WEBINAR 30. APRIL 2020, 
15:30-17 h CAT

Company Presentation incl. 
Productive Use of Electricity, 
Entrepreneurship Training & Appliance Promotion Programs
Rift Valley Energy (RVE) is a renewable energy infrastructure project development company, dedicated to develop, own and operate relevant projects in the Southern Highlands of Tanzania. RVE is a majority owned subsidiary of Rift Valley Holdings (RVH), one of the largest agri-business groups in Southern Africa.

**Overview**
Over the past decade, RVE has established (in 2 sites) about 5 MW of operational hydro generation capacity, more than 400 km’s of licensed distribution assets, which serve a population of about 70,000 people (living in 39 villages) in the Mufindi and Njombe districts. Densification work in these areas is ongoing and we are planning to take the current connection numbers from about 4,900 to 12,000 by 2024.

**Operations**
RVE is currently in late stage development of 3 more SHPs with a total capacity of about 8.5 MW, as well as a 2.4 MW wind project (which we plan to commission in a few weeks time). In parallel we also developing 1 additional rural mini-grid (Suma) that will directly benefit an additional population of about 50,000 people, as well as the local tea industry.

By 2024 we plan to have a total of 17,000 connections in 3 project areas.

**Pipeline**

**Service Brand**
As the first owner/operator of a commercially operated private hydro plant in Tanzania and holder of the first private distribution license, RVE offers high-class electricity services, under its own “MWENGA POWER” Service brand.
Our Partners:
MWENGA NETWORK AREA
MUFINDI DISTRICT, IRINGA REGION

Project (Phase I) commissioned in 2012

Developed in 3 Phases:
Phase I: 2008-2012
Phase II: 2016-2020
Phase III: 2020-2024

A-B-C Customers:
85% TANESCO
10% Rural Network
5% Local Industry

Connection Status:
4,700 connections, incl.
2 tea factories, 1 Dairy Farm
2 Industrial Parks (Saw Milling)
44 Schools (incl. colleges)
34 Village Offices
<table>
<thead>
<tr>
<th>PROJECT</th>
<th>MWENGA HYDRO &amp; RURAL ELECTRIFICATION PROJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>TECHNOLOGY AND CAPACITY</td>
<td>4 MW, HYDRO (operational) + 2.4 MW Wind (to be comm. in Q2 2020)</td>
</tr>
<tr>
<td>NUMBER OF CONNECTIONS</td>
<td>4,700 HH + industrial Clients + surplus sold to TANESCO More than 400 km of rural network (HV + LV), and 60 transformers</td>
</tr>
<tr>
<td>PRODUCTIVE USE</td>
<td>2 Tea Factories, incl. irrigation points 1 Dairy Farm, 2 Sawmilling Parks Dozens of SME Workshops using 400 + PUE Appliances</td>
</tr>
<tr>
<td>TARIFF STRUCTURE in TZS/KWh</td>
<td>D1: TZS 60 (3 US $ Cent) below 50 KWh, T1: TZS 243 (10 US $ Cent)</td>
</tr>
<tr>
<td>MODE OF PAYMENT</td>
<td>Mobile Money Transfer</td>
</tr>
<tr>
<td>DATE OF COMPLETION</td>
<td>Q3 2012, Rural Network Densification Ongoing 7,800-8,000 connections by 2024</td>
</tr>
</tbody>
</table>
The Mwenga Hydro and Rural Electrification Project (M.H.R.E.P.):

- ... provides 24/7, grid-quality, green power to its customers, supporting regional industrialization.
- ... follows the A-B-C customer approach. A for Anchor (Tanesco), B for Business (local tea and wood processing industry) and C for Customer (meaning “Rural Customers”).
- ... is decentralised (distributed generation), grid connected (embedded generation), and provides network stability at the far end of the Tanesco grid, while minimizing their losses.
- ... offers attractive tariffs for Rural Customers (below TANESCO rates).
- ... uses and innovative, state of the art, cell-phone based, Pre-Paid-Electricity-Vending-System to supply its rural customer base (across all projects).
- ... supports its Rural Customers to invest in commercial appliances (Productive Use of Electricity).
- ... is UNFCCC certified. Since 2013 the project has produced about 100,000 CERs (of which 16,000 still need to be verified).
KEY SDGs ADRESSED IN THE M.H.R.E.P. NETWORK AREA:

3 Hospitals
21 Health Stations

44 Schools (incl. colleges)

2 Tea Factories, 1 Dairy Farm
2 Industrial Parks (saw milling) +
Dozens of Workshops using 400 + PUE Appliances

34 Village Offices

R.D.O: 8 Water pumps, which supply 3,000 households with clean water
PUE Appliance Type Analysis
(sample of about 100 operational appliances in the period March 2017 - Jan 2020)
**PUE Appliance Consumption Data Analysis**  
*(sample of about 100 operational appliances, Period March 2017 - Jan 2020)*

