The International Tracking Standard Foundation

Founder of I-REC

Country Assessment Report

Full Report

Country/Region name: Kingdom of Lesotho

A landlocked country surrounded by South Africa, the Kingdom of Lesotho (Lesotho) has a geographical makeup of 74% mountains and foothills, which limit economic activities to the lowlands and the Senqu River valley. Lesotho is a lower-middle-income nation, with a population of almost 2.3 million.

Only 38% of households have electricity, with 60% in urban and peri-urban areas, and just 18% in rural areas. The national grid is the main source of electricity for these households. But extending the grid is hard because of the mountains and sparse population. In rural areas, people use paraffin and candles for lighting, heating, and cooking, sometimes with wood and dung. The lack of electricity affects important social services, such as healthcare and education. Lesotho's nominal GDP per capita was $1,049 in 2022.

Lesotho effectively taps into the South African market, facilitated by its membership in the Southern African Customs Union (SACU). As a SACU member alongside Botswana, Namibia, South Africa, and Eswatini, Lesotho benefits from exemption from tariff payments for exporting goods to other SACU nations. Moreover, within Lesotho's borders, the South African rand is accepted interchangeably with the local currency, the Loti. This equivalence is attributed to the direct peg of the Loti to the South African Rand at a one-to-one ratio. This arrangement fosters a degree of economic stability. Adding to this stability is Lesotho's history of pursuing sound macroeconomic strategies under its government's stewardship.

Lesotho's primary sources of foreign exchange are rooted in its earnings from the SACU and the export of water to South Africa. These factors collectively contribute to Lesotho's economic position.

(Source: Lesotho Renewable Energy Policy; Lesotho resettlement policy 2019)

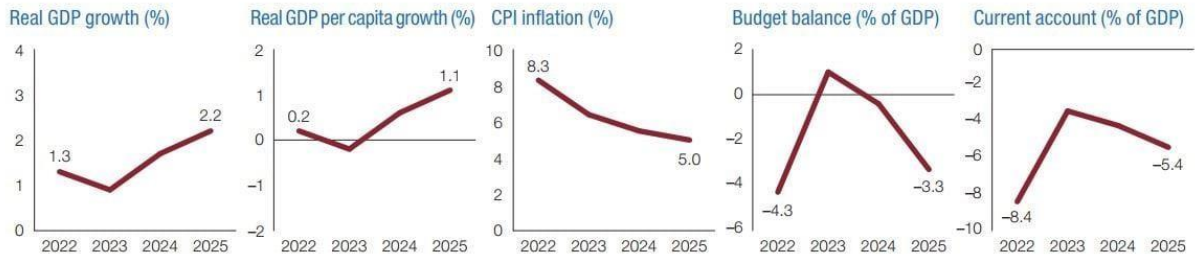
Economic structure and activity

Lesotho's economic foundation is built upon subsistence agriculture, along with a variety of small-scale industries including clothing, footwear, textiles, food processing, and construction.

Projections suggest a positive economic path for Lesotho. Notably, the construction sector, with a specific focus on phase 2 of the Lesotho Highlands Water Project (LHWP-II), is expected to be a major driving force. This phase involves significant projects such as establishing a water transfer tunnel, constructing the Senqu River bridge, and developing the Polihali dam. As a result, the country's Gross Domestic Product (GDP) is anticipated to grow by 2.6% in 2023, followed by subsequent expansions of 3.1% in 2024 and 3.3% in 2025. These projections align with the peak of construction activities expected within the LHWP-II project. This economic momentum holds great importance for Lesotho's overall development.

Additionally, Lesotho's economic landscape is influenced by its proximity to South Africa. Numerous South African companies operate within its borders, including major banks such as First National Bank (FNB), Nedbank and Standard Bank, telecommunications firms like Vodacom, and retail giants like the Pick & Pay and Shoprite Group.

(Source: Economic Outlook of Lesotho. Worldbank.org; www.gov.ls)



Source: Data are as of April 2024 and are from domestic authorities; figures for 2023 are estimates and figures for 2024 and 2025 are projections by the African Economic Outlook team. Data on the budget balance correspond to Lesotho's fiscal year, which runs from April 1 to March 31.

