Solar energy research and development cape town

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Ener-G-Africa (EGA), a multi-faceted African company tackling the challenges of climate change through research, development and the manufacturing of clean energy products, officially launched its new 15 MW per annum women-led solar panel assembly plant in Cape Town on 2 February 2023 - only the second such facility in Sub-Saharan Africa.

The $1.5 million, 800m2 plant is manufacturing solar panels for use with advanced biomass stoves, as well as for the regional African market and overseas exports.

The dynamic group offers mechanical, mechatronic, electrical, process and civil engineering expertise. We are also well positioned to assemble expertise from the broader University community and private industry to participate in multidisciplinary projects.

Dr Benjamin Agyei-Tuffour is a Senior Lecturer in the Department of Materials Science and Engineering, University of Ghana. His research area includes Composite and Nanocomposite Materials Development for Sustainable Energy (Silicon, Organic and Perovskite Solar Cells, Batteries, Capacitors/Supercapacitors), Environment (Water and Waste Engineering) and Construction (Building, Structural and Industrial).

Dr. Abubeker Yimam is an Associate Professor at School of Chemical and Bio Engineering, Addis Ababa University. He holds PhD in Chemical Engineering from Stellenbosch University, South Africa. He also did a Postdoctoral study (from 2010-2012) at the same University. He worked as a local consultant for the Roundtable on Sustainable Biomaterials (RSB) and Exergia S.A. He was also a visiting professor at University of Toulouse, France, teaching Biorefinery design. His research area include biofuel, biorefiery and sustainable aviation fuel.

Dr Neway is an Associate Professor of Physics at Addis Ababa University. She completed her PhD at Stellenbosch University in 2018, employing cutting-edge femto-second transient absorption spectroscopy to ascertain the charge transfer dynamics of organic solar cells. Her research interest includes fabrication and characterization of solar cells made from inexpensive materials.

Covering a large body of water with solar panels is a new innovation in energy production that recently arrived in the Mother City, and the University of Cape Town (UCT)"s Department of Electrical Engineering will be monitoring the data of this groundbreaking pilot.

The Kraaifontein Wastewater Treatment Works is now home to the metro"s first floating solar plant. Partners in the project are the City of Cape Town, the Water Research Commission, Floating Solar (Pty) Ltd and UCT. Peter Varndell, of equipment provider and project developer Floating Solar, said this is the first floating solar

plant that has been developed on Cape Town"s infrastructure.

"This allows the City the opportunity to better understand the technology and its potential application across other sites as part of its drive towards renewable energy," said Varndell.

"We have been involved in floating solar for a few years now; and in trying to catalyse the market, [we] realised the importance of having factual information around the evaporation-savings potential and the improved performance of floating solar over land-based solar," Varndell added. "This is key in defining the value and investment case for this unique solution. We will run this experiment for 12 months, while continuing with other projects across Southern Africa."

Richard Larmour, of the Advanced Machines and Energy Systems (AMES) group and the Department of Electrical Engineering, said UCT was approached by Floating Solar to do an impartial assessment of the technology"s performance at the Kraaifontein pilot plant.

"My role will be to continually assess the project performance over a period of a year, to ensure that we include a full seasonal weather cycle. During this period, we will be reporting at contracted intervals," said Larmour.