

Solar challenge

Africa's solar waste crisis

SOLAR ENERGY
BETTY NDAGIRE

Solar must move beyond panels into integrated agricultural systems powered by intelligence and design.

"Africa can become the 2030 capital of agricultural innovation by combining AI [Artificial Intelligence] and decentralised solar energy," he said.

He illustrates how entire value chains can be redesigned, from dairy to poultry, using solar-powered systems that reduce losses and increase productivity.

"Solar-powered hydroponics, chilling systems, and milking machines can double or triple farmer incomes," he explained.

His vision is provocative, Africa not as a late adopter, but as a global laboratory for agricultural reinvention.

"Even Germany and the Netherlands can learn from Africa's small-scale innovation systems by 2030," he added. Yet beneath these technological ambitions lies a structural truth: food security is no longer just about land and labour, but water, energy, and coordinated systems.

Rwanda's Minister of Agriculture and Animal Resources, Dr Telesphore Ndabamenye, ties the conversation back to systems integration and governance.

"Solar energy is a strategic enabler for transformation. Food security cannot be separated from energy and financing," he said.

He stresses that fragmented policy approaches are slowing adoption across Africa.

"Agriculture, energy, water, finance and trade policies must operate as one coordinated ecosystem," he noted.

Rwanda's approach, he says, is shifting toward irrigation corridors and aggregated farming systems to enable efficient solar deployment.

"Farmers must be organised through cooperatives and agri hubs to make technology adoption easier," he said.

He also highlights investment risk as a major barrier. "Without de-risking agriculture investment, farmers will not adopt solar technologies at scale," he warned.

His conclusion brings the continental debate into focus: no country can solve the solar agriculture puzzle alone.

What emerges from Uganda's discussion is a shared contradiction that Africa is the most sun-rich continent on earth, yet its farmers remain among the most energy-constrained.

The solution is no longer about whether solar works, but whether systems, financing, and political will can finally align.