Source: Lesotho Economic Outlook | African Development Bank Group (afdb.org)

Generation and demand: (type, MW, TWh)

Lesotho has a total installed capacity of 72 megawatts (MW), exclusively harnessed from renewable sources. The Lesotho Highlands Water Project's 'Muela Hydropower station stands as the main contributor to domestic grid electricity generation capacity. This hydropower station fulfils more than half of the country's electricity demands supplied through the Lesotho Electricity Company (LEC). LEC is the sole Transmission & Distribution (T&D) company in the country.

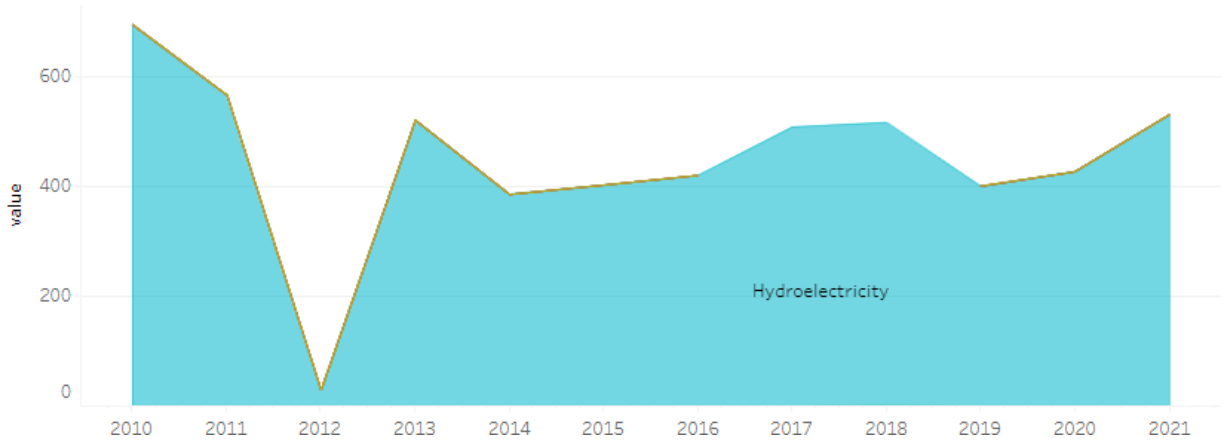
Guiding the execution, operation, and upkeep of Lesotho's segment within the Lesotho Highlands Water Project is the Lesotho Highlands Development Authority (LHDA). This cooperative endeavour aligns Lesotho and South Africa, jointly owning the water infrastructure while Lesotho exclusively owns the hydropower plant. It is important to highlight that energy supply is influenced by fluctuations in rainfall, sun, wind, and other weather patterns, as well as the dependability and availability of the plant during scheduled and emergency maintenance cycles.

Consequently, to address peak demand, LEC secures over 50% of the nation's electricity requisites through imports originating from South Africa's Eskom and Mozambique's Electricidade de Moçambique (EDM) accessed through the interconnected-grid of the South African Power Pool.
(Source: UNDC - UNCDF – Lesotho energy 2020)

Lesotho Electricity Generation (2021)		
Generation in 2020	**GWh**	**%**
Non-renewable	**1**	**0**
Renewable	**532**	**100**
Hydro and marine	531	100
Solar	1	0
Wind	0	0
Bioenergy	0	0
Geothermal	0	0
Total	**533**	**100**

(Source: https://www.irena.org/-/media/Files/IRENA/Agency/Statistics/Statistical_Profiles/Africa/Lesotho_Africa_RE_SP.pdf)

Electricity generation from 2010 – 2021 (GWh)



(Source: https://au-afrec.org/lesotho, 2024)

The energy landscape in Lesotho is characterized by a prominent reliance on non-commercial energy sources, particularly biomass, in contrast to a comparatively lower consumption of energy from commercial sources like electricity, petroleum, coal, and gas. According to Africa Energy Commission's (AFREC) energy balance report for 2020, the majority of electricity is utilized within households (35%) and industries (31%), constituting a substantial portion of Lesotho's overall electricity consumption.

Similar to many countries in sub-Saharan Africa, Lesotho's fuel distribution in terms of total final consumption is predominantly led by biofuels and waste (57%), followed by oil (26%), electricity (7%), and coal (7%). The energy balance is notably influenced by biomass energy resources, which is closely tied to environmental challenges such as deforestation and soil erosion. This trend is likely to persist until renewable energy technologies become economically feasible within the nation.

