%) ACE (Investment Round): EUR 380,546 (24,6%)	<i>EUR 998,913</i> <i>(64,59%)</i>	<ul style="list-style-type: none"> N/A

DRAFT

Lesotho SE4All Investment Prospectus
Project Fiche

PROJECT NAME

Community Scale bio-digesters

PROJECT OWNER/DEVELOPER/AGENCY

*Department of Energy
(Ministry of Energy Meteorology and Water affairs)*

TYPE OF ORGANIZATION

Government / Public Institution

PROJECT LOCATION

Lesotho (Nationwide)

TECHNOLOGY TYPE

Anaerobic digestion

PROJECT DESCRIPTION

The project consists in the promotion, installation and maintaining of community scale bio-digester.

A bio-digester is a simple system that produces biogas, via natural anaerobic decomposition of organic material. The biogas digester can be fed daily with kitchen and garden waste extracting energy from the organic material to generate methane gas. The remaining decomposed material is a high-quality fertilizer in liquid form that can still be used in the fertilization of crops. The biogas produced in the anaerobic decomposition can be used in house utilities, in stoves or heating systems, or it can be used to produce electric energy by means of a generator.

Generally, a biogas digester consists of a tank in which the organic material is digested, combined with a system to collect and store the biogas produced. The digesters can be quite simple depending on the needs of the community and the materials available to build it.

The development of this Project will consist on the installation of Community scale bio-digestores providing methane gas for household's appliances and electricity generation that can be used by the entire community.

The Project will be executed in 4 stages:

- 1. Development of a national awareness campaign, in which are explained the advantages of using bio digesters and the entire procedure regarding its installation and maintaining. The promotion of this technology must provide know-how on basic anaerobic decomposition and its fundamentals of operation and also for installing individual biogas digesters in particular houses clearly explaining the benefits on using this system.*
- 2. Analysis on feasibility of implementation of community scale systems, including community education mechanisms to increase their involvement. Developing a project demonstration on a selected community aiding implementation of this kind of systems on other communities.*
- 3. Create governmental department or, if possible, attribute the responsibility to existing municipality units to create regulatory framework, implement and deal with the maintenance of community scale digesters. Clearly describe all the costs of managing the network of digesters and point solutions to make this systems more efficient, increasing the benefits they generate.*
- 4. Procurement and installation of community scale systems in the selected Communities.*

EXPECTED RESULTS/OUTCOMES

- *Generation of biogas that can be used for cooking or electricity generation using household waste*
- *Creation of a national community bio-digesters network*
- *Reduce Co2 emissions*

The objective of this Project is to install 10 to 20 community scale bio-digestores to provide methane gas for households' appliances and electricity generation that can be used by the entire community.

This Project is expected to benefit **(15 Communities X Average number of households per Community)** families providing access to clean energy technology.

PROJECT STATUS		PROJECT TIME FRAME
Project at conceptual stage		<ul style="list-style-type: none"> Expected start of project implementation: December 2018 (*) Expected Project duration: 1,5 years
TOTAL PROJECT COST		FINANCING STRUCTURE
Phase 1 to 3 – To be estimated Phase 4 – To be estimated (estimated values)		To be defined
FUNDS SECURED	FINANCING GAP	PROCUREMENT MODEL
None	100%	To be defined

Lesotho SE4All Investment Prospectus
Project Fiche

PROJECT NAME

Rural Energy Centers

PROJECT OWNER/DEVELOPER/AGENCY

*Department of Energy
(Ministry of Energy Meteorology and Water affairs)*

TYPE OF ORGANIZATION

Government / Public Institution

PROJECT LOCATION

Lesotho (Nationwide)

TECHNOLOGY TYPE

N/A

PROJECT DESCRIPTION

The main purpose of this project will be to ensure the creation of Energy Centers in rural areas to distribute energy related products, such as:

- *Clean Cook stoves*
- *Solar panels*
- *Solar lanterns*
- *and other energy related services and appliances*

Need-oriented, self-reliant and environmentally-sound development demands that the design of rural energy centres proceeds step-wises from energy consumption patterns to energy needs to technological options to selection of energy sources and devices to integration of these sources and devices into a system. A number of interesting projects have been developed across Asia and Africa, based on the development of Rural Energy Centers.

The main goal for this project is to develop a pilot project for the establishment of a Rural Energy Center in Lesotho. This should be attain by, firstly, develop an energy consumption pattern study, so as to identify energy needs and energy resources of different potential locations and select the most interesting pilot location as well as the most indicated technological solution. The project should provide a rigorous methodology for solving the fundamental problem of designing rural energy centres, viz., given the energy resources and requirements, what is the optimum way of harnessing energy sources with the aid of devices to achieve energy-requiring tasks, a heuristic approach based on second law efficiencies is used.

The expected result is the design of a rural energy centre in Lesotho, although the optimum solution for Lesotho will be determined by this project, it is important that this project also provides an extensive benchmark about relevant similar projects that have been successfully implemented in Africa. Also, it is expected that the proposed technical solution for the creation of Rural Energy Center in Lesotho, provides community-scale solutions to meet the energy needs of:

- Cooking*
- Heating*
- Domestic electric illumination*
- Pumping domestic water*

For example, in a relevant project, recently implemented called the Pura Project, the first phase of such a centre involved a community-scale biogas plant to meet the energy needs of cooking, domestic electric illumination, and pumping domestic water, in addition to providing organic fertilizer and producing rice husk ash cement. The Pura exercise was used to formulate several principles of rural energy system integration, viz., mixing, cascading and combining of sources, spatial task integration and time-sharing.

EXPECTED RESULTS/OUTCOMES		
<ul style="list-style-type: none"> Assess energy consumption methods and prepare an energy consumption pattern study, so as to identify energy needs and energy resources of different potential locations and select the most interesting pilot location as well as the most indicated technological solution. Assessment of international best practices on of rural energy center projects: flagship cases, lessons learned, main risks and issues. Propose a designing for rural energy centres, viz., given the energy resources and requirements, what is the optimum way of harnessing energy sources with the aid of devices to achieve energy-requiring tasks. Develop and implement a pilot project for the establishment of a Rural Energy Center in Lesotho, the proposed technical solution for the creation of Rural Energy Center in Lesotho, should (at least) provide community-scale solutions to meet the energy needs of: <ul style="list-style-type: none"> Cooking Heating Domestic electric illumination Pumping domestic water Discussion and preparation of the licensing process flow chart as well as the Lesotho command and control structure for the roll-out and large scale replication of the energy center concept in Lesotho Determine the necessary investment capital required to implement a Rural Energy Center Identify typical cost breakdowns between public and private cost-sharing for rural electrification projects based in the establishment of Rural Energy Centers 		
PROJECT STATUS		PROJECT TIME FRAME
Project at conceptual stage		<ul style="list-style-type: none"> Expected start of project implementation: January 2019 Expected Project duration: 6 months
TOTAL PROJECT COST		FINANCING STRUCTURE
To be estimated		To be defined
FUNDS SECURED	FINANCING GAP	PROCUREMENT MODEL
None	100%	To be defined

Lesotho SE4All Investment Prospectus
Project Fiche

PROJECT NAME

Economic growth for sustainable access to renewable energy in rural Lesotho

PROJECT OWNER/DEVELOPER/AGENCY

Positive Planet International (PPI) in partnership with Rural Self-Help Development Association (RSDA), supported by the consulting services of Reciprocity.

TYPE OF ORGANIZATION

International NGO and local NGO registered in Lesotho

PROJECT LOCATION

The project is implemented in five districts of Lesotho: Leribe, Berea, Maseru, Mafeteng and Mochale's Hoek. The project will be located in the following villages: Pelaneng, Ha Khabo, Tale, Hlotse, Maputsoe, Peka, Mahobong, Ty, Pilot, Sefikeng, Corner Exchange, Mapoteng, Masianokeng, Morija, Rothe, Semonkong, Ramabanta, Marakabei, Ha Ntse, Ramokoatsi, Thabana-Morena, Matelile, Kolo, Ts'akholo, Mosala, Ribaneng, Makhaleng, Mekaling, Taung, Mpharane, Phamong, Ketane, Hloahloeng, Ramosithoane.

TECHNOLOGY TYPE

The project targets products that respond to basic household (cooking, charging, heating, lighting), such as improved cooking stoves, solar lights, solar home systems. However, the project looks also at clean energy agricultural products, such as solar pumps and solar dryers.

PROJECT DESCRIPTION

This project aims to create a sustainable value chain in energy efficient and renewable energy (EERE) technology in Lesotho, building of RSDA's network of 5,000 farmers and supplementing this with trained independent distributors (IDs) to sell and provide after sales care for relevant products. The model will rely on careful products selection, conscious pricing given available alternatives, innovative awareness raising and education to IDs and communities and creative management of the last mile distribution through partnerships and existing RSDA channels. In three years, RSDA will operate as a social enterprise distributing and supporting rural communities in accessing EERE products for their households needs.

Specifically, the project aims:

- 1. To contribute to the economic development of rural households in Lesotho through access to EERE services and technologies.*
- 2. At least one household energy need is met within 5,000 rural households in five Districts of Lesotho through the distribution of EERE technology solutions on a sustainable basis by RSDA.*

The project can be summarized in five activity clusters:

- 1. Raising awareness about the benefits of EERE technology solutions;*
- 2. Securing a reliable supply of needed EERE technology;*
- 3. Capacitating 40 IDs of EERE technology;*
- 4. Setting up a sustainable distribution channel in rural Lesotho;*
- 5. Capacitating RSDA to implement a working business model for distribution and after-sales care of EERE technology.*

EXPECTED RESULTS/OUTCOMES

The project aims at responding at least to one energy need within 5,000 households in five districts of Lesotho. The devices we are looking at range from 5W to 60W, including solar lights and solar pumps. We

can assume that with an average of 32W per household, the capacity installed would be of MW 0,162 by the end of the three years of project implementation. The project aims at including improved cooking stoves in the product offer as well. However, the results of the market research will inform the share among the different products that the social enterprise will offer.

