

# SUSTAINABLE AND ENERGY EFFICIENT CAMPUS DEVELOPMENT

## SUCCEED Network Project

International Conference:

*Fostering Cooperation in Energy Efficiency and Accessibility in East Africa*

13-14 March, 2017. Zanzibar, Tanzania



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# EAST AFRICAN HIGHER EDUCATION NETWORK ON SUSTAINABLE AND ENERGY EFFICIENT CAMPUS DEVELOPMENT



## CONTEXT

**SUCCEED Network** is a Higher Education Capacity Building project co-financed by the European Commission through the EU – ACP states Cooperation Programmer in Higher Education EDULINK II.

**Duration:** 42 months (8/10/2013 – 7/04/2017)

**Contract:** FED/2013/320-274

## CONSORTIUM



# BACKGROUND



- The East African Region faces **energy deficits and high energy costs with high dependence on fossil fuels, energy insecurity and high-carbon emission systems.**
- There is a **lack of regional and national policies on Energy Efficiency (EE) and Renewable Energy (RE)** that match the politicians' decisions and society's needs.
- **Lack of professionals** trained in EE and RE.
- **Weak institutional capacity:** Most EA HEIs don't have the institutional capacity to implement EE & RE measures / teaching in their campuses;
- **Lack of relevant and updated Renewable Energy courses coping with the challenge of Interdisciplinarity:** Only a few EA HEIs are in the position of offering relevant courses covering some energy topics;
- **Poor Regional Cooperation:** Although a few EA HEIs have some joint initiatives promoted by IUCEA, poor or no activities are promoted in the field of energy.
- **Poor interaction between EA HEI's & Local / National stakeholders in the field of energy.**

# OBJECTIVES



## GENERAL OBJECTIVE

To promote East African university campuses as **“living laboratories” for sustainability and energy efficiency.**

- University campuses provide the ideal environment in which new knowledge related to renewable energy and sustainable practices for efficiency in energy use emerge. The knowledge & skills developed can then be shared with local & national stakeholders.

## SPECIFIC OBJECTIVE

To establish a **sustainable campus development platform to foster collaborative learning and action for energy access and efficiency.**



# RESULTS

## TRAINING

HEI Management, Teaching staff, Technical staff trained in:

- Energy Efficiency Policies & Processes on HEI campuses,
- Energy Efficiency Technologies & Tools,
- Energy Efficiency Audits,
- Fundraising applied to Energy projects,
- Renewable Energy,
- Design of online courses.





# RESULTS



## ENERGY EFFICIENCY UNITS CREATED

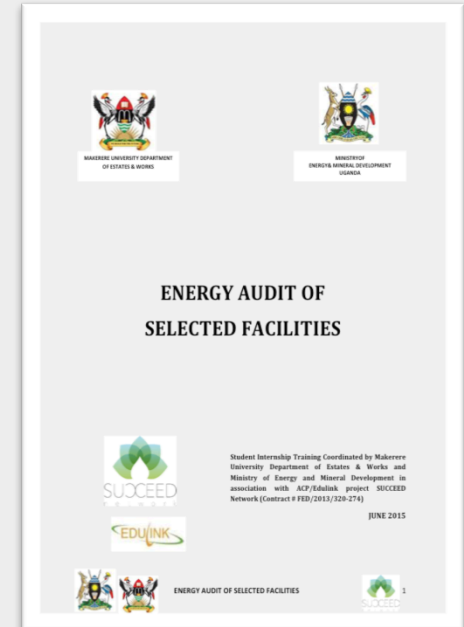
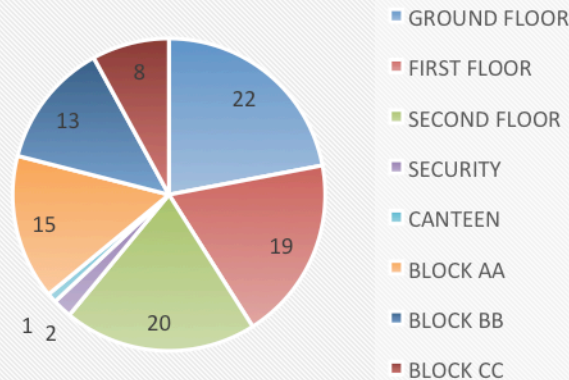
Devoted to **promoting campus sustainability** actions with a special focus on energy efficiency.

Provided with **equipment**.

Implementation of an **“Energy Efficiency Audits” service** of campus & external buildings.

Organisation of **“Energy Efficiency Awareness”** campaigns.

PIE CHART SHOWING THE PERCENTAGE OF ENERGY CONSUMED ON LIGHTING



# RESULTS



## ONLINE COURSES ON ENERGY

On Renewable Energy or Energy Efficiency topics, aimed at students or staff and shared among all partners through a common e-learning platform set up by Moi University.

