**SESSION DESCRIPTION**

**ID:** S1d/S4b

**Title of session:**
Bioenergy and ecosystem services: Exploring trade-offs at the energy, food, environment and poverty nexus in Africa

**Hosts:**

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**Abstract:**

Bioenergy systems are at the confluence of multiple Sustainable Development Goals (SDGs) such as SDG 1 (No Poverty), 2 (Zero Hunger), 7 (Affordable and Clean Energy), 13 (Climate Action) and 15 (Life on Land). The versatility of using biomass across all energy carriers (liquid/gas/solid/electricity/heat) and in diverse technology platforms (e.g. biogas, liquid biofuels, wood pellets) and end-uses (e.g. power generation, transport, cooking) has contributed to the rapid expansion of government policies/mandates and private sector investment in bioenergy in Africa. Bioenergy systems that offer renewable energy and climate benefits with low impacts on ecosystems, can catalyse the transition to a sustainable society and a Green Economy.

At the same time if managed effectively, bioenergy systems can have ripple effects at the household level. Different bioenergy options can have positive effects on human health, poverty alleviation and environmental sustainability in poor rural and urban settings of Africa. For example, by 2030 the charcoal trade in sub-Saharan Africa is expected to provide an income for an estimated 12 million people.

However, bioenergy systems are also drivers of ecosystem change, leading to significant negative trade-offs with other ecosystem services. For example the charcoal sector is currently stigmatised as a major agent of environmental degradation and energy insecurity among low-income households. Biofuels have long been blamed for inciting land-grabbing and food insecurity in rural parts of Africa.
So, how can these different aspects be reconciled? Given the large variety of bioenergy production practices, end-uses and socioeconomic contexts, there are still significant research gaps, especially in Africa. The aim of this session is to progress the debate about the potential of the ecosystem services approach to understand trade-offs (whether positive or negative) at the nexus of bioenergy, food security, environment and poverty in Africa.