MICRO-GRID ACADEMY
Vocational capacity building for energy access
**What it is**

The **Micro-Grid Academy (MGA)** is a *vocational capacity building* project led by RES4Africa Foundation and based in Nairobi, that aims at creating *skilled and conscious workforce* to deploy decentralized renewable energy solutions in the *East-Africa region and beyond*, thus enhancing *access to energy* in rural communities while fostering *local enterprise* and *job creation*.

Correspondingly, this positively impacts on health and education, female empowerment, environmental protection and climate change mitigation, as well as reliable water and food production, as highlighted by the framework of the UN SDGs.

The MGA was launched in January 2018 with the goal to train up to **300 people per year** ranging from communities’ technicians to project managers, developers, engineers and academic students.

---

**The MGA is a joint initiative:**

*Founding partners:*

- [RES4AFRICA Foundation](https://res4africa.org)
- [AVSI](https://avsi.org)
- [Strathmore University](https://www.strathmore.ac.ke)

*Supported by:*

- [Enel](https://www.enel.com)

*Endorsed by:*

- [EACREEE](https://eacreee.org)
What it does

The MGA transfers knowledge and skills on renewable energy solutions through capacity building activities. It aims to build new generations of young professionals in the technical, commercial, management fields, able to develop and maintain RE systems and speed up the renewable energy transition.

Empowering the local job market with a particular focus on women entrepreneurship

Supporting the activities of start-ups and young entrepreneurs

Exploring innovative experimental activities to enhance access to energy
The MGA training curriculum provides participants with a comprehensive set of skills necessary to successfully design, develop, manage and operate decentralized renewable energy projects, through interactive training modules led by experts in the renewable energy value chain.

The MGA trainings in Nairobi are held in the founding partners’ facilities. The Academy also expanded its activities in other African countries with dedicated “on-tour” sessions.
How it works 2/2

Each training module is composed of in-class lectures, practical activities and on-field experiences to off-grid power plants, combining theoretical knowledge with the hands-on training.

All the MGA students are given free access to HelioLearn, an e-learning platform developed by LEDsafari, to further develop their skills after the MGA training.

The MGA activities allow participants to access a wide network of leading market players and, after the training courses, to be part of a long-lasting professional community.

Some of the experts involved

Columbia University of New York, MIT, University of Cape Town, GIZ, Alliance for Rural Electrification, Schneider Electric, Energy4Impact, UNEP, UNIDO, UN HABITAT, UNDP, University of Southampton, University of Zambia, Addis Ababa University, CEFA, Practical Action, InspiraFarms
Beneficiaries

The MGA aims at shaping the next generations of professionals by training up to 300 participants per year, with a strong focus on women and youth.

The main target groups of the Micro-Grid Academy are:

- **MANAGERS**, developers and decision makers involved in the deployment of renewable energy solutions
- **TECHNICIANS**, engineers and other profiles involved in renewable power plants’ design, construction and operation
- **STUDENTS**, researchers and trainers belonging to local and international academia and research centers
- **ENTREPRENEURS**, start-up developers, technology providers aiming at delivering renewable and sustainable systems
Over 300 students from Kenya, Ethiopia, Zambia, Uganda, Tanzania, Rwanda, Somaliland and Europe

Kick-off: January 2018 Nairobi, Kenya

7 training modules so far:
- 5 in Kenya
- 1 in Zambia
- 1 in Ethiopia

The MGA conceived an innovative training methodology that has, since its inception, rapidly raised the interest of relevant stakeholders.

In just one year, the number of applications for the MGA trainings has continuously outnumbered the available spots.

Thanks to the networking facilitated by the course, several MGA participants gained access to better job opportunities. Private and public entities are now funding their employees’ scholarships to participate to the MGA.

Moreover, development agencies and international universities are asking for MGA trainings to be held in different countries and regions.

The Micro-Grid Academy is thus rapidly becoming a reference point for the capacity building in the renewable energy space.