The financial viability of the social enterprise depends on sufficient volumes of clean energy products being sold: different marketing channels and payment methods will be tested. Within three years, RSDA will need to generate sufficient revenue to maintain the support to the IDs and to service the value chain: a financial model will be developed to ensure that long term assumptions are realistic. RSDA will establish a social enterprise. The cash flow for the purchase of the initial clean energy technology stock and the capital investment needed for the start-up phase is primarily funded through an EU grant.

The expected project outcomes are as follows:

- Development of awareness raising methods and materials on advantages of using EERE technology solutions;
- Raising awareness on clean energy solutions with 40 IDs, RSDA staff and 10,000 community members.
- Contracting at least 2 suitable organisations to supply needed EERE household devices and place first orders;
- Developing business model, Standard Operating Procedures and tools for IDs distributing EERE technology within rural communities;
- Designing and documenting relevant sales and service incentives in ID performance contract;
- Identifying and training 40 IDs on EERE household devices and technical and business skills;
- Selling and distributing the EERE technology to at least 5,000 households, leveraging smallholder farmer groups, district farmers' platforms and other rural community structures.
- Testing different payment methods to facilitate purchases for rural households;
- Establishing 3 to 5 storage facilities to stock imported EERE devices in easy to reach rural areas;
- Setting-up processes and procedures for ordering and releasing stock of EERE technology;
- Training and mentoring RSDA on an on-going basis on the EERE devices and business models to ensure sustainability;
- Facilitating the process of RSDA establishing a for-profit social enterprise for the supply of EERE technology.

PROJECT STATUS		PROJECT TIME FRAME
<ul style="list-style-type: none"> • The project is currently finalizing the market research. • The business plan will be finalized by October 2018. • A piloting phase will follow the business plan, including awareness raising sessions and trainings to independent distributors 		<ul style="list-style-type: none"> • The project started in March 2018 • The market research results are expected by end of September 2018 • The implementation of the business model is expected to start in October 2018 • The end of the project is in March 2021
TOTAL PROJECT COST		FINANCING STRUCTURE
The total cost of the project is USD 1,477,855.6 (EUR 1, 252,420)		80% of the project is funded by the European Union. The project team is looking for co-financing opportunities for the remaining 20% cost of the project.
FUNDS SECURED	FINANCING GAP	PROCUREMENT MODEL
80% of funds secured	USD 295,571.12 (EUR 250,484)	N/A

Lesotho SE4All Investment Prospectus Project Fiche	
PROJECT NAME	
Lesotho 25 Mini-grid Portfolio	
PROJECT OWNER/DEVELOPER/AGENCY	TYPE OF ORGANIZATION
OnePower Lesotho Pty Ltd	Company incorporated in Lesotho
PROJECT LOCATION	TECHNOLOGY TYPE
Ha Makebe, Semongkong, Phamong, Kubung, Lebakeng, Sehong-Kong, Malingoaneng, Matebeng, Ribaneng, Mashai, Sebapala, Tosing, Tlhanyaku, Matsoaing, Mpharane, Ketane, Shalane, Ha Lephoi, Ha Topa, Ha Nkau, Ha Leronti, Lepekola, Ha Tumo, Matlosa, Ts'ieng	Community mini-grids Generation: Solar PV, batteries, backup diesel generator Distribution: Smart meters, poles, wires
PROJECT DESCRIPTION	
<p>In brief, this is a mini-grid project in the highlands of Lesotho being undertaken by a dedicated and passionate developer with strong roots in Lesotho. The project aims to harness the efficiency expected from building not one but 25 mini-grids at once. All mini-grid sites serve poor communities, are village mini-grids and are in line with the Lesotho government's electrification policy, which excludes the chosen sites from grid connectivity for the foreseeable future.</p> <p>Specifically, we aim:</p> <ol style="list-style-type: none"> 1. To provide reliable, continuous (24h) 220VAC electricity services to households, SMEs, and institutions in 25 previously not electrified villages spread across rural Lesotho using a micro-utility business model; 2. To test solar mini-grid project implementation and management plans for replication and scale up in Lesotho and other African markets; and 3. To document transparent project level financials in order to demonstrate the economic viability of this model and enable the sector in general to reach scale through access to risk-averse financing. <p>This document hopes to attract equity investors, who (a) have a mandate to make an impact – we will provide access to modern electricity services to 20,500 people in Lesotho, (b) who are interested to work with an innovative development team.</p>	
EXPECTED RESULTS/OUTCOMES	
<p>For our 25 mini-grid portfolio,</p> <ul style="list-style-type: none"> • We will install 1.8 MW of generation capacity and produce approximately 3.5 GWh/year • We will also install distribution systems in 25 villages, including poles, wires and smart meters <p>The portfolio has an equity IRR of 15%, loan payback period of 12 years, expected turnover of 20M ZAR in 2021 (with a 5% growth rate) and a breakeven point of 10 years.</p> <p>Regarding the SE4All Goals, our impact will consist of:</p>	

<ul style="list-style-type: none"> • Number of people connected: 20,500 • 1.8 MW of generation capacity (all 25 mini-grids combined) 		
PROJECT STATUS		PROJECT TIME FRAME
<ul style="list-style-type: none"> • Business plan is final and was reviewed by investors • Feasibility study and ESIA is currently carried out by consultants CADMUS, Black & Veatch and Generate Advisory; final report expected by November 2018 • Pilot mini-grid at Ha Makebe is partially constructed and fully operational (connected to schools, a church and several households) 		<p>To reduce transaction costs and enhance efficiencies, we are planning the roll-out of 25 mini-grids in Lesotho based on a structured and optimized schedule. Rather than looking at each minigrid in isolation, 1PWR has bundled construction and operation into an efficient portfolio approach.</p> <ul style="list-style-type: none"> • Pilot mini-grid at Ha Makebe will be completed in March 2019 (part of the mini-grid connecting schools and churches is already fully operational) • Financial close expected June 2019 • Staged construction and commissioning expected August 2019 • Final commissioning of last mini-grid in August 2021
TOTAL PROJECT COST		FINANCING STRUCTURE
<p>Building mini-grids to electrify the poor is not intended to be a hugely profitable enterprise. OnePower's mission is to make the exercise financially viable, sustainable and to generate a return to equity shareholders.</p> <p>The total project cost of the 25 installations is expected to be R130m (±\$ 10,8m/±€9,2m). This cost is inclusive of expected financing charges and even includes funding delayed VAT refunds and interest during construction.</p>		<p>With an expected debt to equity ratio of 60:40, the project is likely to receive subsidized debt (both mezzanine and senior debt) in order to ensure that the equity holders can maintain a commercial return profile of 15% IRR.</p>
FUNDS SECURED	FINANCING GAP	PROCUREMENT MODEL
70%	\$3m	We are negotiating concessions with the Department of Energy.

Lesotho SE4All Investment Prospectus Project Fiche	
PROJECT NAME	
Renewable Energy User Groups – 7 districts	
PROJECT OWNER/DEVELOPER/AGENCY	TYPE OF ORGANIZATION
Solar Lights (Pty) Ltd, Lesotho based	Private business
PROJECT LOCATION	TECHNOLOGY TYPE
7 districts of Lesotho which do not have an office from where Solar Lights company offers RE products to the public; namely, Butha Buthe, Maseru, Mafeteng, Quthing, Qacha's Nek, Thaba Tseka, Mokhotlong	<ol style="list-style-type: none"> 1. Solar Home Systems of different sizes; from plug-n-play (SunKing) to medium size types 2. Efficient stove cooking sets 4 litre, 8 litre and 32 litre system (Save80)
PROJECT DESCRIPTION	
<p>Solar Lights company (SL) promotes communities to form user groups (REUGs) of Renewable Energy products users/customers. These REUGs can have access to finance to purchase RE products from Solar Lights company. REUGs can also become members of a local NGO called "Save80 Climate Protection Group (SCPG)" which trains and finances climate change adaptation projects and trains REUGs to implement their project ideas.</p> <p>SL already implements these projects in selected districts, namely, Leribe, Berea and Mhales Hoek and further supports SCPG and their climate change adaptation projects in 6 districts.</p> <p>Funding for these current projects was provided from carbon credit finance mechanisms and co-finance from the EU and SL.</p> <p>The current project and product distribution, after-sales-services, are/will be fully established by 2019 as well as trained staff to implement the sales and trainings.</p> <p>The extension of the current project implementation to the remaining 7 districts is envisaged under this proposal from 2021 onwards.</p> <p>Almost the entire trained workforce, which implements the current projects, are young Basotho, aged between 21 and 29 years and this will be continued under this new proposed project.</p>	
EXPECTED RESULTS/OUTCOMES	
<p>The aim is to sell 5000 RE Products in each district (total 35.000 units) be it a Save80 Stove cooking set or Solar Home System, each one counts as one unit, regardless of number of lamps per SHS.</p> <p>Each Save80 Set saves on average of 2,5 tons CO₂ per year which has an efficiency of 80% compare to an open fire (audited).</p> <p>Each Solar Home System lamp saves an average of 91grams CO₂ per year.</p> <p>The expected outcomes is that households/customers are able to save money, time and energy, reduce air pollution and health risks and are able to charge their cell phones.</p>	
PROJECT STATUS	PROJECT TIME FRAME
<p>Please indicate studies already undertaken</p> <ul style="list-style-type: none"> • Business plan is existing • Pre feasibility study baseline is existing 	<p>Please indicate:</p> <ul style="list-style-type: none"> • Expected completion of development phase is 2021 • Expected financial closing 2025