Renewable Energy Market Potential:

The Government of Lesotho is currently in the process of formulating a project known as the Lesotho Renewable Energy and Energy Access Project (LREEAP). This initiative aims to amplify the integration of renewable energy-based off-grid electrification, with a particular focus on augmenting electricity access within rural and peri-urban regions of the country.

Under the umbrella of the Scaling Renewable Energy Program (SREP) investment plan, LREEAP will allocate resources towards establishing mini-grids in areas characterized as peri-urban and rural within Lesotho. The core objective of this project is to provide households and essential public facilities, such as schools and health centres, with off-grid electricity connections. Moreover, the project will contribute to solar-powered water pumping and enable productive activities in these regions.

The envisioned outcome of LREEAP is the expansion of Lesotho's energy reach, catering to both residential and industrial sectors, while also bolstering economic zones in identified rural and peri-urban locales.

The Government of Lesotho believe that renewable energy could play an increased role in the country's energy mix:

- **Hydro:** Hydro power potential in the country is estimated at 450MW.

- **Solar:** Lesotho has good solar energy potential with over 300 sunny days in a year with annual average insolation levels of 5.25 – 5.35kWh/m^2/year.
- **Wind:** Measured annual average wind speeds of 3.7 – 4.7m/s/year at 10m heights.

(Lesotho Renewable Energy Policy 2013; resettlement policy 2019)

Lesotho's Nationally Determined Contribution (NDC) constitutes an enhanced iteration of the Intended Nationally Determined Contribution (INDC) originally presented to the United Nations Framework Convention on Climate Change (UNFCCC) in September 2015. With regard to its targets, Lesotho has established both unconditional and conditional objectives. These include a 10% reduction in greenhouse gas (GHG) emissions by 2030 in comparison to Business-As-Usual (BAU) scenarios, and a more ambitious 35% reduction under specified conditions.

According to the NDC, the primary avenues for mitigating emissions lie in enhancing energy efficiency and demand management. This strategy is complemented by robust investments in a renewable energy initiative across key sectors such as electricity, building construction, and waste management. Key measures identified for energy mitigation encompass a 20% improvement in energy efficiency by 2020, an expansion of electricity access to 35% of households by 2015, escalating to 50% by 2020 and reaching 80% by 2030. Furthermore, the plan entails augmenting renewable energy sources by 200 megawatts (MW) by 2020, encompassing 35 MW from wind power by 2017, 40 MW from solar energy by 2018, and a substantial 125 MW from hydropower by 2025. Other measures encompass the dissemination of efficient stoves with a target of 30% penetration by 2030, a reduction of wood usage for heating to just 10% of total fuels by 2030, and the progressive substitution of fuel-wood with LPG at a yearly rate of 10% between 2020 and 2030.

(Source: **FAO**)

Electrical interconnection and import/export:

Lesotho's 'Muela hydropower boasts a peak power capacity of approximately 72 megawatts (MW), while the nation imports over 70 MW, primarily from Mozambique (accounting for 29% of peak demand) and 20% from South Africa. In the country's energy mix, electricity supply contributes to only about 50%. Notably, the peak demand surged to 155 MW in 2017, surpassing the domestic generation capacity by over 100%.

Consequently, to bridge the gap, Lesotho imported around 270 megawatt hours (MWh) from Eskom, which constituted 30% of the total demand, and approximately 98 MWh from EDM, accounting for roughly 11% of the total demand in 2018. The operational suspension of the Muela hydropower station for planned maintenance during late 2019 further compounded the situation. Consequently, Lesotho had to augment its electricity imports to meet the domestic demand necessitated by this scenario.

(Source: **https://energypedia.info/wiki/Lesotho_Energy_Situation** & UNDC - UNCDF – Lesotho energy 2020)

The conveyance of electricity in Lesotho occurs through the utilization of the national grid. The responsibility for enhancing the transmission network rests with LEC and the Lesotho Electrification Unit, operating under the oversight of the National Rural Electrification Fund (NREF). Unfortunately, issues stemming from aging infrastructure and insufficient maintenance contribute to recurrent power interruptions.

Given these challenges, revitalizing and extending the electricity distribution network stands as a pivotal pursuit aligned with the electrification goals of the Government of Lesotho.

