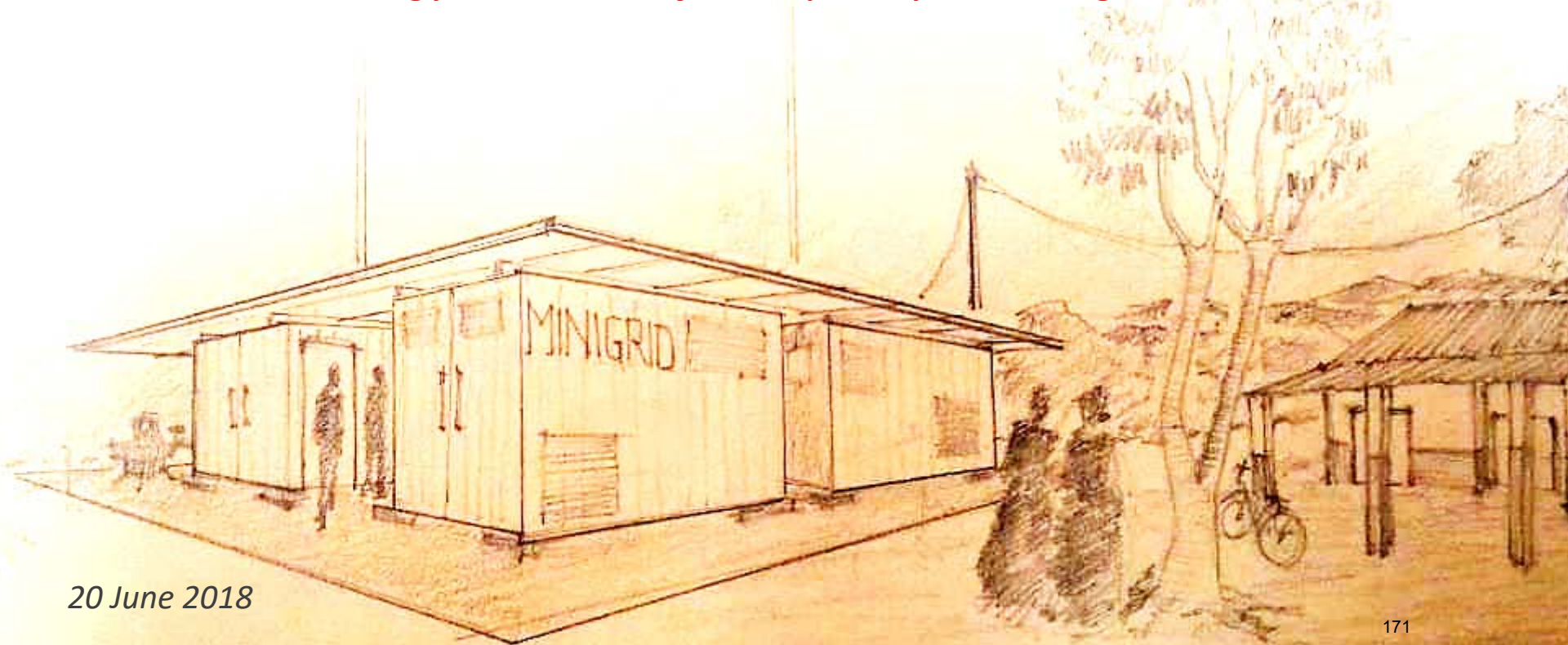


MICRO-GRID ACADEMY

Renewable Energy Mini-Grid for Capacity Building



20 June 2018

Micro-Grid Academy

PROJECT CONCEPTION

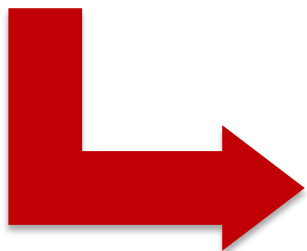
The success of RES4Africa Nairobi Conference 2016, “*A step change in the deployment of Renewables Energy in Eastern Africa*” gave a strong signal of presence in the region and impetus for collaboration with local stakeholders.

