

Webinar: Insights from the Global LEAP Awards Off-Grid Cold Chain Challenge 30 June, 2020

1. How many systems are still running?

Each of the four finalists had one pilot system installed for this specific competition and all four are still running.

2. Which companies are still running post project?

See answer above. Ecozen Solutions, ColdHubs and FreshBox have expanded their businesses' and installed several new units. Ecolife received R&D funding to further develop their prototype unit.

3. Hello, I am not sure if I missed this but I would like to get financial info - capex, opex cost and return as a %

We are not able to disclose the specific financials of the participants. The program team would be happy to put interested parties in touch with the participating companies to inquire into specific costs.

4. On your pay as you go for storage how much were you charging and how did you formulate the rental costs?

We suggest reaching out to ColdHubs directly to better understand their pricing structure.

5. Which sizes of fridges did the 4 finalists use in this project?

The cold room sizes presented by the four finalists i.e. ColdHubs, Ecozen Solutions, FreshBox and Ecolife are as follows: 19.8 cubic meters, 20.7 cubic meters, 9.1 cubic meters and 22 cubic meters

6. How sustainable are the systems under local conditions (economic and climate) - is there scope for commercial viability, or will their introduction always be dependent upon external (public sector) grant/subsidy?

Additional field-testing over a longer period of time would be needed to determine how well the units hold up to local climatic conditions. Three out of the four units had relatively short repayment periods and could be deployed commercially. Public sector support will be needed in the near future in order to reach small holder farmers.

7. Can you talk a little about the cost / financial aspects of these projects? Besides initial funding issue, what are the main obstacles for companies to be able to financially sustain?

Customer acquisition costs are a real barrier for many of these companies. Commercial debt finance largely is not available for off grid cold storage solutions due to the nascency of the companies in this sector. Public funding is likely needed to prove out the repayment periods and customer use cases before the banking sector will extend

8. Vaccines generally require guaranteed temperatures within a narrow range. This implies high-quality (and therefore high-cost) refrigeration units. So are

external vaccine refrigeration units really viable for SSA - are there any practical examples?

Vaccine fridges were out of scope for this program and require different technological and business approaches.

9. Of the total market size you mentioned from a previous study, do you have any insight to how much has already been reached? Are some cold chain technologies / regions achieving higher market penetration than others? Is there a good "success" story to inspire the sector?

We do not have insight into how much of the addressable market has been reached but it is safe to assume the percentage is very low. We see a focus on larger markets in SSA such as Kenya and Nigeria and the cooling as a service model seems to be capable of scaling. Successful companies include Ecozen Solutions, InspiraFarms and ColdHubs.

10. Could you shed any more light on the "Technical issues with cold room" you described (slide 10)? Is it a mostly a question of ongoing maintenance (needs local skilled engineers), or also of suitability/adaptability of technologies to deliver in diverse local contexts?

Power system sizing to allow for proper cold room function was a major challenge for a number of participants. Highly variable levels of load demand, resulting from varying weather conditions, use patterns, and the difference in thermal density of the contents being cooled, make it challenging to design a broad cooling solution. As such, we observed cases where a participant is experimenting with different energy supply mixes or incurring additional costs procuring additional or replacing batteries, solar panels etc. Improper calibration and setting of remote monitoring sensors was also another noted issue. This negatively affects the functionality of the cold room, for example, where erroneous temperature readings are relayed which trigger the compressor to go either on or off. On an ongoing maintenance basis, issues on remote and monitoring sensors have the potential to present themselves where there is limited technical expertise for example, circuitry issues in the control unit box in case where different sensors keep failing or need regular re-adjustment.

11. What caused the 5 month delay in customs in Kenya?

The delay was caused by the failure of the shipping company that was used to interpret the importation requirements for cold storage equipment into Kenya.

12. In the case of off-grid cold storage, are the off-grid people consumers, or supplier of foods?

The customers of off-grid cold storage solutions are normally farmers or farmer cooperatives that want to store their produce and then sell it to off-takers.

13. Is there any insights from the companies on their consumers' use experience? Do most smallholder farmers use off-grid cooling to back up unreliable grid, displace diesel, or adopt a new solution to storage?

In most cases, farmers had no prior access to off grid cold storage. All four finalist installations were at locations that were connected to an unreliable grid. The cold storage unit was used as a new solution in each of these cases.

14. What are the local partnerships that have worked? With MFIs? SACCOs/farmers' cooperatives? Brokers of farm produce?

The only partnerships we observed that worked were with medium sized individual farms.

15. Drawing from the lessons E4I & CLASP learned from assisting the participants in the Cold Chain Challenge, I wonder whether you came to produce (even informally, I mean) a kind of "Baedeker" for the next generation of happy "users" of the Kenya Customs, or at least some hints & practical suggestions on how to best navigate their procedures (more: how to best plan since the very beginning and how to do things in advance to get then the procedure running as smooth and quick as possible)?

It is crucial to work with a logistics company that knows the Kenyan market well and is aware of what documents are needed at customs. We did not produce an importation guide for cold chain equipment under the scope of this project but have suggested that this be a part of future support to the sector.