<ul style="list-style-type: none"> • Feasibility study / Stakeholder conference has been carried out • Risk assessment + mitigation plan is existing • EIA, excempted due to efficiency type project 		<ul style="list-style-type: none"> • Expected start of project implementation is 2021 • Expected date of commissioning/deployment 2020
TOTAL PROJECT COST		FINANCING STRUCTURE
USD 1,500,000		400,000 USD as grant to set up district distribution infrastructure and to buy products for sale in stock 400,000 USD as grant to hire staff and implement awareness, marketing and training 700,000 USD for revolving fund to finance the REUGs purchase orders
FUNDS SECURED	FINANCING GAP	PROCUREMENT MODEL
USD 150,000	USD 1,350,000	Direct purchase from current product suppliers at current commercial prices, Manufacturing of Save80 Stove cooking set by Solar Lights (Pty) Ltd

DRAFT

Lesotho SE4All Investment Prospectus Project Fiche		
PROJECT NAME		
Semonkong Wind Power Project		
PROJECT OWNER/DEVELOPER/AGENCY		TYPE OF ORGANIZATION
Mos-Sun Clean Energy Technologies(PTY)LTD t/a MOSCET		Limited Liability Company
PROJECT LOCATION		TECHNOLOGY TYPE
Semonkong		Wind Energy
PROJECT DESCRIPTION		
<p>The project aims to install a 15MW wind farm at Semonkong.</p> <p>The energy produced will be fed to Lesotho Electricity Company’s grid by Power Purchase Agreement (PPA) to supply the area of Semonkong, the remainder being fed elsewhere through the grid.</p> <p>MOSCET and/or partners will be responsible for building the farm and its operation and maintenance.</p> <p>The PPA is expected to be effective for 25 years from the date of signing.</p>		
EXPECTED RESULTS/OUTCOMES		
<ul style="list-style-type: none">Expected energy production; ~39MWh/annum from 15MW installed capacity~7km of MV line from the site to the Point of Connection		
PROJECT STATUS		PROJECT TIME FRAME
<ul style="list-style-type: none">Feasibility study		<ul style="list-style-type: none">Expected completion of development phase: 04-2019Expected start of project implementation: 08-2019Expected date of commissioning/deployment: 10-2020
TOTAL PROJECT COST		FINANCING STRUCTURE
		It is expected that this project will have a debt and equity financing. However the ratios have not yet been determined
FUNDS SECURED	FINANCING GAP	PROCUREMENT MODEL
No funds have been secured yet		<ul style="list-style-type: none">direct negotiation of PPA

DRAFT

Lesotho SE4All Investment Prospectus
Project Fiche

PROJECT NAME

Building Energy Efficiency certification legal and regulatory framework

PROJECT OWNER/DEVELOPER/AGENCY

*Department of Energy
 (Ministry of Energy Meteorology and Water affairs)*

TYPE OF ORGANIZATION

Government / Public Institution

PROJECT LOCATION

Lesotho (Nationwide)

TECHNOLOGY TYPE

consumption monitoring solutions

PROJECT DESCRIPTION

The energy certification of the buildings is an important factor when considering energy efficiency and energy reductions, mostly because when considering the entire building's energy performance it can be identified that there is a huge potential in reducing the energy consumption. The major expenditures in buildings energy consumption are the heating and cooling system, the lightning and the appliances.

Even though the energy consumption is high, there should be taken into consideration that buildings have energy losses, especially regarding it's thermal insulation, so not only the project should have its emphasis on reducing the energy consumption but also on trying to improve the system energy losses.

Energy efficiency policies, legislation and secondary regulations need to be adopted and a strengthened regulatory framework should result on:

- *Develop a new building code focused on energy savings in Lesotho (including minimum energy performance standards and energy passports), promoting climate resiliency and adaptation and including water usage standards (efficiency, recycling and reuse).*
- *Develop inventory and information system for national energy balance, detailed consumption statistics and related GHG (greenhouse gases) emissions by building category and major end-use (air conditioning, lighting, water heating, water pumping, and lighting appliances).*
- *Propose MRV (measuring, reporting and verification) protocol to measure energy savings, water usage, and emission reduction in public buildings.*
- *Develop implementation strategy for amendments to construction permit regulations; include mandatory requirements for minimum energy and water performance standards and develop robust enforcement mechanism*

EXPECTED RESULTS/OUTCOMES

Improvement of energy efficiency on buildings, by two means: to improve energy efficiency in the electrical components (such as air conditioning and efficient lightning) and the decay in the buildings losses (per say: building heat insulation). Among the benefits likely to arise from energy efficiency investments in buildings are:

- *Design and Approve Lesotho's new building code*
- *Reducing energy use for space heating and/or cooling and water heating;*
- *Reduced electricity use for lighting, office machinery and domestic type appliances;*
- *Lower maintenance requirements;*
- *Improved comfort;*
- *Enhanced property value.*

PROJECT STATUS		PROJECT TIME FRAME
<i>Project at conceptual stage</i>		<ul style="list-style-type: none"> • <i>Expected start of project implementation: January 2019</i> • <i>Expected Project duration: 6 months</i>
TOTAL PROJECT COST		FINANCING STRUCTURE
<i>To be estimated</i>		<i>To be defined</i>
FUNDS SECURED	FINANCING GAP	PROCUREMENT MODEL
<i>None</i>	<i>100%</i>	<i>To be defined</i>

DRAFT

Lesotho SE4All Investment Prospectus
Project Fiche

PROJECT NAME

Efficient Building demonstration Project

PROJECT OWNER/DEVELOPER/AGENCY

*Department of Energy
(Ministry of Energy Meteorology and Water affairs)*

TYPE OF ORGANIZATION

Government / Public Institution

PROJECT LOCATION

Maseru

TECHNOLOGY TYPE

N/A

PROJECT DESCRIPTION

The project consists in a smart building demonstration pilot showcasing all the energy saving measures and energy efficiency available technologies suitable to Lesotho construction industry.

The demonstration building is to be erected in Maseru (place yet to be defined) and intends to be an open doors building to receive energy and building sector stakeholders, schools and general public to demonstrate the cost-benefit relationship of all the different energy saving measures and available energy efficient technologies.

Special focus will be directed to the measures and solutions applicable and adequate to Lesotho environment and climate specificities.

This Project will be developed in two different phases:

- *Phase 1: Studies*

This phase will be developed with the support of specialized technical assistance with the involvement of the National University of Lesotho and relevant energy and building construction sector stakeholders

In the Phase the following activities will be carried out:

- *Land procurement for the construction of the Efficient Building demonstration Project*
- *Analysis of international standards and criteria for building efficiency certification*
- *Selection of the adequate energy saving measures that should be considered to implement*
- *Identification of energy efficiency technologies to be considered*
- *Developing monitoring and reporting system of energy performance/water usage for the demonstration project.*
- *Preliminary budget of Phase 2*
- *Development of the Terms of Reference for Phase 2*
- *Development of training and certification programs for building sector stakeholders.*

- *Phase 2: Project implementation*

- *Award and construct the Efficient Building demonstration Project*
- *Create a structure to manage and maintain the building*
- *Providing training to monitor energy performance/water usage*

Depending on its characteristics and dimension, this building could accommodate a future Agency for the Energy Efficiency who may be in charge of supporting Lesotho construction sector providing guidance and energy efficiency certification for new buildings.

EXPECTED RESULTS/OUTCOMES

- *Increase awareness regarding energy efficiency measures in buildings, presenting the potential savings that befall from the energy efficiency measures.*
- *Promote the use of energy efficient equipment and new energy saving technologies*
- *Disseminate and promote the use of new energy efficient technologies suitable for the Lesotho energy and construction sectors*

PROJECT STATUS

Project at conceptual stage

PROJECT TIME FRAME

- *Expected start of project: Jan 2019*
- *Expected duration of Phase 1: 1 year*
- *Expected duration of Phase 2: 2 years*

TOTAL PROJECT COST

To be estimated

FINANCING STRUCTURE

To be defined

FUNDS SECURED

None

FINANCING GAP

100%

PROCUREMENT MODEL

To be defined

Lesotho SE4All Investment Prospectus
Project Fiche

PROJECT NAME

Energy Efficiency Appliances labeling legal and regulatory framework

PROJECT OWNER/DEVELOPER/AGENCY

*Department of Energy
(Ministry of Energy Meteorology and Water affairs)*

TYPE OF ORGANIZATION

Government / Public Institution

PROJECT LOCATION

Lesotho (Nationwide)

TECHNOLOGY TYPE

N/A

PROJECT DESCRIPTION

In most developing countries the energy inefficient appliances represent the majority of the electronic equipment's market, therefore the energy consumption reaches levels that makes the generation of electricity a process that symbolizes a huge part on the Government budget. With the implementation of actions regarding the promotion of energy efficient appliances the costs related to the energy generation can suffer a sever break down and help the country's economy to grow.