(Source: UNDC - UNCDF – Lesotho energy 2020)

EXPORTS:
As of 2022, Lesotho's electricity exports amounted to $601,000, positioning it as the 94th most significant global exporter in this domain. Correspondingly, electricity represented the 137th most exported commodity from Lesotho in that same year. The key recipient of Lesotho's electricity exports was South Africa, accounting for the entirety of the $601,000 exports.

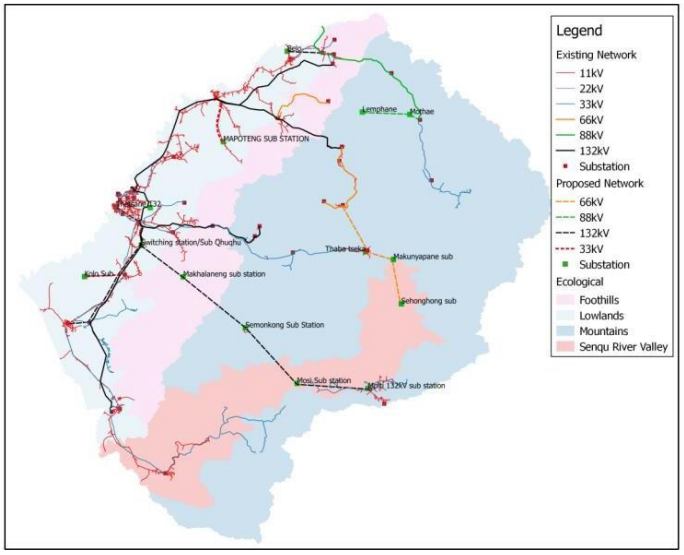
IMPORTS:
In 2021, Lesotho's electricity imports reached a value of $52,9 million, propelling it to the 80th position among the world's largest electricity importers. Concurrently, electricity stood as the 5th most imported product in Lesotho. Notably, Lesotho's primary sources of electricity imports were South Africa ($43,8 million) and Mozambique ($9,04 million). Over the period spanning from 2021 to 2022, the most pronounced expansion in Lesotho's electricity imports was observed from South Africa, amounting to $17,9 million.

(Source: OEC)

The most recent tariffs published by LEC for single-phase domestic supply stand at LSL 1.74 per kWh (equivalent to USD 0.09). Notably, a discounted rate of LSL 0.73 (USD 0.04) per kWh is applicable for the initial 30 kWh per month per household. However, it's important to highlight that electricity tariffs in Lesotho fall short of complete cost-reflectivity. In other words, the revenue generated from the tariffs does not cover the complete expenses associated with power production, along with a market-related return on invested capital.

An investigation conducted by the World Bank in 2016 yielded an estimation that the authentic cost of delivering power in Lesotho stood at USD 0.10 per kWh. In stark contrast, the present household tariff is set at USD 0.09 per kWh. This juxtaposition signifies that a tariff increase of roughly 11% would be necessary, or alternately, the enhancement of electricity production's efficiency and cost-effectiveness would be requisite to attain full cost-reflectivity.
(Source: UNDC - UNCDF – Lesotho energy 2020; Approved Electricity Tariffs & Charges – Lesotho Electricity and Water Authority (lewa.org.ls), **2023)**

Lesotho Electricity transmission and distribution network (2018)



(Source: Lesotho electrification master plan grid 2018)

Historical support or development of renewables in the country/region:

Grid-connected renewable energy projects would be offered a feed-in-tariff by Lesotho Electricity Company (LEC). The tariff would be determined through a reverse bidding process and the bidders who offer the lowest, technically feasible feed-in-tariff will be awarded a Power Purchase Agreement by LEC.

Renewable Electricity Generators < 500kW will be offered a net metering scheme where the customer will only pay for the net energy consumption. Each network kWh of renewable electricity exported to the low voltage network will be treated as 1.13kWh to account for the Transmission and Distribution (T&D) losses of Lesotho Electricity Company.

Renewable Electricity Generators > 500kW would be offered a feed-in-tariff. These generators will also be able to make third-party-sale of electricity to large industrial and commercial consumers and will be subject to a wheeling charge for using the LEC grid network. The generators who are carrying out third-party sales will also be able to bank the electricity (for purposes of the FiT) for 12 months.