What next steps were expected from RES4Africa by local stakeholders?

- **Capacity building and training opportunities;**
- **Improvement of public - private partnerships;**
- Promotion of state-of-art Technology;
- Implementation of a concrete project in East Africa region.



During **the G7 energy side event** organized in Rome by RES4Africa in April 2017, RES4Africa and KPLC announced the intention to set up the MGA



Micro-Grid Academy

First of its kind

Micro-Grid Academy

SUMMARY

Key Objectives of the Micro-Grid Academy:

1. Realization of a **30 kW off-grid hybrid power plant in Kenya** directed toward capacity building activities;
2. Educate new generations of young professionals, about 300-400 every year, through capacity building activities in the energy, commercial, management field;
3. Draft innovative experimental activities to find solutions for access to energy.

Strategic Partner: KPLC

Kenya Power, Kenyan leading company in the electric distribution, is the local strategic partner to realize the project.



Target group:

Young technicians and students from East Africa, Europe and US, passionate and interested in energy access,

“To stimulate innovative ideas and start-up creations with experience exchanges...” (a “cultural clash”)

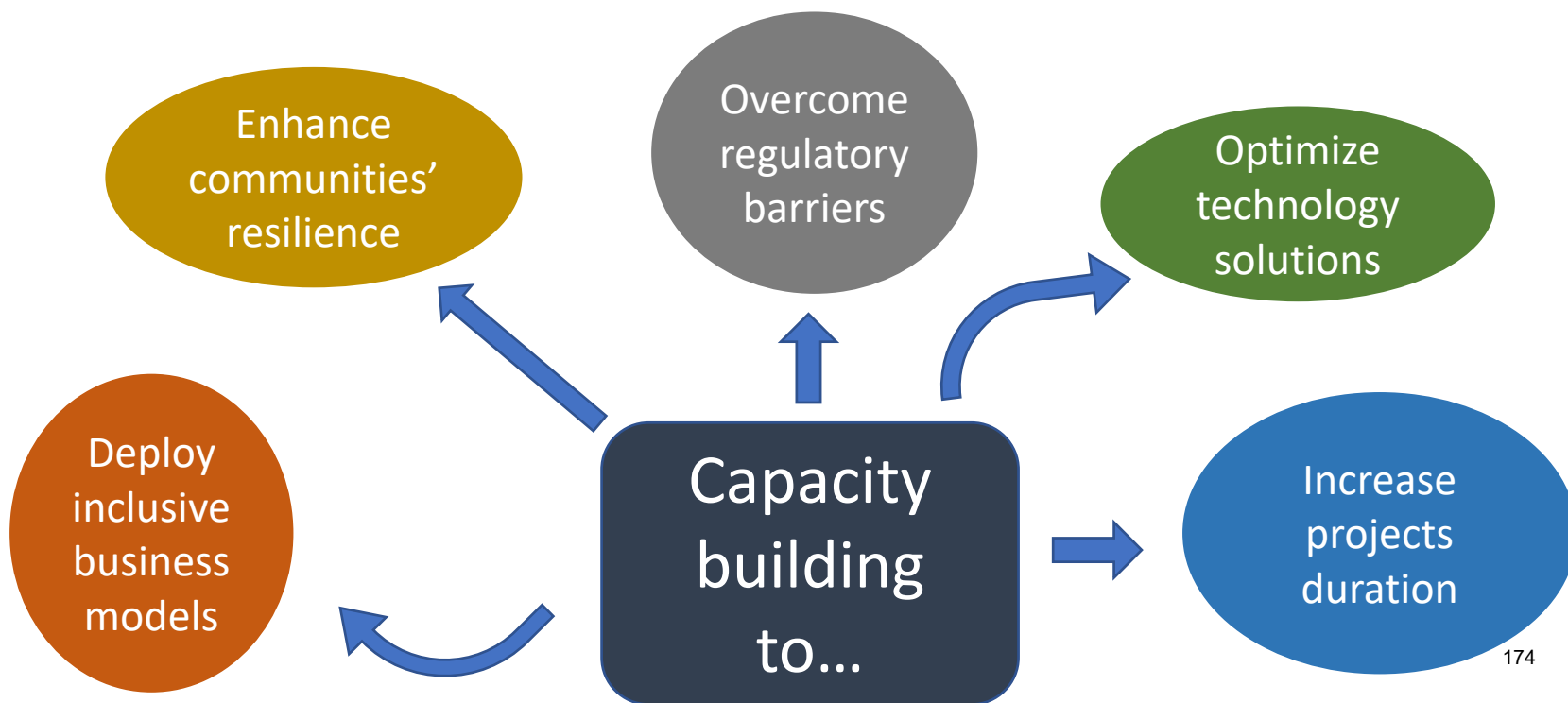
Micro-Grid Academy

WHY CAPACITY BUILDING

“Capacity building in Africa is key to effectively support the emergence of new RE technologies and their rapid spread.