The certification, labelling and enforcement mechanism to promote energy efficient end-uses are the main measures to take into the account when dealing with project like this. Each one of them will focus in different aspects of the market boosting the market penetration of energy efficient appliances.

The project should emphasis in different stages, such:

- *Developing of labelling program for appliances imported in Lesotho in line with SAPP - SACREEE labelling program.*
- *Develop regulatory framework including import regulations for energy efficiency standards for a first selection of appliances.*
- *Develop a testing mechanism for selected appliances to be developed and established*
- *Develop national certification procedures to promote energy efficient appliances*
- *Develop and launch demand side management program, run by national utility, built around a "turn in or exchange" mechanism /modality*
- *Develop and propose financial incentive and its introduction in a pilot program for the scale up of energy efficient appliances*
- *Develop awareness-raising campaign for end users, retailers and distributors on S&L (Standards and Labelling) program for imported appliances (websites, media outreach etc.)*
- *Conduct public awareness program and diffusion strategy – training seminars etc.*

EXPECTED RESULTS/OUTCOMES

- *Market transformation, increasing market penetration of energy efficient appliances.*
- *Reduction of demand peak loads.*
- *Reduction of energy consumption.*
- *Increasing the international energy independency.*

PROJECT STATUS

PROJECT TIME FRAME

<i>Project at conceptual stage</i>		<ul style="list-style-type: none"> • <i>Expected start of project implementation: January 2019</i> • <i>Expected Project duration: 6 months</i>
TOTAL PROJECT COST		FINANCING STRUCTURE
<i>To be estimated</i>		<i>To be defined</i>
FUNDS SECURED	FINANCING GAP	PROCUREMENT MODEL
<i>None</i>	<i>100%</i>	<i>To be defined</i>

DRAFT

Lesotho SE4All Investment Prospectus Project Fiche	
PROJECT NAME	
<i>Energy Losses reduction program</i>	
PROJECT OWNER/DEVELOPER/AGENCY	TYPE OF ORGANIZATION
<i>LEC</i>	<i>State Owned Utility</i>
PROJECT LOCATION	TECHNOLOGY TYPE
<i>Lesotho (Nationwide)</i>	<i>N/A</i>
PROJECT DESCRIPTION	
<p><i>Reducing electricity losses can generate greater financial sustainability of utilities, as additional revenues increase the cost of distribution of the same amount of energy decreases, enhancing the capitalization of the power sector. At the same time, lower electricity losses can potentially contribute to reduce CO2 emissions, as well as to decrease electricity tariffs for consumers.</i></p> <p><i>The non-technical electricity losses refer to electricity effectively delivered by LEC but not paid by the users, resulting in direct financial losses for LEC. This type of loss is caused by actions external to the power system but internal to overall management of the utility and can have their origin in different circumstances, as: electricity theft; non-payment by costumers; errors in accounting and record-keeping; fraud when recording electricity.</i></p> <p><i>The main objective of this project is to support LEC in the quantification of the non-technical losses in the distribution grid and to give recommendations on processes, competences and potential investments to reduce commercial energy losses leading towards their total elimination.</i></p> <p><i>The implementation of this program should rely in different tasks, starting by the calculation of the commercial energy losses giving the baseline values that show their impact on the energy market. Thus it will be necessary to analyze the internal processes of LEC's commercial department, giving advisory on new organizational strategies aligned with the best international practices, containing not only processes and technology benchmark but also policy, regulatory and social barriers on energy losses combat and the best solutions/practices to fight energy commercial losses.</i></p> <p><i>The project must include a set of recommendations on the creation of a dedicated team or department inside LEC's commercial structure dedicated to revenue assurance. Furthermore there must be provided help to LEC in the establishment of its non-technical Losses objectives, on the creation of new processes for non-technical loss reduction and on non-technical losses combat policy.</i></p>	
EXPECTED RESULTS/OUTCOMES	
<ul style="list-style-type: none"> <i>• Reduce the current levels of non-technical losses Nationwide</i> <i>• Study and quantify the current levels of non-technical losses.</i> <i>• Creation of framing laws aimed at penalizing individuals who try to mug electricity.</i> <i>• Tighten control in metering and record energy consumption and distribution.</i> 	
PROJECT STATUS	PROJECT TIME FRAME

<i>Project at conceptual stage</i>		<ul style="list-style-type: none"> • <i>Expected start of project implementation: January 2019</i> • <i>Expected Project duration: 1 year</i>
TOTAL PROJECT COST		FINANCING STRUCTURE
<i>To be estimated</i>		<i>To be defined</i>
FUNDS SECURED	FINANCING GAP	PROCUREMENT MODEL
<i>None</i>	<i>100%</i>	<i>To be defined</i>

DRAFT

Lesotho SE4All Investment Prospectus
Project Fiche

PROJECT NAME

Hourly based industrial and domestic tariff

PROJECT OWNER/DEVELOPER/AGENCY

*Department of Energy
(Ministry of Energy Meteorology and Water affairs)*

TYPE OF ORGANIZATION

Government / Public Institution

PROJECT LOCATION

Lesotho (Nationwide)

TECHNOLOGY TYPE

N/A

PROJECT DESCRIPTION

The main objective of this project is to provide technical support to LEWA whilst the creation of an hourly based energy consumption tariff. At the time, Lesotho doesn't have this time-based tariff which means there is no incentive for consumers to manage the hours in which they consume, since there is no differentiation for hours charged with a greater fee and discount hours.

In the development of this project an analysis concerning the Industry Sector and the main energy consumers in the Domestic Sector will be carried out, in order to understand which hours are critical and evaluate the variation of energy consumption in them when implementing the hourly-based tariff.

The international energy markets suggest that bi-hourly or tri-hourly tariffs are the best systems for electric consumption markets. The first divides the day into two fragments, peak loads and off-peak loads schedule, meaning that the peak load hours are subject to greater fees than the off-peak loads. The second divides it into three fragments, peak loads, intermediate peak-load and off-peak loads, adding a third component to the calculation of energy pricing increasing the dynamics of the energy pricing system. Usually the energy companies let the consumers choose which of the two tariffs they want to adhere, benefiting from the one which provides them the most economical savings.

Besides the technical and financial study, it is expected that this project will recommend the adequate tariffs for energy loads shifting, aiming the decrease of peak load consumptions granting an even distribution of energy. Thus there is no overload in the energy distribution and production facilities, which means fewer losses from the heat dissipation in the network caused by the passing current.

There should be taken into account some changes in Lesotho's electric energy market, such:

- *Evaluate the current legal, regulatory and administrative structure of the electricity sector, required by the entities involved, based on past experience and the available technical and human capacities.*
- *Evaluate the best international practices in terms of legal, regulatory and administrative structure, including technical requirements, legal contract establishments and detailed break-down of the best options on attributing the hourly tariffs through the day.*

EXPECTED RESULTS/OUTCOMES

- *Improvement in the network management, avoiding the necessity of energy imports in the peak load hours, leading to energetic independency.*
- *Taxes are being imposed to import electric energy, so a reduction in this value should increase profitability and reduction in energy production.*
- *The main outcome from the implementation of this project should rely on the reduction of the demand peak load and standardization of daily, weekly and monthly energy consumption.*
- *Reduction on Energy imports in peak hours*

PROJECT STATUS		PROJECT TIME FRAME
<i>Project at conceptual stage</i>		<ul style="list-style-type: none"> • <i>Expected start of project implementation: April 2019</i> • <i>Expected Project duration: 6 months</i>
TOTAL PROJECT COST		FINANCING STRUCTURE
<i>To be estimated</i>		<i>To be defined</i>
FUNDS SECURED	FINANCING GAP	PROCUREMENT MODEL
<i>None</i>	<i>100%</i>	<i>To be defined</i>

DRAFT

Lesotho SE4All Investment Prospectus
Project Fiche

PROJECT NAME

LED technology Public lightning

PROJECT OWNER/DEVELOPER/AGENCY

*Department of Energy
(Ministry of Energy Meteorology and Water affairs)*

TYPE OF ORGANIZATION

Government / Public Institution

PROJECT LOCATION

Maseru downtown

TECHNOLOGY TYPE

Low consumption lighting systems

PROJECT DESCRIPTION

Public lightning is a vital service provided by local and municipal governments and it represents a large part of the municipalities' responsibilities concerning energy consumption and greenhouse gas emissions. Good lightning at night is essential to increase road and personal safety and urban ambience, preventing indirectly crime and providing security of properties. Well-lighted streets and/or neighborhoods boost economic opportunities by increasing the number of hours of commercial activity during an entire day.

Energy efficient technologies can decrease the public lightning costs dramatically together with the reduction of greenhouse gas emissions, meaning savings that can be used to implement other actions providing the citizens welfare and development.

The project stands for the substitution of inefficient public lightning in downtown of Maseru, replacing them for LED efficient lightning. The actual energy costs, the cost-effectiveness and the project potential savings are the main topics to deal with. This demonstration project should provide crucial information to implement similar measures in other cities and neighborhoods across Lesotho.

The development of this demonstration project must include different steps, as described:

- *Baseline energetic characteristics, such as energy consumption, number of lightning bulbs, peak load demand and operation time schedules.*
- *Project implementation costs, with detailed breakdown of all costs and resources required (number of man-hour needed, LED lights costs, operative costs, etc.).*
- *Project's cost-effectiveness, held by the energy savings through the bulb substitution.*
- *Prepare case study guides and strategies to spread amongst relevant audience in order to introduce similar energy efficiency projects in other cities and neighborhoods.*

After the substitution of the light bulbs, a 6 months period should be monitored and a report should be presented containing the analysis on the measuring mechanism that verifies the energy consumption reduction according to historical data. Providing energy reduction evidences capable of empower other similar projects.