Source: (Lesotho Renewable Energy Policy 2013)

In collaboration with the UNDP, the European Development Fund of the EU is presently engaged in executing a fresh energy initiative within the broader Sustainable Energy For All (SEforALL) program. This endeavor is bolstered by backing from the Global Environment Facility (GEF). The overarching goal of this undertaking is to stimulate private investments in small-scale renewable energy projects across Lesotho. This is to be accomplished through a two-pronged approach: offering technical support and extending financial aid via the Financial Support Scheme (FSS).

The inaugural call for proposals was issued in May 2019, yielding an impressive response of 74 submissions (34 targeting Renewal Energy Mini-Grids and 40 focusing on Village Energy Centres). The FSS is designed to facilitate the establishment of ten renewable energy mini-grids and an additional ten energy centres. The setup of these energy centres will be funded through a credit line incorporating a blend of debt and results-based grants. These centres will vend fuels and energy solutions to local communities. The products retailed within each centre will be manufactured and dispensed by private entities, both domestic and international. While these solutions may bear partial subsidies, the overarching scheme is intended to be self-sustaining and market-driven, with proceeds from sales being allocated to cover operational expenses.

Furthermore, the UNDP is actively aiding the Government of Lesotho in formulating a regulatory framework specifically tailored for mini-grids. This framework is geared towards resolving legal and technical challenges, ultimately guiding private developers in the initiation and functioning of mini-grids.

(Source: UNDC - UNCDF – Lesotho energy 2020)

Electricity market structure:

Ministry of Energy and Meteorology: Formulates energy policy, monitors policy implementation, rural electrification, renewable energy, and energy efficiency. The Renewable Energy Section under the Department of Energy is responsible for the formulation, development and implementation of renewable energy strategy. The regulator has not yet developed technology-specific model purchase power

agreements for different renewable energy technologies. However, it has developed tariffs for different technologies and generation plant sizes.
(Source: https://africa-energy-portal.org/eri/country/lesotho)

LEC: Within the electricity supply landscape of Lesotho, two prominent entities under state ownership hold sway. The first is the Lesotho Electricity Company (LEC), entrusted with the roles of sole transmission, distribution, and supply of electricity. The second is the Lesotho Highlands Development Authority (LHDA), a pivotal figure in electricity generation, primarily accomplished through its 'Muela Hydro Power Station.' This station operates as an integral facet of the Lesotho Highlands Water Project. The task of electrification within its designated service realm falls under the jurisdiction of LEC.

REU: In regions outside this coverage, the endeavour of rural electrification falls under the purview of the Rural Electrification Unit (REU), an arm of the DoE. To facilitate these endeavours, the Lesotho Electricity and Water Authority (LEWA) has established a Universal Access Fund, which is now operational and serves as a facilitator for broader electricity accessibility objectives.

LEWA: Established by the Lesotho Electricity Authority Act No. 12 of 2002, with subsequent amendments, the Lesotho Electricity and Water Authority (LEWA) stands as the designated institution mandated to oversee and manage the regulation, control, and provision of electricity supply, industry operations, as well as water and sewerage services. This responsibility is carried out in adherence to principles of transparency, efficiency, affordability, and sustainability within the country. LEWA is in charge of renewable energy regulation and has developed rules (a grid code) that guarantee access to the grid for renewable energy, which is given priority for dispatch, based on least cost.

NREF: National Rural Electrification Fund (NREF), are responsible for the development of the transmission network.

Environmental Protection Agency: Implementation of climate related regulations.

Description of renewables support mechanism:

In 2018, the Government of Lesotho unveiled a revised electrification strategy known as the Lesotho Electrification Master Plan (EMP). This plan's central objective is to enhance electricity accessibility nationwide. The EMP analysis determined that grid extension remains a cost-effective solution for about 64% of the population, while off-grid solutions, primarily in the form of mini-grids, would be optimal for the remaining 36%. Consequently, the plan is bifurcated to address grid extension, along with a substantial focus on establishing mini-grids.

The geographic regions of Lesotho have been categorized into three distinct groups: (a) those earmarked for grid extension; (b) regions designated for mini-grid deployment; and (c) areas targeted for Solar Home Systems (SHS) implementation. The EMP also encompasses an off-grid development strategy, primarily catering to rural electrification, especially in locations that prove challenging for connection to the national power grid.