It is important that the revolution in energy access and the transition to renewable energies is not stalled by the lack of human competences“

Vijay Modi, Professor, Columbia University, NY



Micro-Grid Academy TRAINING PROPOSAL

For the purpose of providing all students with the **most suitable education approach** the project foresees several types of training activities.

Permanent Training Activities

targeting **local technicians** in the electric sector to design, install and maintain

On-demand Knowledge- deepening Activities

Addressed to a wide audience and intended **to share and promote new ideas** and innovative projects

Online Remote Classes

To encourage **permanent learning** of technicians and students

Advanced Training courses

2 week courses targeting **professionals in energy management**

Experimental Activities are also foreseen (e.g. testing solutions for the integration of stand-alone systems with the national grid)

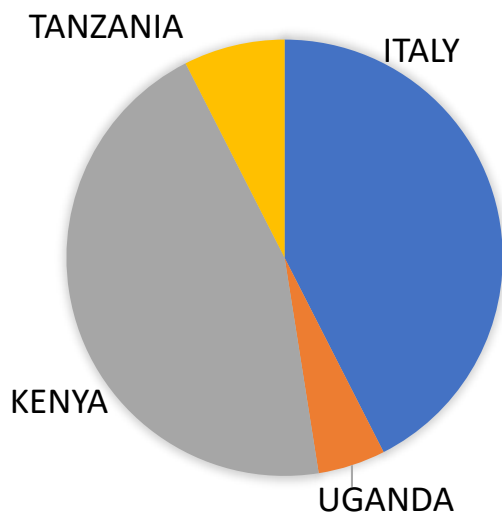
The goal is to involve 300-400 student/year !

- From January 15th to January 25th , with the support of the Italian non-profit organization **Tecnologie Solidali**, the first training course with **40 participants** from East Africa and Europe took place.
- Lectures provided by **Strathmore University, KPLC, St. Kizito, GIZ, UN-Habitat, SIGORA, Sapienza University, RES4Africa, State University of NY, Columbia University and MIT.**