**Kiyeng Chumo**

Dashboard [Customise this page](#)

**Navigation**

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    - Fundamentals of Energy Use in Buildings
  - ME 31XX
  - ECE 573
  - Renewable Sources of Energy
  - MOD 101
- Administration

**Course overview**

- MEC 4109: Sustainable Energy Utilisation on the University Campus
- MEC 3106 : Fundamentals of Energy Use in Buildings
- Energy Efficiency on the University Campus
- Renewable Energy Sources and Technologies
- Renewable Sources of Energy

**Private files**

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# RESULTS



## Navigation

### Dashboard

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- Overview of energy use and related issues
- - Energy sources for a more sustainable future
  - Major energy options; issues of supply and demand
  - - Energy

### Introduction

## Introduction

### Course Description:

This course will provide an introduction to the utilisation of energy on the present day society, with particular emphasis on the university campus, taking into account sustainability and environmental aspects. The course will focus on the technologies used to meet a wide spectrum of energy demands needed in the built environment. Students will learn a quantitative framework to aid in evaluation and analysis of energy technology system proposals in the context of engineering, political, social, economic, and environmental goals.

### Course Objectives

The objective of this course is to discuss the energy utilization in society and the university campus with regard to environmentally sustainable practice, specifically focusing on technologies used for satisfying a broad range of demands.

 [News forum](#)
 [Learning outcomes](#)
 [References/Texts](#)

- Overview of energy use and related issues

- **Overview of energy use and related issues**

- Energy sources for a more sustainable future

- **Energy sources for a more sustainable future**

- Major energy options; issues of supply and demand

- **Major energy options; issues of supply and demand**



# RESULTS



SUCCEED Network partners have organised a series of round tables with internal (campus), local and national stakeholders to raise awareness, identify problems and promote cooperation on energy-related matters.



*Participants in the 1st National Round Table  
“Energy Accessibility and Efficiency in Tanzania”*

## DIALOGUE WITH STAKEHOLDERS



*Participants in a Campus Round Table at Makerere University to discuss results of Energy Audit at University Hospital*

# RESULTS



## National Round Table Forum "ENERGY ACCESSIBILITY & EFFICIENCY IN KENYA"

– Report –



## National Round Table Forum "Energy accessibility & efficiency in Rwanda"

– Report –

Reported by Prof. Bonfils Safari  
Technical Coordinator SUCCEED Project UR  
January 2017-01-14



## DIALOGUE WITH STAKEHOLDERS

ised a series of round



## National Round Table Forum "Energy Accessibility and Efficiency in Tanzania"

– Report –



# RESULTS



## GOOD PRACTICES

Partners have identified and shared **24** Good Practices in Sustainable University Campuses – and are in the process of collecting another round for a 3<sup>rd</sup> report.

*All contributions welcome!*



### *GOOD PRACTICES IN SUSTAINABLE UNIVERSITY CAMPUSES*

*Report #1 – October 2015*



'East African Higher Education Network on Sustainable and Energy Efficient Campus Development'  
(FED/2013/320-274)



### *GOOD PRACTICES IN SUSTAINABLE UNIVERSITY CAMPUSES*

*Report #2 – October 2016*



'East African Higher Education Network on Sustainable and Energy Efficient Campus Development'  
(FED/2013/320-274)

# RESULTS



## MORE PUBLICATIONS



### REVISION OF CAMPUS SUSTAINABILITY AND ENERGY EFFICIENCY POLICIES AND PROCESSES IN EUROPEAN UNION UNIVERSITIES



SUCCEED Network  
'East African Higher Education Network on Sustainable and Energy Efficient Campus Development'  
(FED/2013/320-274)



### GUIDELINES FOR SUSTAINABILITY AND ENERGY EFFICIENCY IN HIGHER EDUCATION INSTITUTIONS



SUCCEED Network  
'East African Higher Education Network on Sustainable and Energy Efficient Campus Development'  
(FED/2013/320-274)



# RESULTS



## NETWORK

### **CREATION OF THE *EAST AFRICAN HIGHER EDUCATION NETWORK ON SUSTAINABLE AND ENERGY EFFICIENT CAMPUS DEVELOPMENT***

Where East Africa HEIs can come together to foster collaboration on energy-related matters, fuelling debates, sharing online course materials, sharing good practices and promoting a culture of sustainable campuses.

- Open to all Higher Education Institutions in East Africa
- Will allow increased academic cooperation via a collaborative e-learning platform on energy efficiency and renewable energy.
- Will allow to share Good Practices on Energy Efficiency measures between member HEIs.
- Will promote constructive dialogue and strategic discussion on Energy matters between HEIs and other relevant agents in East Africa (government, economic development organisations, industry, etc.)



# CONCLUSIONS

## IMPACT



- **Increased awareness** and improved institutional frameworks with regards to campus sustainability, with a specific emphasis on energy access and efficiency.
- **Increased academic cooperation** between East African Universities via a collaborative e-learning platform on energy efficiency and renewable energy.
- **Strengthened cooperation activities** in the field of energy between HEIs and relevant public and private stakeholders.
- **East African Higher Education Network on Sustainable and Energy Efficient Campus Development**



# CONCLUSIONS

## BENEFICIARIES



**HEI staff** benefit from **training** and **networking** with staff in other East African HEIs



**Students** benefit from **new courses & skills acquired**



**HEIs** benefit from new **Energy Efficiency Units & services** provided



**Local and National Stakeholders** in the **energy sector** benefit from **increased dialogue & cooperation** with HEIs

# THE WAY FORWARD...



- More capacity building on Energy for interdisciplinary degrees
- Adaptation of degrees to Energy sector labour market's needs to increase graduate employability
- More international cooperation activities through the SUCCEED Network to foster collaborative education and sharing of good practices



# THANK YOU! VISIT US AT:

[WWW.PROJECT-SUCCEED.EU](http://WWW.PROJECT-SUCCEED.EU)