However, regarding the annual electrification budget allocated by the Government, a substantial 80% is directed towards grid electrification, with the remaining 20% allocated to off-grid initiatives. As per this budget allocation, the Government's Off-Grid Master Plan Report estimates the capacity to connect approximately 10,600 households annually to off-grid energy solutions, mainly revolving around solar lanterns and small Solar Home Systems (SHS). Additionally, about 300 households are slated to be linked to mini grids each year. Given the Lesotho Electricity Company's (LEC) current strategies and budget,

which are outlined in the EMP and prioritize economical grid connections in densely populated urban sectors, rural electrification remains a persistent challenge.

Furthermore, there are intentions to augment the installed capacity at the Lesotho Highlands Power Project (LHPP) by an additional 200 MW by the year 2030. Moreover, the strategy allows licensed renewable energy electricity generators, known as independent power projects (IPPs) with capacities of at least 500 kilowatts (kW), to access the transmission grid, subject to specified fees.

To bolster the local renewable energy industry and job creation, the Bureau of Renewable Energy (BRE) possesses the authority to review and define requirements for locally manufactured components in renewable energy systems.

(Source: UNDC - UNCDF – Lesotho energy 2020)

Responsible government department: (include key contacts)

Lesotho Electricity Company (LEC):

- Chairman: [redacted] – Email: [redacted]
- Managing Director: [redacted] – Tel: [redacted]

Lesotho Ministry of Energy and Meteorology:

- Minister: [redacted] – Tel [redacted]
- Principal Secretary: [redacted] – Tel: [redacted]

Lesotho Electricity and Water Authority (LEWA)

- Chairperson: [redacted] – Tel: [redacted]
- CEO: [redacted] – Tel: [redacted]

Lesotho Ministry of Natural Resources

- Minister: [redacted] – Tel: [redacted] Email: [redacted]
- Principal Secretary: [redacted] – Email: [redacted]

Existing/Planned energy legislation: (is there a CPO)

- **Lesotho Energy Policy 2015 – 2025:** The overarching vision of this policy envisions a future where energy is universally accessible, economically viable, and environmentally sustainable, with minimal ecological repercussions. Among its objectives, a key focus is on guaranteeing energy supply security that caters to the nation's needs. This entails drawing from a diverse range of sources that are shaped by local resources, regional collaborations, and economic viability. Furthermore, the policy aspires for the energy sector to actively contribute to poverty reduction in Lesotho. This endeavour involves fostering income-generating avenues that enhance the well-being of individuals. This goal is achieved by facilitating the availability of affordable technologies and services, thereby enhancing the lives of the populace.
- **Lesotho National Electrification Master Plan (EMP) 2018:** The Lesotho National Electrification Master Plan outlines the strategic Grid Development Plan for electrification spanning from 2017 to 2036. Designed for a 20-year timeframe, this plan aims to establish a methodical, foreseeable, and fair implementation of off-grid electricity distribution. The ultimate

goal is to improve the overall quality of life, create avenues for income generation, and effectively alleviate poverty across Lesotho.

- **Lesotho Renewable Energy and Energy Access Project (LREEAP):** The objective of this plan is to expand the implementation of off-grid electrification through renewable energy sources, thus enhancing electricity accessibility in Lesotho's rural and peri-urban regions.
- **Lesotho Electricity and Water Authority (LEWA):** LEWA was established in terms of the Lesotho Electricity Authority Act no 12 of 2002 as amended. LEWA has developed a Renewable Energy (RE) framework to promote investment and increase in the use of RE. LEWA shall in the next 5 years, vigorously promote uptake of renewable energy as part of achieving the overall national objective on clean energy.

Additional policies/regulations:

- All renewable energy systems and equipment will attract a reduced VAT rate of 5% similar to electricity supplies. (Lesotho Renewable Energy Policy 2013).
- The Common External Tariffs applicable to renewable energy would be harmonised with the Southern African Customs Union (SACU).
- The Central Bank of Lesotho is set to introduce a lending directive that designates renewable energy as a high-priority sector. As part of this directive, a specific portion of banks' loan portfolios will be allocated to support renewable energy systems and devices. Initially, this allocation will begin at 5% of each bank's total loan portfolio.

(Source: Lesotho Renewable Energy Policy 2013)

Environmental legislation for RE:

Lesotho Environment Act 10 of 2008 and Land Act 10 of 2008: Emphasize the need for continued public consultation, undertaking of the environment and social impact assessment with the view to avoid or mitigate the environmental impacts which will affect the livelihoods of Basotho at large. Both documents have provision for land acquisition and compensation procedures where need arises.

