



SolarCool

ENTREPRENEUR: Chris Edeh

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“Nigeria imports about 60% of its wheat, it imports 30% of its fish and poultry consumption. The lands are not growing and expanding while the population is. It’s gotten to a point where if we don’t do something now to farm sustainably and be able to preserve our produce, we will have a crisis in a short time.”



SolarCool provides solar-powered cold chain storage to help combat food and other waste (like vaccines) in regions with unstable access to electricity and power. By providing this solution, SolarCool helps reduce food waste, boosts food security and does so off the grid with the goal of circularity at its core.

Words by Chris de Beer-Procter; photography by Adekunle Owolabi & Wendy Hado



ABOUT THE BUSINESS

The recent COVID-19 pandemic and the multitude of logistical challenges associated with the roll out of vaccines, especially in the global south, served as an unexpected catalyst for many innovations with effects that spread far beyond the field of public health.

Especially for the founder of SolarCool, Chris Edeh, who was inspired by his involvement in mobile vaccine rollouts in South Africa. “We saw the amount of people in Africa that could not get proper vaccination because there were no adequate cold chain facilities,” he reflects. The root cause of this problem is simple, but substantial and far reaching: cold storage requires a reliable source of power, which is in itself a significant obstacle in developing nations.

And the issue affects more than public health, as Chris discovered. It also impedes agriculture and by extension, food security, as farmers who are based mostly in rural and semi-

urban areas with limited access to reliable power require cold chain storage to preserve their produce.

Chris asked himself, how could he help bring cold storage to these areas? And how could they do it while reducing carbon emissions? To solve these two problems, Chris turned to one technology - solar power.

“In 2019 Nigeria imported about 5.6 billion dollars of food alone and from what we are seeing from the Ukraine Russian war, if Africa doesn’t become self-sustainable, we have a problem.”

In 2021, Chris founded SolarCool and their pilot project was launched in Nigeria’s Delta State. SolarCool01, as it’s called, is a 20-foot-long container converted into a -16 degree cold room, powered entirely by solar panels. It services about 40 nearby farmers who now have access to cold chain storage for their produce at reasonable rates. A survey conducted by the company found that the service helped client farmers increase their revenue by 30%.

“Without cold storage, farmers are forced to sell their produce for much less than the market value because they don’t have adequate means of preserving it,” says Chris. This is especially pertinent to mitigating the millions of tons of food that goes to waste every year.

His focus on the issue of access to cold storage and its consequences for Africa’s food security is timeous, given that the war in Ukraine has further exposed the disastrous effects of many nations’ dependence on food imports. “Considering huge population growth and urban migration in Nigeria, it’s gotten to a point where if we don’t do something now to farm more sustainably and preserve our produce, we will have a crisis in a short time,” says Chris.

Through SolarCool, Chris hopes to reduce and prevent food loss and waste and plans to deploy around 300 more cold rooms to strategic areas all over Africa in the next five years. The eventual goal, he says, is to help prevent malnourishment in Africa, especially for children. The company has also developed a large refrigerator and freezer for small farmers which can run on solar and are in the process of partnering with the Rural Electrification Agency of Nigeria, supported by the result-based financing of the World Bank, to deploy thousands as part of their access to energy program.

“My passion about agriculture is driven by the need to fight poverty and food insecurity, but also to stand as a role model for young Africans to see that agriculture

is an attractive profession,” says Chris. And SolarCool seems to further that goal with its ‘cooling as a service’ business model which allows customers to pay for only what they use as opposed to requiring capital upfront. “Our policy is that customers must pay for their last service before they can use it again. So, you can take your produce to the market and pay us after you’ve sold it,” says Chris.

Chris believes that Africa has at its disposal all the tools to achieve sustainable food security. And the one he’s offering manages to simultaneously find its way around the energy crisis, while saving on emissions and giving farmers the opportunity to grow their operations like never before, on their own terms.

VISION FOR THE FUTURE

“Our vision is to reduce and prevent food loss and food waste in the value chain. We are looking to deploy around 300 of these cold rooms in strategic areas all over Africa in the next five years. We have a vision of trying to prevent malnourishment, especially in children.”



ADVICE ON CIRCULARITY FOR ENTREPRENEURS

“My advice is for entrepreneurs to assess their business operations, supply chains, end-of-life, and waste disposal measures and build a blueprint for their circular economy.”

They should ensure it adds value to economic development and benefits businesses, society, and the environment. Having a vision of a circular economy plan that is regenerative by design and aims to gradually decouple growth from the consumption of finite resources is key.