Some of the attending entities:
Tesla, Oxfam, Jumeme, Safaricom, Rural Electrification Authority, ZESCO, Ethiopian Electric Utility, UN Agencies, Italian Agency for Development Cooperation, CEFA, Practical Action, GoSolarSystems Ltd, Sepon Ltd, Centre For Research In Energy And Energy Conservation
Satisfaction level 8.5/10

Work condition

Nationality

Job Sector

62%

38%
A hybrid mini-grid as an innovative training facility

**St. Kizito Vocational Training Institute**, founding partner of the MGA, is based in Nairobi and aims at offering the youth, mainly the less privileged, a holistic education through technical courses that lead to job opportunities.

An innovative **hybrid mini-grid** will be installed in St. Kizito premises to provide the MGA participants with a high-quality training facility for a unique **hands-on experience**.

The mini-grid will allow the participants to:

- Practice the fundamental **principles of energy systems**
- Learn how to assess the energy **demand**, draft **load profiles** and design effective RE systems
- Operate and maintain a renewable power plant

The participants will be able to apply the expertise and skills obtained through the MGA curriculum to real field projects and power assets.
A hybrid mini-grid as an innovative training facility

The hybrid system will be composed of a PV plant, a battery storage system, a wind turbine and a back-up diesel generator. It will be able to run either on-grid or off-grid mode to replicate all the possible situations a rural village can face. Moreover, productive uses appliances will be connected to the mini-grid.
**The way forward**

**Next confirmed activities (September 2019 - June 2020):**

- Two training sessions in **South Africa** and **Kenya** (4Q 2019)
- First **Training of Trainers** in Kenya (1Q 2020)
- Development of the **MGA training Curriculum** with **Strathmore University and Energy4Impact** and accreditation to local institutions (1Q 2020)
- **Construction of a hybrid PV-wind-storage mini-grid plant** in St. Kizito VTI premises to support the training activities of the Academy (2Q 2020)

**Roadmap to the full operation**

- **2021**
  - Schedule Training calendar to reach 300 students / year
  - Implement placement program for MGA champions
  - Implement scholarship plan for financial sustainability
Funding

To unlock the full potential of the MGA initiative, **RES4Africa Foundation is looking for public and private partners** willing to contribute in compliance with their rules and policies.

The expected support could be provided by the following entities:

- **Private Companies**
- **Private companies Foundations**
- **Ministries and public entities**
- **Development agencies**
- **European Community**
- **Development banks**

The ways to join the initiative are:

- **Contribute to support the implementation of the initiative**, including management, organization and mini-grid installation costs
- **Contribute to afford the current costs for the organization of training courses**, including teachers’ costs and the provision of didactic materials and tools such as safety helmets and jackets
- **Provide full scholarships** to allow the participation to the training courses for requesting applicants
How to participate

If you want to attend our training courses and join the Micro-Grid Academy family, this is what you have to do:

1. Go to our **website**: [www.res4africa.org/microgridacademy/](http://www.res4africa.org/microgridacademy/) and check the **training calendar**
2. Sign-up to our **newsletter** to receive information about the upcoming training courses
3. Apply to the module you prefer through the dedicated **application form**
4. **Join the MGA training** and be ready to share your experience
5. Play your role of the **interactive community of students** after your training module

*We look forward to meet you at the next MGA!*
Our mission: RES4Africa Foundation aims to create an enabling environment for renewable energy investments in African countries to meet local energy needs.

Our work: RES4Africa Foundation functions as a lever for change. We contribute to creating the policy and regulatory environments necessary to expand sustainable access to renewable energy in Africa. We work to foster energy demand, and help shape new strategic initiatives to accelerate investments in the RE sector.

Our key activities: RES4Africa Foundation operates through 3 work streams:

- Promoting policy dialogue and delivering advisory services to countries on what it takes to enable RE investments;

- Spearheading strategic initiatives to catalyze innovative market solutions;

- Building capacity to empower communities, create businesses, and transform institutions.
Contacts

Micro-Grid Academy
Email: info@microgridacademy.org
Website: www.resafrica.org/microgridacademy