EXPECTED RESULTS/OUTCOMES

- *Reduction on Maseru downtown energy costs and consumption.*
- *Provide an increase on the number of lightning working hours, boosting the economic growth of this area.*
- *Dissemination through other blocks and cities.*

This project aims to reduce the consumption of electricity in public lightning by 70% benefiting all Maseru citizens and Companies.

PROJECT STATUS		PROJECT TIME FRAME
<i>Project at conceptual stage</i>		<ul style="list-style-type: none"> <i>Expected start of project implementation: January 2019</i> <i>Expected Project duration: 6 months</i>
TOTAL PROJECT COST		FINANCING STRUCTURE
<i>To be estimated</i>		<i>To be defined</i>
FUNDS SECURED	FINANCING GAP	PROCUREMENT MODEL
<i>None</i>	<i>100%</i>	<i>To be defined</i>

DRAFT

Lesotho SE4All Investment Prospectus
Project Fiche

PROJECT NAME

Electricity Distribution Network losses reduction program

PROJECT OWNER/DEVELOPER/AGENCY

LEC

TYPE OF ORGANIZATION

State Owned Utility

PROJECT LOCATION

Lesotho (Nationwide)

TECHNOLOGY TYPE

Consumption monitoring solutions

PROJECT DESCRIPTION

One of the greatest problems facing energy efficient grids is the losses along the distribution network, this is due to different features that should be clearly acknowledged and implement solutions that are cost effective and produce improvements leading towards a zero inefficient grid.

The main objective of this project is to identify the origin of the electricity network losses which represent 10% of the total grid electric power and to appoint solutions to close down the gap between the real grid efficiency and an efficient network.

To do so, some tasks should be carried out:

- *Analysis and diagnosis of the distribution system. Identification of the processes which conduct to high network losses and determine procedures with highly energetic saving potential to solve the problems identified previously.*
- *Identification of energy efficiency measures potentially applicable on the context of the Lesotho's energy distribution.*
- *Specification of the major sources of inefficiency and identification of energy efficiency alternatives suitable to each circumstance. Development of a priority list which clearly explain the order on which the intervention proposals should be implemented, proceeding on the scheduling of the interventions, enlisting the main ones prior to the others.*
- *Evaluation of the costs and benefits associated to each alternative supported with sensitivity analysis of the proposed solutions regarding the major risk factors and uncertainties.*
- *Definition of a master plan to reduce technical losses in agreement with LEC, going to meet its priorities, strategic objectives, investment needs and financial mechanisms.*
- *Definition of recommendations to instruct the system's operators and to the acquisition of computational recourses and tools to model, plan, simulate and exploit the grid.*

EXPECTED RESULTS/OUTCOMES

- *Identification of the energy network losses.*
- *Implementation of identified energy efficient procedures.*
- *Improvement of the grid efficiency, while reducing the network losses. This causes an impact on the delivery of electric energy, meaning that less amount of energy is produce to respond to the same demand of energy.*

PROJECT STATUS

PROJECT TIME FRAME

<ul style="list-style-type: none"> Project at conceptual stage 		<ul style="list-style-type: none"> Expected start of project implementation: January 2019 Expected Project duration: 1 year
TOTAL PROJECT COST		FINANCING STRUCTURE
To be estimated		To be defined
FUNDS SECURED	FINANCING GAP	PROCUREMENT MODEL
None	100%	To be defined

DRAFT

Lesotho SE4All Investment Prospectus Project Fiche	
PROJECT NAME	
<i>Public Buildings Energy Efficiency Improvement Program</i>	
PROJECT OWNER/DEVELOPER/AGENCY	TYPE OF ORGANIZATION
<i>Department of Energy (Ministry of Energy Meteorology and Water affairs)</i>	<i>Government / Public Institution</i>
PROJECT LOCATION	TECHNOLOGY TYPE
<i>Lesotho (Nationwide)</i>	<i>Consumption monitoring solutions</i>
PROJECT DESCRIPTION	
<p><i>The project consists on an array of audits to the major public institutional buildings and the implementation of energy saving solutions according to the building's electric and climate needs.</i></p> <p><i>The first part of the project should be to identify which are the major energy consumption buildings and which can be subject to energy efficiency projects, in other words, undertaking a set of energy audits to all of the major public institutions' buildings.</i></p> <p><i>An audit to public building's energy consumption and levels of energy efficiency should be carried out in order to identify the critical buildings and analyze the feasibility of implementation of energy efficient solutions.</i></p> <p><i>Along with the audits to the buildings, there should be made a selection of which energy efficient solutions can be implemented in each situation. The study should focus on potential energy gains and savings and on the feasibility of the different implementation projects, presenting the cost-effectiveness of each solution and its payback time.</i></p> <p><i>The entire project should be developed in accordance to the project entitled: "Building Energy Efficiency certification legal and regulatory framework", in order to guarantee the best energy efficiency improvements as possible.</i></p>	
EXPECTED RESULTS/OUTCOMES	
<ul style="list-style-type: none"> <i>Reduce electricity usage for public institutions facilities, while increasing their energy efficiency.</i> <i>Identification of the main energy-consuming State facilities, acting in the ones that provide quick energy savings.</i> <i>Increase market penetration for energy efficient solutions such as: LED lightning, solar thermal water heater systems, rooftop PV self-consumption systems, etc.</i> 	
PROJECT STATUS	PROJECT TIME FRAME
<i>Project at conceptual stage</i>	<ul style="list-style-type: none"> <i>Expected start of project implementation: January 2019</i> <i>Expected Project duration: 1 year</i>
TOTAL PROJECT COST	FINANCING STRUCTURE
<i>To be estimated</i>	<i>To be defined</i>

FUNDS SECURED	FINANCING GAP	PROCUREMENT MODEL
<i>None</i>	<i>100%</i>	<i>To be defined</i>

DRAFT

DRAFT

Lesotho SE4All Investment Prospectus
Project Fiche

PROJECT NAME

Capacity Building for Public Institutions

PROJECT OWNER/DEVELOPER/AGENCY

*Department of Energy
(Ministry of Energy Meteorology and Water affairs)*

TYPE OF ORGANIZATION

Government / Public Institution

PROJECT LOCATION

Lesotho (Nationwide)

TECHNOLOGY TYPE

N/A

PROJECT DESCRIPTION

The general objective of this assignment is to contribute to strengthening the energy sector in Lesotho. A key component of this project is to provide Technical Assistance and strengthening of the energy sector stakeholders by identifying themselves strengths and weaknesses and proposing revisions to structures, staffing and training as appropriate to address the identified weaknesses and strengthen the organizations.

Effective government performance is central to the creation of market-oriented economies, secure and productive populations, and democratic political systems in developing countries. Capacity building to improve public sector performance is thus an important focus of development initiatives. Several implicit assumptions underlie most such efforts: that organizations or training activities are the logical site for capacity-building interventions; that administrative structures and monetary rewards determine organizational and individual performance; that organizations work well when structures and control mechanisms are in place; and that individual performance improves as a result of skill and technology transfer through training activities.

This will necessarily result from a review and analysis, to be done in the beginning of this project, which will identify and highlight improvement needs of the various energy sector stakeholders. This “audit” initial task and capacity building task will require Business Administration, Legal, Energy Sector, HR and System Management experts to work closely with the various energy sector stakeholder of Lesotho to undertake a full skills audit and training needs analysis which will include the following steps:

- *identify the skills required for each of the roles of the energy sector stakeholders’ staff*
- *carry out skills audit interviews with all energy sector stakeholders’ staff to complete an audit survey form for each*
- *Analyse the survey forms and identify skills gaps that the survey reveals*
- *Develop a capacity building plan (with detailed training modules) to address the identified skills gaps*
- *Review and document the existing quality management systems in the energy sector stakeholder*
- *Prepare an ideal map of quality feedback systems that would cover all aspects of the energy sector stakeholders’ work*
- *Prepare a suite of quality feedback system documentation that would assist the energy sector stakeholder to improve their operations through consistent and focused feedback mechanisms.*

EXPECTED RESULTS/OUTCOMES

- *Review existing energy sector policies, acts, and regulations.*
- *Assess and amend (if needed) the formal founding document of the Ministry of Energy and Meteorology.*

- Assess the current Electricity Law, and verify the conformity with all other national legislative measures in force (laws, regulations and administrative provisions), including correlation with the single articles (LEWA Act, duties).
- Develop a proper capability in energy data collection, data analysis, data reporting
- Identify the skills required for each of the roles of the different energy sector institutions' staff
- Carry out skills audit interviews with all energy sector staff to complete an audit survey form for each analyze the survey forms and identify skills gaps that the survey reveals
- Develop a capacity building plan (with detailed training modules) to address the identified skills gaps
- Identify capacity building support resources needed to execute the capacity building and launch the capacity building programme
- Review and document the existing quality management systems used by Energy Sector Institutions(stakeholders)
- Prepare an ideal map of quality feedback systems that would cover all aspects of the different institutions' work
- Prepare a suite of quality feedback system documentation that would assist the different institutions to improve their operations through consistent and focused feedback mechanisms.