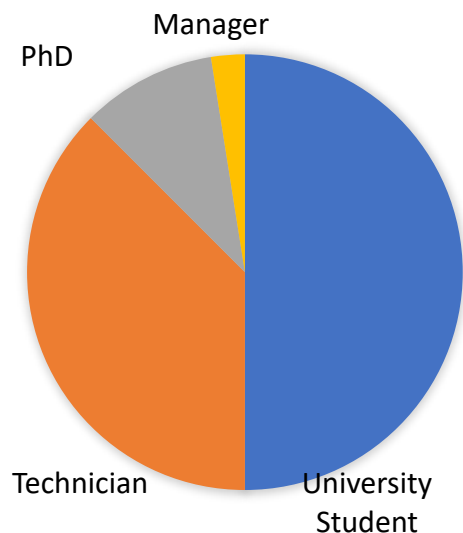


Information about the students

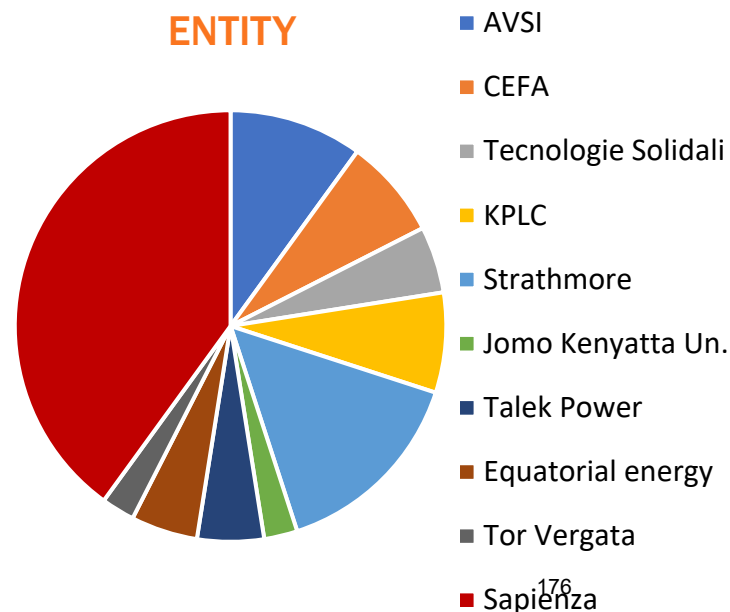
RESIDENCE



SENIORITY



ENTITY



Micro-Grid Academy

JANUARY 2018



When

4 -13 of April

Trainees

42 African and international participants of which **20 East-African women** selected by UNEP;
15 participants from EAC countries
