The Government of Malawi, UN-OHCHRLLS, and Rocky Mountain Institute co-developed an actionable investment prospectus to meet goals more quickly and for less money.

**KEY GOAL:** Increase **sustainable energy investment** in Malawi to meet SDGs and improve power sector **financial health** and **service**.

**RMI:** impartial, technoeconomic, 38-year-old, not for profit, **think and do** tank, **co-invests** in transformational change —> typically an **advocate for government** in the LDC context.
Malawi's challenges are recognizable to many other LDCs, who can learn from this experience.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Malawi</th>
<th>Mali</th>
<th>Sierra Leone</th>
<th>Zambia</th>
<th>Mozambique</th>
<th>Madagascar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrification (% of population)</td>
<td>12%</td>
<td>35%</td>
<td>20%</td>
<td>27%</td>
<td>24%</td>
<td>23%</td>
</tr>
<tr>
<td>Rural grid electrification (% of population)</td>
<td>4%</td>
<td>2%</td>
<td>3%</td>
<td>3%</td>
<td>5%</td>
<td>17%</td>
</tr>
<tr>
<td>Electricity price (US cent/kWh)</td>
<td>11.3*</td>
<td>16.2</td>
<td>16.9</td>
<td>8.1</td>
<td>8.8</td>
<td>19.5</td>
</tr>
<tr>
<td>Installed capacity (On-grid MW)</td>
<td>395</td>
<td>471</td>
<td>171</td>
<td>2,906</td>
<td>2,893</td>
<td>768</td>
</tr>
<tr>
<td>Availability of finance</td>
<td>0.25</td>
<td>1.75</td>
<td>0.25</td>
<td>1</td>
<td>0.75</td>
<td>0.25</td>
</tr>
</tbody>
</table>

Other LDCs in sub-Saharan Africa face similar challenges and can apply similar approaches.

*Electricity price from Malawi Energy Regulatory Authority (MERA) website as of May 2019; MK 88.02/kWh converted using 775 MK to USD.

**Availability of Finance score reflects whether or not existing projects have been able to secure concessional or commercial finance from domestic and international sources. Sources: Climatescope Bloomberg BNEF 2018, WB World Development Indicators.
Increasing the supply of and access to reliable, affordable energy is at the core of Malawi's development goals

Malawi Growth and Development Strategy III (2017) aims to:
“Provide sufficient sustainable energy for industrial and socio-economic development.”

Malawi’s Sustainable Energy for All (SEforAll) Action Agenda (2017) intends to:
“Provide access to modern energy services for all by 2030, through on- and off-grid electrification and improved cookstoves.”

The goal of the Malawi Energy Policy (2018) is to:
“Increase access to affordable, reliable, sustainable, efficient and modern energy for every person in the country.”

*Targets taken from the 2017 SEforAll Action Agenda
Malawi has an opportunity to meet these targets while saving up to $500M by 2030 compared to the baseline plan.

Scenario cost comparison for generation

CO$_2$ emissions

- 20 million tons
- 20 million tons
- 1 million tons**

Scenario 3 provides a least-cost, reliable, and diversified solution, saving ~$500 million (25%) and with the potential to dynamically adjust investment based on demand forecasts.

9% discount rate used, to represent the weighted average cost of capital for the sector.
Capital must be provided to meet funding needs across all the major areas of Malawi's energy system, both on- and off-grid.

- Power Generation: US$1,400M
- Transmission: US$350M
- Distribution: US$500M
- Off-Grid Lighting: US$130M
- Productive Use: Minigrids and Stand-Alone Systems: US$10M+
- Cooking Solutions: US$596M*
- Demand-Side Management: US$70M

Capital investment requirements are discounted at 9%. *Cooking investment needs are analyzed separately, as they will need to be refined with development of an updated national strategy for forestry and alternative cooking solutions.
Capital must be provided to meet funding needs across all the major areas of Malawi's energy system, both on- and off-grid.

Even with a ~$500 million (25%) reduction compared to other scenarios, Malawi faces a ~$1.8 billion funding gap to fund ~$2.5 billion in capital investment requirements for the power sector in the lowest-cost scenario.

Capital investment requirements are discounted at 9% *Cooking investment needs are analyzed separately, as they will need to be refined with development of an updated national strategy for forestry and alternative cooking solutions.
A few key actions can unlock the funding Malawi needs in a positive feedback loop that can help the country develop rapidly, sustainably, and at the lowest cost.

1. Plan and prioritize projects
   **Priority:** Use in-depth demand & reliability assessments to update project planning

2. Blend finance to reduce costs and implement quick-win projects
   **Priority:** Get quick-win IPPs commissioned
   **Priority:** Install climate finance expertise

3. Drive cost reductions and de-risking across the sector
   **Priority:** Align government agencies and demonstrate de-risking

4. Unlock additional finance
   **Priority:** Centralize communication with investors and provide clarity on needs

5. Strengthen institutional frameworks to develop the market and support implementation
   **Priorities:**
   - On-grid: Establish independent single buyer unit; improve off-taker financial health
   - Off-grid: Improve implementation and awareness of product standards
Malawi Sustainable Energy Investment Study

13th November 2019

GOVERNMENT OF MALAWI
Ministry of Natural Resources, Energy and Mining
A few thoughts for discussion

• What proof points are needed for LDCs to feel confident about capturing the benefit of low-cost renewables to meet SDGs and drive economic development?

  • How can moving quickly to address chronic power shortages be balanced with a plan-based approach that unlocks additional investment?

  • How can development partners help building the right projects in the right order? How can they hinder doing so?

Full study available at:
http://unohrls.org/event/study-launch-sustainable-energy-investment-study-in-malawi/