PROJECT STATUS		PROJECT TIME FRAME
Project at conceptual stage		<ul style="list-style-type: none"> • Expected start of project implementation: January 2019 • Expected Project duration: 6 months
TOTAL PROJECT COST		FINANCING STRUCTURE
To be estimated		To be defined
FUNDS SECURED	FINANCING GAP	PROCUREMENT MODEL
None	100%	To be defined

Lesotho SE4All Investment Prospectus
Project Fiche

PROJECT NAME

Clean Cooking Micro-Credit

PROJECT OWNER/DEVELOPER/AGENCY

*Department of Energy
(Ministry of Energy Meteorology and Water affairs)*

TYPE OF ORGANIZATION

Government / Public Institution

PROJECT LOCATION

Lesotho (Nationwide)

TECHNOLOGY TYPE

Efficient Clean Cooking Stoves

PROJECT DESCRIPTION

The main purpose of this project is to study if better financing solutions are available for the implementation of clean cook stoves.

Access to financing is a key constraint for sustainable private sector growth in the renewable off-grid energy sector in developing countries. The challenge is especially apparent in clean small scale rural electrification projects in remote areas of Africa, where the upfront capital investment especially for advanced renewable energy technologies can be relatively high compared to available funds of local households and enterprises.

A growing and more differentiated supply tailored to local and investors' conditions and easier access to funding and financing schemes are therefore vital for successful business ventures in the sector, and hence for striving towards universal clean energy access. These support the initial establishment of rural electrification projects and allow for risk management, while accounting for both downstream (consumer finance) and upstream financing (enterprise finance such as start-up capital, working capital, etc.)

The ES0096 Technical Assistance Project by the European Union – Technical Assistance Facility (EU-TAF) provided an analysis of different solutions for the financing of individual off-grid energy solutions. The study was not directly targeted at efficient clean cooking stoves, although it analyzed one solution currently available in Lesotho, but could serve as an interesting starting point for this study.

Currently, there are various financing solutions, across Africa to support the deployment of individual renewable energy solutions for energy access in remote and rural areas. The purpose of this project will be to identify international best practices (for example: MTN Ready Pay, ACE Stoves with Kiva financing, Barefoot Power Rwanda, etc.) and to identify the best way to fast track the implementation of clean and efficient cookstoves in Lesotho, whereas removing/mitigating the existing barriers (especially financial) so has to increase market penetration of these solutions. Furthermore it is expected that this project will help identify the best available financing solutions as well as provide alternative (several) financing schemes for clean cooking stoves, taking in consideration the main constraints in rural areas of Lesotho (namely: awareness, per capita income, consumption patterns, etc.)

It is expected that this project provides, at least, but not limited to a recommendation of the best financing models for scaling-up market penetration of clean efficient cook stoves and provides an analysis on different suitable financing models, such as:

- *Free for service model*
- *Dealer model*
- *Consumer finance*
- *Lease model*
- *Buy-Sell-Pay Model*

- *Rent or Own Model*

Also, this project should review and detail the best financing instruments for Lesotho:

- *Capital subsidy, grant or rebate*
- *Investment of Production tax credits*
- *Reduction in Sales, energy, CO₂, VAT, or other taxes*
- *Production Payment*
- *Public Investment, loans or grants*

EXPECTED RESULTS/OUTCOMES

- *Review of Available Financing Options*
- *Propose optimized financial option for Lesotho*
- *Provide an International Benchmark on financing schemes*

PROJECT STATUS

Project at conceptual stage

PROJECT TIME FRAME

- *Expected start of project implementation: January 2019*
- *Expected Project duration: 1 year*

TOTAL PROJECT COST

To be estimated

FINANCING STRUCTURE

To be defined

FUNDS SECURED

None

FINANCING GAP

100%

PROCUREMENT MODEL

To be defined

Lesotho SE4All Investment Prospectus
Project Fiche

PROJECT NAME

Concessional Rural Electrification

PROJECT OWNER/DEVELOPER/AGENCY

*Department of Energy
(Ministry of Energy Meteorology and Water affairs)*

TYPE OF ORGANIZATION

Government / Public Institution

PROJECT LOCATION

Lesotho (Nationwide)

TECHNOLOGY TYPE

N/A

PROJECT DESCRIPTION

The main objective of this project will be to analyze the current legal and regulatory framework for the implementation of rural electrification concessions and determine its adequacy towards implementation of rural electrification concessions.

In terms of accelerating energy access, public funds alone are insufficient to meet this daunting challenge. Various approaches to increasing the flow of private investment to rural electrification have been attempted, but consistent and replicable success remains elusive. Electricity “concessions” represent one of those approaches.

A concession is a form of public-private partnership in which the private sector is granted the right to build, operate, and expand public infrastructure for a predefined period of time. Although electricity concessions have been used most prominently to attract private investors to improve the operational efficiency of national utilities and distribution networks, they also have been applied to mini-grids, solar home systems, and even previously un-electrified zones.

The project will be developed in three stages.

- 1. First, a detailed desk review of rural electric concessions in Africa will be undertaken to understand the landscape of concessions.*
- 2. Next, six in-depth, field-based country case studies will be prepared.*
- 3. Finally, a limited desk review of the experiences with concessions and concession-like structures other countries in Africa will be carried out in order to provide a point of comparison for the Lesotho experience, and also to guide the creation of an adequate legal and regulatory framework for the implementation of rural electrification concessions.*

One of the suggested countries to be analyzed is the example of Senegal: Rural zonal concessions have been undertaken in Senegal, where progress has been slow. While the concessions continue to function, one of their biggest drawbacks has been the time needed to design and implement the model. Work on the program began in 2004, and by the end of 2015 only 3,760 connections had been provided, with approximately two-thirds of them made through solar home systems. While conceptually appealing, the Senegalese experience is not an attractive model for any countries considering the zonal concession approach.

Another topic to be covered by this project is the analysis of mini-grid concessions.

In Africa there are, currently, mini-grid concessions in six countries—Burkina Faso, Guinea, Madagascar, Mali, Senegal, and Uganda—in which mini-grid concessions were still in operation in late 2017.

In all cases, the concessions were established under a program initiated by the country’s rural energy agency or fund, which shouldered some or all of the capital costs of the system. These programs elicited participation from local entrepreneurs possessing the knowledge and resources to operate a mini-grid system. But because they did not have access to large pools of equity and debt investment capital, they required financial support from their respective governments to meet the capital costs of building the system.

Mini-grid concessions have increased the number of rural electricity customers in the countries in which they have been established and unleashed local entrepreneurs and enterprises, creating an avenue for local investment and for the bottom-up emergence of small electricity networks in rural areas. Mali may have implemented the most successful mini-grid program to date, one that has resulted in more than 70,000 people gaining access to electricity.

Typical cost breakdowns between public and private cost-sharing range from 60 percent to 80 percent public funding. But when the point of comparison is rural electrification projects with 100 percent public funding, these concessions have demonstrated that private financing and expertise can indeed be brought to bear.

EXPECTED RESULTS/OUTCOMES

- Assessment of the current LRA framework of establishment of rural electrification concessions in Lesotho
- Assessment of international best practices on LRA oriented for establishment of rural electrification concessions
- Discussion and preparation of the licensing process flow chart as well as the Lesotho command and control structure
- Determine the necessary investment capital required to implement a concession scheme (both on-grid and off-grid)
- Identify typical cost breakdowns between public and private cost-sharing for rural electrification projects based in concessions

PROJECT STATUS

Project at conceptual stage

PROJECT TIME FRAME

- Expected start of project implementation: December 2018
- Expected Project duration: 1 year

TOTAL PROJECT COST

To be estimated

FINANCING STRUCTURE

To be defined

FUNDS SECURED

None

FINANCING GAP

100%

PROCUREMENT MODEL

To be defined

Lesotho SE4All Investment Prospectus Project Fiche	
PROJECT NAME	
<i>Creation of a Renewable Energy Laboratory</i>	
PROJECT OWNER/DEVELOPER/AGENCY	TYPE OF ORGANIZATION
<i>Department of Energy (Ministry of Energy Meteorology and Water affairs) and National University of Lesotho</i>	<i>Government / Public Institution</i>
PROJECT LOCATION	TECHNOLOGY TYPE
<i>Lesotho (Nationwide)</i>	<i>N/A</i>
PROJECT DESCRIPTION	
<p><i>The aim of this project is to set up the Lesotho Renewable Energy Laboratory for the National University of Lesotho and technical schools. The Lesotho Renewable Energy Laboratory, to be developed and created under this project will be established to promote energy access and is intended to gather and administer information and studies to support public and private renewable generation and distribution initiatives.</i></p> <p><i>Its main focus is to be a testing facility to serve the increase of knowledge about Renewable Energies and Lesotho and to prepare the future labor force of Lesotho for these technologies. Also, the Lesotho Renewable Energy Laboratory will work as an investigation hub for various energy related issues, such the assessment of expanding energy access at low cost to rural and urban areas, as well as to promote the conservation and rational use of the country's energy resources. Also the Lesotho Renewable Energy Laboratory should be involved in the implementation of many projects in Lesotho's energy sector, including: rural electrification of school and clinics using solar panels; solar based mini-grids; mini-hydro projects; mapping of renewable potential; construction of petrol stations in rural areas; and solar module manufacturing.</i></p> <p><i>This project will be aimed at providing technical assistance setting up the Lesotho Renewable Energy Laboratory, and will include the definition of a mission and overarching objective, selection of the scope of work and activities, determining the budget and identifying costs associated to the key activities, designing a strategy for private sector involvement, and a new organigram to better support the Lesotho Renewable Energy Laboratory.</i></p>	
EXPECTED RESULTS/OUTCOMES	
<ul style="list-style-type: none"> <i>Establish the Lesotho Renewable Energy Laboratory</i> <i>Definition of a mission and overarching objective, defining the scope of work and activities for the Lesotho Renewable Energy Laboratory</i> <i>Establish the budget and identify the costs associated to the key activities of the Lesotho Renewable Energy Laboratory</i> <i>Design a strategy for private sector involvement in/with the Lesotho Renewable Energy Laboratory</i> <i>Organizational Structure of the Lesotho Renewable Energy Laboratory</i> <i>Organigram</i> <i>Human Resources Data Sheet</i> <i>Business Processes</i> 	
PROJECT STATUS	PROJECT TIME FRAME