<table>
<thead>
<tr>
<th>Appliance Type</th>
<th>Average monthly consumption (kwh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pallet machine</td>
<td>-</td>
</tr>
<tr>
<td>Circular saw bench</td>
<td>-</td>
</tr>
<tr>
<td>Carpentry machine</td>
<td>-</td>
</tr>
<tr>
<td>Milling machine</td>
<td>-</td>
</tr>
<tr>
<td>Sawmill machine</td>
<td>-</td>
</tr>
<tr>
<td>Welding machine</td>
<td>-</td>
</tr>
<tr>
<td>Car washing machine</td>
<td>-</td>
</tr>
<tr>
<td>TV + satellite</td>
<td>-</td>
</tr>
<tr>
<td>Air compressor</td>
<td>-</td>
</tr>
<tr>
<td>Jigsaw machine</td>
<td>-</td>
</tr>
<tr>
<td>Table saw</td>
<td>-</td>
</tr>
<tr>
<td>Retailer</td>
<td>-</td>
</tr>
<tr>
<td>Hair clipper</td>
<td>-</td>
</tr>
<tr>
<td>Photocopy</td>
<td>-</td>
</tr>
<tr>
<td>Water pump</td>
<td>-</td>
</tr>
</tbody>
</table>

*Graph showing average monthly consumption (kwh) across various appliances.*
PUE appliances, av. monthly consumption data analysis
(sample of about 100 operational appliances March 2017 - January 2020)
“PRODUCTIVE USE OF ELECTRICITY” (PUE) FACILITY (SUPPORTED BY ENERGY 4 IMPACT & CROSSBOUNDARY/ROCKEFELLER FOUNDATION)

What?
- Mwenga Power Services Ltd. (our distribution company) is currently managing a (trailing) revolving PUE financing facility, together with Energy for Impact + Crossboundary/Rockefeller Foundation
- Eligible customers have access to small loans, to invest in commercial appliances (value between US$ 100 up to US$ 1,500).
- Loans are predominantly used to invest into electrical motors (for saw and maize milling, welding machines, embroidery machines, jig saws etc.)

How?
- Customers need to enter into a specific appliance financing agreement with Mwenga Power Services Ltd. (DisCo) and pay a 20% cash deposit before they get access to the appliance.
- Loan repayment: 12 - 18 months, on a monthly basis, via mobile payments, 2.5% interest per month.
- Appliance changes ownership after full repayment of the loan.
- We are still in a test phase, once proven successful (and subject to funding), this PUE Facility can be rolled out on a bigger scale.
“PRODUCTIVE USE OF ELECTRICITY” (PUE) FACILITY (SUPPORTED BY ENERGY 4 IMPACT & CROSSBOUNDARY/ROCKEFELLER FOUNDATION)

PUE + Home Appliances Financing Summary:

- To date we have financed about $30k worth of PUE and about $4k worth of household appliances.
- We have 54 appliances distributed, 14 of which are PUE appliances.
- These PUE appliances represent only 3% of the approx. 400 + existing operational PUE appliances in our network area.
- We are seeing a potential temporary default rate of approximately 10% across the customer categories (no permanent default), which we are currently managing by engaging with village leadership to apply pressure to defaulting customers. We retain the option to disconnect power or repossess the appliances.
The planned “PUE Entrepreneurship Training & Appliance Promotion Program” with R.D.O.

- RVE is currently working with the “Rural Development Organisation” (R.D.O.) to set up a vocational training initiative, where about 300 local students (per annum) shall enjoy a specific “PUE Entrepreneurship and Appliance Training” course.
- The aim of this initiative is to show and educate young people, how they can use electricity in a productive way, set up a local business and earn a living by using electricity.
- The training will range from running a welding business, to electric saw or maize-milling, carpentry, or using electric cooking devices or blenders in the hospitality industry.
- The project design is done, we are still raising funds for this initiative.
Renewable Energy Solutions for Progress in Africa

For further information, please contact us directly under:
Email: franz@riftvalley.com
Mob: +43 699 1920 9597
or visit our Website under www.riftvallenergy.com
or enjoy our PR film under https://vimeo.com/338775880
PRODUCTIVE USE OF ELECTRICITY ACTIVITIES WITHIN OUR NETWORK AREA, I

THE LOCAL TEA INDUSTRY USES OUR GRID QUALITY POWER FOR BACK-UP, IN CASE OF TANESCO OUTAGES - AND TO RUN THEIR IRRIGATION PUMPS.

.... WE HAVE ALSO CONNECTED A NEARBY DAIRY FARM TO OUR RURAL NETWORK.
PRODUCTIVE USE OF ELECTRICITY ACTIVITIES WITHIN OUR NETWORK AREA, II

MWENGA POWER PROVIDES GRID QUALITY POWER TO THE LOCAL WOOD PROCESSING INDUSTRY (SAW MILLING AND CARPENTRY) – One carpenter (right picture) in Igoda village is producing chairs and tables and employs 30 people in this factory.
PRODUCTIVE USE OF ELECTRICITY ACTIVITIES WITHIN OUR NETWORK AREA, III

MAIZE MILLERS ALSO ENJOY OUR GRID QUALITY POWER, SUCH AS MOBILE PHONE COMPANIES AS WE SUPPLY THEIR TOWERS
PRODUCTIVE USE ACTIVITIES WITHIN OUR NETWORK AREA IV SUPPORTING WOMEN BUSINESSES

WE ARE ALSO PROUD TO SUPPLY POWER TO WOMEN’S BUSINESSES AND SUPPORT THEM TO GAIN MORE FINANCIAL INDEPENDENCE (g.e. electric sewing machines, egg incubators etc.)
PRODUCTIVE USE ACTIVITIES
within our
Mwenga Hydro & Rural Electrification Project (Mufindi)

ABOUT 200 PUBLIC INSTITUTIONS, SUCH AS SCHOOLS, HOSPITALS, VILLAGE OFFICES, CHURCHES ETC. ALSO ENJOY OUR 1ST CLASS POWER SERVICES