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Upcoming **JATROPHA & MICROALGAE** projects in 3 African countries

PROFESSOR PATRICIA HARVEY OF THE UNIVERSITY OF GREENWICH, a leading expert in biofuels who is currently working on projects that will produce green energy from agricultural and food waste in three African countries, recently spoke to *25° in Africa* about the project.

"We are currently entering the second year of the three-year project. The main aim of the international three-year project is to replace fossil fuels and support alternative power generation markets in South Africa, Ghana and Namibia without damaging local environments or the agricultural production of food crops," said Harvey, who was attending the Energy Indaba conference at the Sandton Convention Centre in March. The University of Greenwich is leading the European Union, African, Caribbean and Pacific Group of States (ACP) Science & Technology Programme to boost the biofuels industry and its distribution network in the three countries.

"Biofuels is still the only renewable energy technology that actually sucks CO_2 out of the atmosphere via photosynthesis. Furthermore, liquid biofuels will drive Conbined Cooling Heat and Power (CCHP) engines to deliver energy with high efficiency (38% electricity, 42% heat). CCHP also offers off-grid electricity on demand, low/zero carbon emissions, heat-sterilised water, cold storage, and job security for local communities," says Harvey. Professor Keith Cowan, Director of the Institute for Environmental Biotechnology at Rhodes University, is working on developing advanced wastewater treatment systems for the project. Jatropha and glycerol from marine microalgae and microalgae growing wastewater effluents from anaerobic digestion of agriculture residues are two of the main biofuels that will be produced from the project. "Marine microalgae thrive in the warm waters off the shores of Namibia, and are among the alternative renewable energy options being investigated. Jatropha is being investigated and researched in Ghana and Namibia, but not in South Africa," says Harvey, before adding that South Africa is very concerned that jatropha could become an invasive species.

"The idea is to create opportunities for farmers that will benefit the local communities. The project will address the lack of necessary technical skills, the limited knowledge of renewable biofuels or CCHP, insufficient investment in agronomic, genetic, technical and ecological research and innovation areas, and insufficient investment in the necessary capital equipment or in supporting new businesses," says Harvey.

Research and ideas emerging from the African biofuel projects will potentially be applied to other parts of the world with similar climates. "During our next meeting, which will take place in Italy, we are going to look at how the ideas from Africa can be applied to the southern regions of Europe. The question that everybody wants answered, is how we are going to manage land use for security in oil, energy resources and food.

The ACP team for this project include: Turner & Townsend (SA), the Universities of Greenwich, Namibia, Ghana and Palermo, the Marine Biological Association in the UK, Goldex (SA) and Jatropha Africa. They gratefully acknowledge financial assistance of the European Union. The contents of this article are the sole responsibility of the University of Greenwich and can under no circumstances be regarded as reflecting the position of the European Union.

For more information, visit www.greenwich.ac.uk.

Project details

Project: Capacity building in South Africa, Namibia and Ghana to create sustainable, non-food bio-oil supply chains.
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Website: www.acp-st.eu/content/projects.