<i>Project at conceptual stage</i>		<ul style="list-style-type: none"> • <i>Expected start of project implementation: January 2019</i> • <i>Expected Project duration: 6 months</i>
TOTAL PROJECT COST		FINANCING STRUCTURE
<i>To be estimated</i>		<i>To be defined</i>
FUNDS SECURED	FINANCING GAP	PROCUREMENT MODEL
<i>None</i>	<i>100%</i>	<i>To be defined</i>

DRAFT

Lesotho SE4All Investment Prospectus
Project Fiche

PROJECT NAME

Energy Awareness Measures

PROJECT OWNER/DEVELOPER/AGENCY

*Department of Energy
(Ministry of Energy Meteorology and Water affairs)*

TYPE OF ORGANIZATION

Government / Public Institution

PROJECT LOCATION

Lesotho (Nationwide)

TECHNOLOGY TYPE

N/A

PROJECT DESCRIPTION

The general objective of this assignment is to contribute to integrate the values inherent in sustainable development into all aspects of learning to encourage changes in behavior that allow for a more sustainable and just society in Lesotho.

Embarking on the path of sustainable development will require a profound transformation of how Basotho think and act. To create a more sustainable Lesotho and to engage with sustainability-related issues, individuals must become sustainability change-makers. This requires that Basotho are “armed” with the necessary knowledge, skills, values and attitudes that empower them to contribute to sustainable development.

Education, therefore, is crucial for the achievement of sustainable development. However, not all kinds of education support sustainable development. Education that promotes economic growth alone may well also lead to an increase in unsustainable consumption patterns. The now well-established approach of Education for Sustainable Development (ESD) empowers learners to take informed decisions and responsible actions for environmental integrity, economic viability and a just society for present and future generations.

This project should aim at developing competencies that empower individuals to reflect on their own actions, taking into account their current and future social, cultural, economic and environmental impacts, from a local and a global perspective. Individuals should also be empowered to act in complex situations in a sustainable manner, which may require them to strike out in new directions; and to participate in socio-political processes, moving their societies towards sustainable development.

Energy Awareness Measures have to be understood as an integral part of quality education, inherent in the concept of lifelong learning:

All educational institutions – from preschool to tertiary education and in non-formal and informal education – can and should consider it their responsibility to deal intensively with matters of sustainable development and to foster the development of sustainability competencies. This project should provide an education that matters and is truly relevant to every learner in the light of today’s challenges.

The goal is to implement in Lesotho a holistic and transformational education that addresses learning content and outcomes, pedagogy and the learning environment. Thus, this project should not only integrate contents such as climate change, poverty and sustainable consumption into the curriculum; it also creates interactive, learner-centred teaching and learning settings. What Energy Awareness Measures requires is a shift from teaching to learning. It asks for an action-oriented, transformative pedagogy, which supports self-directed learning, participation and collaboration, problem-orientation, inter- and transdisciplinarity and the linking of formal and informal learning. Only such pedagogical approaches make possible the development of the key competencies needed for promoting sustainable development.

Suggested topics for the Energy Awareness Measures Project:

- *Different energy types, especially renewable energies like solar, wind, water, geothermal, tidal*
- *Energy production, supply, demand and usage of different countries*
- *Energy efficiency and sufficiency in energy usage*
- *Strategies: Centralized versus decentralized energy production; energy self-sufficiency, e.g. via local energy supply companies (LESCOs)*
- *Political, economic and social dimensions of energy and linkages to power constellations, e.g. in mega energy projects like large scale solar farms or dam projects – potential conflict of interests (political and economic power (across borders), rights of especially indigenous people)*
- *Environmental impacts and issues of energy production, supply and usage (e.g. climate change, grey energy)*
- *The role of the public and private sectors in ensuring the development of low carbon energy solutions*
- *Peak of oil production and energy security – (over)dependence on non-renewable energies like oil*
- *Bridging technologies and technology for a ‘cleaner’ use of fossil fuels*
- *Gender issues related to energy production, supply and usage*

EXPECTED RESULTS/OUTCOMES

- *The learner knows about different energy resources – renewable and non-renewable – and their respective advantages and disadvantages including environmental impacts, health issues, usage, safety and energy security, and their share in the energy mix at the local, national and global level.*
- *The learner knows what energy is primarily used for in different regions of the world.*
- *The learner understands the concept of energy efficiency and sufficiency and knows socio-technical strategies and policies to achieve efficiency and sufficiency.*
- *The learner understands how policies can influence the development of energy production, supply, demand and usage.*
- *The learner knows about harmful impacts of unsustainable energy production, understands how renewable energy technologies can help to drive sustainable development and understands the need for new and innovative technologies and especially technology transfer in collaborations between countries.*
- *The learner is able to communicate the need for energy efficiency and sufficiency.*
- *The learner is able to assess and understand the need for affordable, reliable, sustainable and clean energy of other people/other countries or regions.*
- *The learner is able to cooperate and collaborate with others to transfer and adapt energy technologies to different contexts and to share energy best practices of their communities.*
- *The learner is able to clarify personal norms and values related to energy production and usage as well as to reflect and evaluate their own energy usage in terms of efficiency and sufficiency.*
- *The learner is able to develop a vision of a reliable, sustainable energy production, supply and usage in their country.*
- *The learner is able to apply and evaluate measures in order to increase energy efficiency and sufficiency in their personal sphere and to increase the share of renewable energy in their local energy mix.*
- *The learner is able to apply basic principles to determine the most appropriate renewable energy strategy in a given situation.*
- *The learner is able to analyze the impact and long-term effects of big energy projects (e.g. constructing an off-shore wind park) and energy related policies on different stakeholder groups (including nature).*
- *The learner is able to influence public policies related to energy production, supply and usage.*
- *The learner is able to compare and assess different business models and their suitability for different energy solutions and*

PROJECT STATUS		PROJECT TIME FRAME
<i>Project at conceptual stage</i>		<ul style="list-style-type: none"> • <i>Expected start of project implementation: January 2019</i> • <i>Expected Project duration: 6 months</i>
TOTAL PROJECT COST		FINANCING STRUCTURE
<i>To be estimated</i>		<i>To be defined</i>
FUNDS SECURED	FINANCING GAP	PROCUREMENT MODEL
<i>None</i>	<i>100%</i>	<i>To be defined</i>

DRAFT

Lesotho SE4All Investment Prospectus Project Fiche	
PROJECT NAME	
<i>Legal, Regulatory and Administrative Framework for On-Grid Household Renewable Generation Systems</i>	
PROJECT OWNER/DEVELOPER/AGENCY	TYPE OF ORGANIZATION
<i>Department of Energy (Ministry of Energy Meteorology and Water affairs)</i>	<i>Government / Public Institution</i>
PROJECT LOCATION	TECHNOLOGY TYPE
<i>Lesotho (Nationwide)</i>	<i>Small Solar/Wind generation systems</i>
PROJECT DESCRIPTION	
<p><i>Create a proper legal and regulatory framework for the small scale renewable generation systems. The overall goal of this project is to overcome market barriers for photovoltaics (PV) and small wind turbine systems on the level of regulatory frameworks.</i></p> <p><i>To do so, the following, should be the main goals of the project:</i></p> <ul style="list-style-type: none"> <i>Evaluate the current legal, regulatory and administrative structure of the electricity sector, required by the entities involved, based on past experience and the available technical and human capacities</i> <i>Evaluate the best international practices in terms of legal, regulatory and administrative structure, including licensing procedures, information management, technical requirements, safety requirements, etc.</i> <i>Develop the procurement process and internal support structure for effectively manage and control the licensing procedures</i> <i>Prepare the necessary documentation for the licensing of new generation capacity through Solar PV Home Systems</i> <i>Carry out an analysis of price fixing (tariffs) mechanisms and calculation of avoided costs</i> 	
EXPECTED RESULTS/OUTCOMES	
<ul style="list-style-type: none"> <i>To create a proper regimen for small on-grid renewable generation systems</i> <i>Assessment of the current LRA framework of licensing individual home generation systems connected to the grid in Lesotho</i> <i>Assessment of international best practices on LRA oriented for renewable energy, especially Solar PV</i> <i>Discussion and preparation of the licensing process flow chart as well as the Lesotho command and control structure</i> <i>Disclosure and description of the financial model used for kWh price determination</i> <i>Calculation of indicative RE power generation kWh price including sensitivity analysis based on a financial grade and bankable model for a Household renewable generation System taking into account local indicative average life cycle solar irradiation and wind conditions and seasonal variations as well as lenders indicative terms and conditions.</i> 	
PROJECT STATUS	PROJECT TIME FRAME
<i>Project at conceptual stage</i>	<ul style="list-style-type: none"> <i>Expected start of project implementation: June 2019</i> <i>Expected Project duration: 6 months</i>
TOTAL PROJECT COST	FINANCING STRUCTURE

<i>To be estimated</i>		<i>To be defined</i>
FUNDS SECURED	FINANCING GAP	PROCUREMENT MODEL
<i>None</i>	<i>100%</i>	<i>To be defined</i>

DRAFT

Lesotho SE4All Investment Prospectus
Project Fiche

PROJECT NAME

Renewable Resources Measurement Campaign

PROJECT OWNER/DEVELOPER/AGENCY

*Department of Energy
(Ministry of Energy Meteorology and Water affairs)*

TYPE OF ORGANIZATION

Government / Public Institution

PROJECT LOCATION

Lesotho (Nationwide)

TECHNOLOGY TYPE

N/A

PROJECT DESCRIPTION

Knowing the production potential of renewable energy sources is vital to understand the availability of the key resource such as wind, hydrological flow and solar radiation. A renewable energy resource measurement campaign has two main goals: to make a project financeable and to ensure the operational RE power plant meets expectations.