and 7 international students.

Lecturers and trainers

Provided by:

KPLC, AVSI, Strathmore

University, St. Kizito VTI,

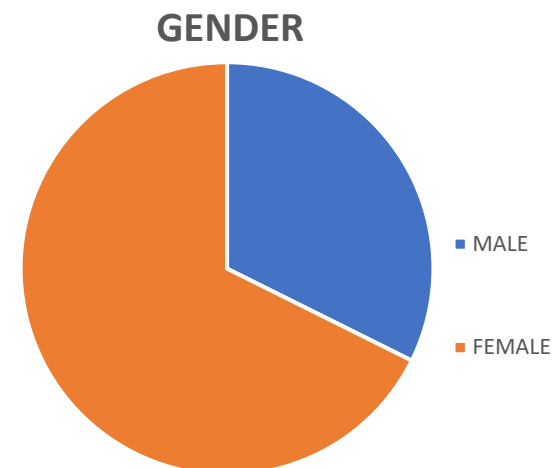
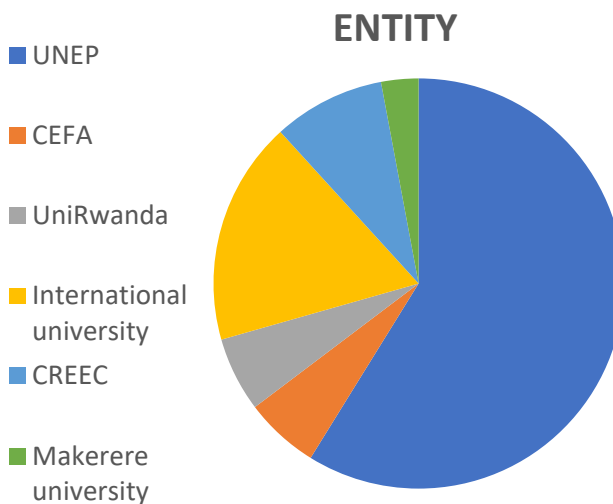
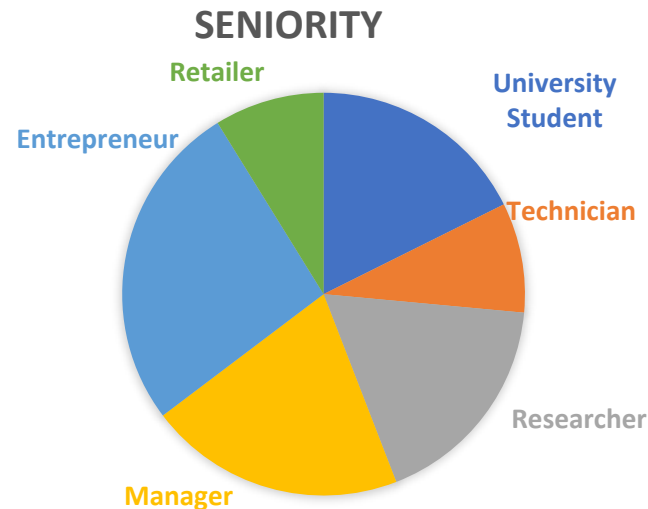
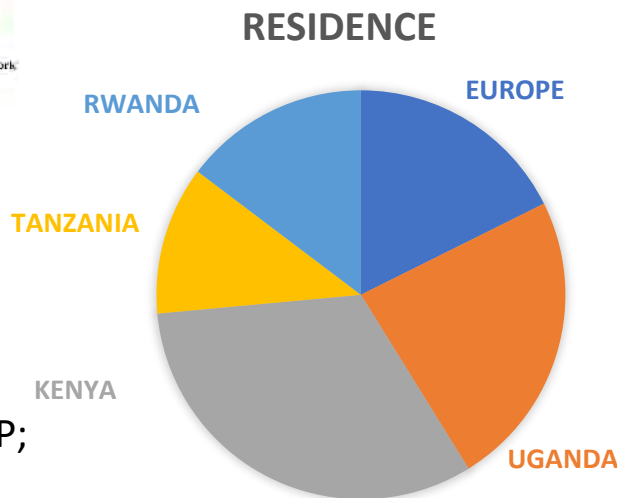
RES4Africa, Sapienza University of