Section 19 – 27 of the Lesotho Environment Act 10 of 2008: Provides for the development, implementation and monitoring of documents such as RPF and RAP for the protection of citizens of Lesotho and the environment at large. It defines the ground rules for environment management, including the requirements for Environment and Social Impact Assessments (ESIA) and environmental audits. These sections also provide for the implementation of the National Environmental Policy (1998) and guidelines for the Environmental Impact Assessment in Lesotho which sets out the process to be followed for the development of the ESIA.

(Source: resettlement policy 2019)

Existing/Planned energy certificate systems: (purpose, extent)

There are no existing energy certificate schemes in Lesotho so there will be no conflict with any current systems.

The extent of engagement with the government:

Constant engagement and several high-level meetings have been held with government offices, including the Lesotho Highland Development Agency (LHDA) which facilitates discussions with the Ministry of Energy and Meteorology as well as the Ministry of Natural Resources. All the ministries are supportive and endorse the efforts to operationalize an EAC trading mechanism in Lesotho through the I-REC(E) Product Code.

Response from Government in relation to attribute tracking systems:

The Lesotho government through the office of the Minister of Energy welcome the introduction of I-RECs into the country.

Demand-side market potential or strategic nature of market development:

In 2022/23, Lesotho's energy demand reached 222.12 MW, with 147.42 MW—approximately 66.5%—imported from ESKOM (South Africa), Electricidade de Moçambique (Mozambique), and the Southern African Power Pool (SAPP). This growing electricity deficit has persisted since 2013/14, reflecting the country's heavy reliance on imports to meet its energy needs.

Despite this increasing demand, Lesotho's installed capacity has remained unchanged at 76.1 MW over the past decade. However, an additional 30 MW of solar capacity was commissioned for installation in 2023 at the Mafeteng Solar Farm, although it is not yet fully operational.
While detailed data on energy-intensive industries is not readily available, it is likely that diamond mining companies such as Gem Diamonds and De Beers are significant energy consumers. These firms, operating luxury brands with markets in Europe and North America, are incentivized to maintain high renewable energy use by customers. Purchasing I-RECs enables these companies to align with their climate goals, particularly in reducing scope 2 emissions. Demonstrating green energy use appeals to environmentally conscious customers in their primary markets.

Other potential I-REC buyers include large energy users outside Lesotho, such as South32 in Mozambique, who own and operate the Mozal aluminum smelter. Under RE100's next-best-option (NBO) rule, companies within the SAPP can source I-RECs from Lesotho if they are unavailable locally.

Moreover, South Africa is potentially a major buyer of Lesotho I-RECs due to its grid connectivity to Lesotho through ESKOM. South Africa's EAC market is robust and expanding, with 11 traders and 46 customers listed on the ZaREC platform, which is a local EAC standard. Some of these entities will be open to purchasing I-RECs from Lesotho, further supporting the growth of the country's renewable energy market.
(Source: IRENA 2023, Lesotho Electricity and Water Authority (LEWA) 2023, AfDB.org 2023, RE100 2024, ZaREC 2024)

Analysis of political disruptions or market risks:

Lesotho's harmonious relations with its neighbouring nations play a pivotal role in maintaining low security risks. This is further fortified by the overall absence of conflicts in the broader Southern Africa region and specifically between Lesotho and its primary trade partner, South Africa. This harmonious environment facilitates the smooth movement of commodities, services, and labour—cornerstones of the nation's economic dynamics.

The projection for political stability within Lesotho is promising. Although certain social tensions may arise, primarily attributed to elevated domestic costs and limited economic prospects, there were no indications of widespread unrest forecasted for 2023. While a reduction in receipts from the Southern African Customs Union could strain the government's fiscal stance, an enhancement in this regard is anticipated.
(source: fitch solutions, Lesotho country risk; https://country.eiu.com/lesotho)

The role of private climate finance in supporting climate-related initiatives and environmentally friendly economic growth is currently quite limited. In the years 2019-2020, Lesotho received an average annual climate finance of approximately $238 million. Encountering difficulties in attracting private climate finance, the country faces challenges such as the absence of a supportive culture at the national level, inadequate policy and legal structures, and unfavourable market conditions for private investments in clean technology solutions. Lesotho possesses valuable natural assets like water and diamonds, with a combined worth of $3.2 billion (2018), accounting for around 88% of its GDP. These resources are not utilized for climate finance; instead, reliance is placed on trust funds.

