

## ENERGY\_AGRO-FOOD: Energy-Agro-Food Synergies in Africa: New Educational Models for Universities

The ENERGY\_AGRO-FOOD project will implement new university teaching modules in the fields of Energy and Agro-food consistent with the needs of the regional and local labour markets. The main aim is to increase the capacity of Universities to offer innovative higher education programmes characterised by: **interdisciplinarity, intersectoriality and interregionality**. The project entails added values such as to spread knowledge and boost professional skills, to strengthen innovation and raise sustainability in the bioenergy-agricultural sectors, to enhance public interventions and promote private–public partnerships, and to improve the quality of life in rural communities and remote areas.

**Contract**  
FED/2013/320-168

**Co-ordinator**  
Alma Mater Studiorum -  
University of Bologna

**Partners**  
University of Pavia;  
University of Auvergne –  
Clermont Ferrand 1;  
University of Nairobi;  
Addis Ababa Institute of  
Technology;  
University of Mekelle;  
Sokoine University of  
Agriculture

**Project duration**  
30 months

**EU grant**  
EUR 499,501.68

**ACP regions and  
countries involved**  
East Africa:  
Kenya,  
Tanzania,  
Ethiopia

**Technical  
Assistance Unit**

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### Challenge

ENERGY\_AGRO-FOOD moves from a mismatch concerning two specific dimensions regarding the East-African region.

On one hand the role of the bioenergy and agro-food nexus in the socio-economic development of the target region is growing because energy is a key sector to foster competitiveness and sustainable growth of agro-food chains and the degree of wellness in the social system due to its significant economic, environmental and social implications.

On the other hand the existing higher-education supply shows several gaps in the related fields.

### Focus

The objective of the action is to enhance the national higher education offer through the introduction of specific teaching modules in the fields of bioenergy and agro-food consistent with the needs of the regional and local labour markets. The aim is to improve academic staff competences and expertise.

For these purposes, ENERGY\_AGRO-FOOD aims to address:

- the agro-food supply chain as an opportunity to provide renewable energy sources and to improve energy access;
- the renewable energies as the strategic element to boost efficiency and competitiveness in the agro-food value chain;
- the need of specific competences on energy policy design, energy market analysis and governance, energy system design, agro-energy chain logistics, innovative cropping system and energy supply chain.

### Rationale

The agro-food value chain, can play a pivotal role in the sustainable energy production and consumption: agro-food systems can provide renewable energy resources and the promotion of “energy-smart” food production processes can reduce the supply chain’s dependence on fossil fuels;

Competition between energy and food production activities must be avoided and several synergies between the two needs can be explored.

For this reason the project intends to strengthen the Universities’ educational offer in the field of bioenergy and improve institutional frameworks in order to deliver new study programmes.



‘Desta Alcohol and Liquor Factory’ biogas plant, Mekelle, Ethiopia (March 2014)



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First Midterm Project Meeting, Nairobi, Kenya (June 2014)

### Method

A context survey on the bioenergy and agro-food sectors to identify skill needs and professional opportunities in the labour market, a recognition of the existing gaps between higher-education supplies and professional requirements, and a preliminary analysis of the criteria and constraints for the implementation of curricula at local and regional level in the African countries involved in the project.

On the basis of the gathered information, new teaching modules will be designed to be integrated into the existing study programmes.

In order to further link the labour market with the university offer, an analysis of internship experience formats and of the opportunities for students will be conducted: then the creation of a joint database of internship, the establishment of mobility schemes among partner Universities, and the implementation and testing of internships periods are foreseen.

### Results

First results to be achieved will be the increased university awareness and capacity of interpreting and answering to needs of the agriculture and bio-energy sectors.

An upgraded qualification and a reinforced capacity of the ACP HEIs teaching staff to design programs, teach and produce innovative knowledge are expected.

New teaching modules and materials will be jointly designed and delivered to university programs and internship experiences will be implemented, contributing to job placement and knowledge diffusion.



Biogas plant, TATEDO Centre for Sustainable Modern Energy Expertise, Dar Es Salaam (April 2014, Tanzania)



Jamury Energy Centre, Nairobi, Kenya: Visit to a demonstration bio energy plant (February 2014)

### Programme theme(s)

Energy access and efficiency  
Agriculture and food security

### Sector

Energy education/  
training

### Keywords

Higher Education,  
Energy,  
Agro-Food

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