Rome, UNIDO, UN HABITAT, UNEP

and local companies.



AWEEF
Africa Women Energy
Entrepreneurship Framework



Micro-Grid Academy

APRIL 2018



Micro-Grid Academy

EXECUTIVE TRAINING AGENDA

DONE!

DONE!

WHEN	WHERE	DESCRIPTION
January 2018	Kenya	MGA training launch. 1° and 2° training module
April 18	Kenya	3° and 4° training module
July 2018	Kenya	stakeholder workshop / train need assessment
October 2018	Kenya	5° and 6° training module
November 2018	Zambia	MGA workshop in Zambia
1Q 2019	South Africa	MGA workshop in South Africa

In addition to the structured training course to be executed in Kenya, the MGA will also perform specific training workshop in the countries of interest of RES4MED&Africa members



Micro-Grid Academy

MINIGRID LAYOUT

Hybrid minigrid

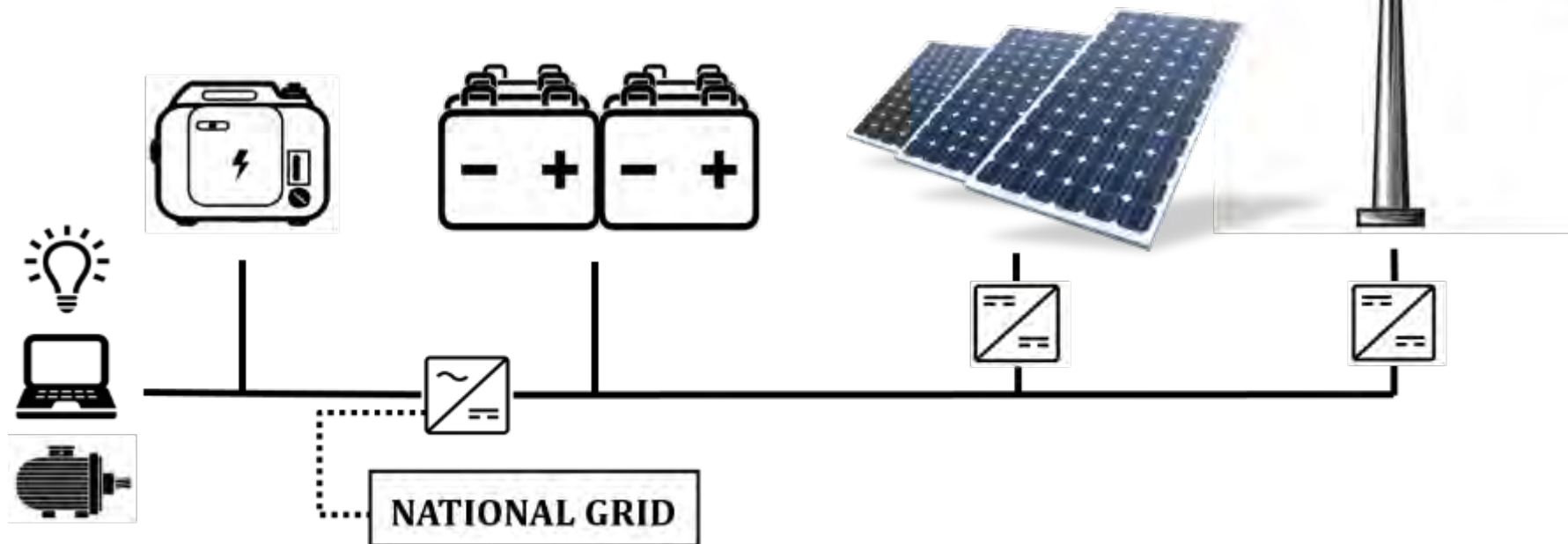
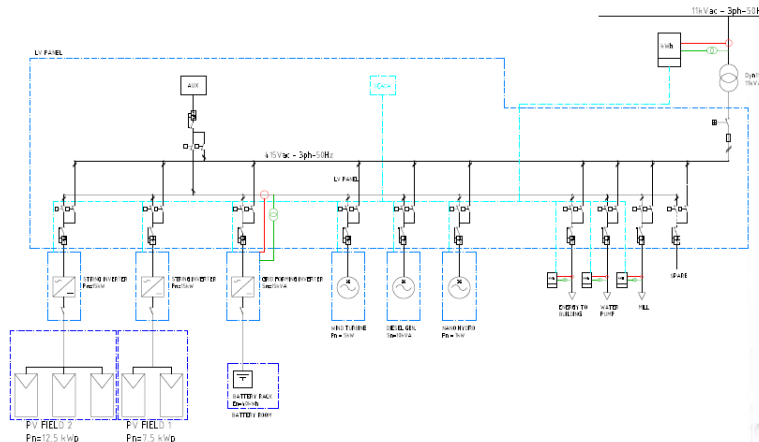
Solar-PV: 20 kWp

Wind: 3 kW

Energy Storage: 12 kWh

Nano-hydro: 0,5 kW

Diesel back-up component: 5-7 kW



Micro-Grid Academy

MGA FACILITIES

Infrastructure:

KPLC is performing the civil works to refurbish the facilities and to allow the installation the MGA plant.

(i) renovation of the main building to host classes, workshop, pc lab;

(ii) preparatory works for the installation of the mini-grid plant.

Works started in February 2018 and to be completed within June 2018.

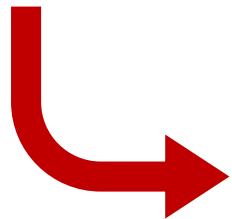
June 2017



March 2018



June 2018



Micro-Grid Academy FOUNDING PARTNERS

Strategic Partnership with **Kenya Power** signed beginning 2017.



In August 2017 **EACREEE** endorsed the MGA project inside the EAC programme of Renewables.



Along 2017, **Strathmore** University confirmed its interest to join the **MGA** project.



During last quarter of 2017, **AVSI** foundation and **St. Kizito VTI** joined the project completing the frameworks of partners



Enel Foundation is constantly continuing to support the MG project both for the economical and the training part.



Micro-Grid Academy

MEMBERS AND PARTNERS

RES4MED members involved in the project



Other contributors