To address the impacts of climate change, an estimated total funding of $511 million to $582.53 million is required. This translates to an annual average of about $54.71 million over the period 2020-2030, excluding adaptation costs. Going forward, Lesotho needs to take steps to enhance the capabilities and frameworks within the private sector to effectively carry out climate finance initiatives.
[https://www.afdb.org/en/countries-southern-africa-lesotho/lesotho-economic-outlook]

Analysis of regulatory risks including linkages with carbon markets and support systems:

Lesotho has a history of several cookstove projects under the CDM which have transitioned to the voluntary carbon market. These pose no threat of conflict with the I-REC market. Currently, there are no known legislative measures taken by the Lesotho government to retain revenues from environmental attributes.

Current environmental reporting in energy:

Lesotho Energy Policy 2015-2025 is made with the vision that energy shall be universally accessible and affordable in a sustainable manner, with minimal negative impact on the environment. Lesotho has already undertaken numerous efforts to address the climate change challenge. This is exemplified by, among others, the country's National Strategic Development Plan (NSDP) which identifies: "to reverse environmental degradation and adapt to climate change" as one of the key strategic objectives. Secondly, Lesotho is referenced, worldwide, as a country that uses almost 100% clean national energy, with a steadfast commitment to do more, as part of national and global efforts to address climate change in the context of sustainable development.
The Environmental Act 2008 of Lesotho mandates Environmental Impact Assessments (EIAs) for energy projects likely to have significant environmental impacts, requiring these assessments before project initiation. The Act emphasizes continuous monitoring and compliance reporting on environmental performance, public participation in environmental decision-making, and the promotion of sustainable energy practices, including the use of renewable energy sources. Additionally, it ensures that energy projects align with international environmental standards and commitments, thereby promoting environmentally responsible development.

(Sources: Lesotho Environment Act no. 10 of 2008 (osall.org.za); National Climate Change Policy 2017)

Mechanisms in place to support the reliable verification and issuance of I-RECs:

The Lesotho Electricity Company has adopted a prepayment metering system for a substantial portion of its Domestic and General Purpose customers. This system incorporates both meters and a computerized infrastructure. Within this infrastructure, a master station is established at the headquarters, alongside multiple vending access points situated at LEC service centres, sales agent locations, banks, and cellular phone companies.

Currently, the company employs various types of prepayment meters to serve its customer base, including Cashpower, Ecolec, Conlog, and Plessey. Interestingly, these diverse meter types adhere to a unified Standard Transfer Specification (STS), allowing for seamless interaction among different meter models under a single vending system. This means that one vending system has the capacity to supply electricity to various meter types from different manufacturers.

For larger industrial and commercial clients, a credit metering system is in place. This arrangement grants customers the freedom to utilize power on credit, with payment made upon receipt of an invoice or bill. LEC employs this credit metering system across all its major customers, recognizing their significant contribution to the company's revenue stream, necessitating distinct attention and service provisions.

LEWA is rated high in stakeholder accountability and predictability. It reports to Parliament through the sector minister and is required by law to produce and present annual reports on its operations to the executive. A formal mechanism exists for regulated utilities or other parties to challenge the regulatory decisions of the authority. It has documented tariff methodology, which may be changed only in consultation with regulated firms and stakeholders. It also has no automatic tariff adjustment or tariff indexation mechanism. There is a predictable mechanism used by the regulator to disallow costs considered unreasonably incurred by a regulated entity. LEWA also has published documented procedures for securing licences.

These mechanisms are poised to effectively support the reliable validation and issuance of International Renewable Energy Certificates (I-RECs) within Lesotho's energy landscape.

(Source: https://lec.co.ls/metering-services/)

Local organizations of importance and their opinion on local I-REC market development:

- Positive Planet International has partnered with the Rural Self-help Development Association (RSDA) for The Economic Growth Through Sustainable Access to Renewable Energy, a project co-funded by EU in Lesotho.
- Polarium (https://polarium.com/)
- 1PWR (https://1pwrafrica.com/)
- Lesotho Solar Energy Society (LeSES)
- Lesotho Highland Development Agency (LHDA) is interested in I-REC(E) market development and is actively engaging with other relevant government stakeholders to kickstart such a market.

Any other relevant information:

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