The goal of this project will be to contract services that cover a wide range of topics related to renewable energy resource assessment, from site evaluation to resource assessment studies, including planning and conducting wind measurement campaigns and project due-diligence.

Ultimately it is about developing Lesotho's (especially decision makers) understanding of what is happening with renewable energy conditions and availability across the country as well as the long-term climatology. This information can then guide decisions throughout all stages of a project's lifecycle - development, construction and operation. Many people see the development stage as the only place where measuring resource availability is important, but really it is just the first stage of the measurement campaign.

Overall, the objective of this project will be to identify the enormous potential in renewable energies of Lesotho. Of this potential, comprised mainly but only of hydropower, there is also untapped solar, wind, biomass potential, that constitute alternative solutions for Lesotho's electrical system to be considered and possibly integrated into future electricity network expansion plans.

Therefore, to develop a Renewable Resources Measurement Campaign in Lesotho, will be aimed at developing a Renewable Energy Atlas of Lesotho, which should comprise the resource analysis and mapping of the following renewable resources: hydropower potential (large, mini and pico hydro), solar, wind, biomass/MSW. This should be done based on the evaluation of historical measurement data and statistical information, as the identification of projects and finally the feasibility studies. For each and every resource, the Atlas is its first in the country.

This project should also analyze and present the study of financial strategies, including CDM – carbon strategy mechanisms.

EXPECTED RESULTS/OUTCOMES

- *Identify feasible Renewable Projects in Lesotho Territory and mitigate its resource potential risks*
- *Planning and Organizing wind measurement campaigns (Choice of measurement location, Type of measurement (Metmast / Sodar / Lidar), Permitting, Procurement of metemast, detection equipment, software)*
- *Planning, purchase and installing hydrological measurement stations*
- *Supervision and remote monitoring of the system*

- *Storage concept and regularly verification of collected data*
- *Assessment of sites for wind and solar measurement campaigns*
- *Measurement campaigns (35 weather stations placed throughout the country)*
- *Renewable resources analysis and mapping (wind, solar, hydro, biomass energy)*
- *Identification, characterization and prioritization of projects*
- *Preliminary Technical and economic feasibility studies*
- *Preliminary Financial strategies studies and definition*
- *Preliminary Renewable resources integration studies*
- *Preliminary Project finance using clean development mechanisms – CDM*

PROJECT STATUS		PROJECT TIME FRAME
<i>Project at conceptual stage</i>		<ul style="list-style-type: none"> • <i>Expected start of project implementation: January 2019</i> • <i>Expected Project duration: 6 months</i>
TOTAL PROJECT COST		FINANCING STRUCTURE
<i>To be estimated</i>		<i>To be defined</i>
FUNDS SECURED	FINANCING GAP	PROCUREMENT MODEL
<i>None</i>	<i>100%</i>	<i>To be defined</i>

Lesotho SE4All Investment Prospectus Project Fiche	
PROJECT NAME	
<i>Renewable Energy Land Zoning Development for Lesotho</i>	
PROJECT OWNER/DEVELOPER/AGENCY	TYPE OF ORGANIZATION
<i>Department of Energy (Ministry of Energy Meteorology and Water affairs)</i>	<i>Government / Public Institution</i>
PROJECT LOCATION	TECHNOLOGY TYPE
<i>Lesotho (Nationwide)</i>	<i>N/A</i>
PROJECT DESCRIPTION	
<p><i>The introduction of renewable energies is important not only as a countermeasure for global warming but also from such viewpoints as establishing energy security, developing an autonomous and scattered energy system and creating new industries and jobs. For this reason, it is the goal of this project to develop the Renewable Energy Land Zoning for Lesotho.</i></p> <p><i>Although the Government of Lesotho has not yet set a target for the penetration of renewable energy sources on the national grid, in order to follow the goal of continuously increasing the development of renewable energy projects in Lesotho, it is important to support the Government of Lesotho in the development of an adequate legislative framework for the development of renewable energy projects in the country, as well as identify Renewable Energy Development sites and establish a right to reserve system of land use for renewable project development purposes (Zone of Renewable Energy Development – ZREDs). The idea behind ZREDs is to establish areas that are:</i></p> <ul style="list-style-type: none"> <i>• Use reserved - nothing can be built there other than projects for the use of renewable energies</i> <i>• Licensing and permitting exemption (environmental licensing, electricity production licensing, grid connection, etc.) - in these zones, potential promoters do not have to worry about licensing and permitting to build their projects</i> <p><i>The creation of this type of zone takes a lot of risk from the projects and would make Lesotho a very interesting territory for renewable energy developers (the projects would be practically ready-to-build)</i></p> <p><i>It is expected the Renewable Energy Land Zoning Development project will include the development of legislative framework for renewables and diplomas. Also as part of this project, it is expected that an identification and detail study of pre-identified renewable projects – wind, solar, MSW and hydro – and the establishment of a right to reserve system of land use for renewable project development purposes (Zone of Renewable Energy Development – ZREDs), to be publish by Resolution of the Council of Ministers of Lesotho.</i></p>	
EXPECTED RESULTS/OUTCOMES	
<ul style="list-style-type: none"> <i>• Renewable energies development zones</i> <i>• Legislative framework for renewables</i> 	
PROJECT STATUS	PROJECT TIME FRAME
<i>Project at conceptual stage</i>	<ul style="list-style-type: none"> <i>• Expected start of project implementation: June 2019</i> <i>• Expected Project duration: 6 months</i>
TOTAL PROJECT COST	FINANCING STRUCTURE

<i>To be estimated</i>		<i>To be defined</i>
FUNDS SECURED	FINANCING GAP	PROCUREMENT MODEL
<i>None</i>	<i>100%</i>	<i>To be defined</i>

DRAFT

Lesotho SE4All Investment Prospectus Project Fiche	
PROJECT NAME	
<i>Small Scale Renewables Financing Conditions Improvement</i>	
PROJECT OWNER/DEVELOPER/AGENCY	TYPE OF ORGANIZATION
<i>Department of Energy (Ministry of Energy Meteorology and Water affairs)</i>	<i>Government / Public Institution</i>
PROJECT LOCATION	TECHNOLOGY TYPE
<i>Lesotho (Nationwide)</i>	<i>N/A</i>
PROJECT DESCRIPTION	
<p><i>Small-scale renewable energy can play a key role increasing energy access and driving low-carbon development. However, obtaining adequate financing for small projects can be a major challenge.</i></p> <p><i>This aim of this project should be to aim for an increase investment in small-scale renewables up to 500kW that typically do not have access to project finance. It will do so by increasing access to long-term debt and construction finance through innovative financing solutions, such as “Discounting Facility” and a “Mezzanine Facility.” In this project, it will be important that all financing solutions are studied and analyzed and that the best solutions for Lesotho are identified.</i></p> <p><i>Substantial resources and effort has been devoted so far on a national level in order to support the development and implementation of renewables and energy efficiency technologies. However, there are still non-technical factors that act as barriers to their large scale implementation, among which is the lack of financing products for small-scale investments. This project aims to support the alleviation of this factor through the identification, specification and packaging of sustainable, flexible and easy to access financing products (i.e. loans, funding and awarding programmes) addressed mainly to individuals and SMEs that wish to invest on renewables and energy efficiency technologies in order to meet their energy needs and increase their energy performance. Thus a systematic process of eliciting the user requirements and characteristics of the financing product under consideration has been identified, which involves the implementation of surveys within Lesotho both in urban as in rural areas, the validation and dissemination of the project results.</i></p>	
EXPECTED RESULTS/OUTCOMES	
<ul style="list-style-type: none"> <i>Sustainable, flexible and ease to access financing products addressed to investments on small scale renewable energy and energy efficiency technologies;</i> <i>Prioritization of renewable energy and energy efficiency technologies based on their investment requirements’ characteristics;</i> <i>An assessment of the available financing mechanisms for renewable energy and energy efficiency technologies investments;</i> <i>Insight to policy makers on non-technological barriers related to small-scale renewable energy and energy efficiency technologies application;</i> <i>The characteristics and key success factors for an effective promotion strategy of the developed financing products.</i> 	
PROJECT STATUS	PROJECT TIME FRAME

<i>Project at conceptual stage</i>		<ul style="list-style-type: none"> • <i>Expected start of project implementation: January 2019</i> • <i>Expected Project duration: 6 months</i>
TOTAL PROJECT COST		FINANCING STRUCTURE
<i>To be estimated</i>		<i>To be defined</i>
FUNDS SECURED	FINANCING GAP	PROCUREMENT MODEL
<i>None</i>	<i>100%</i>	<i>To be defined</i>

DRAFT