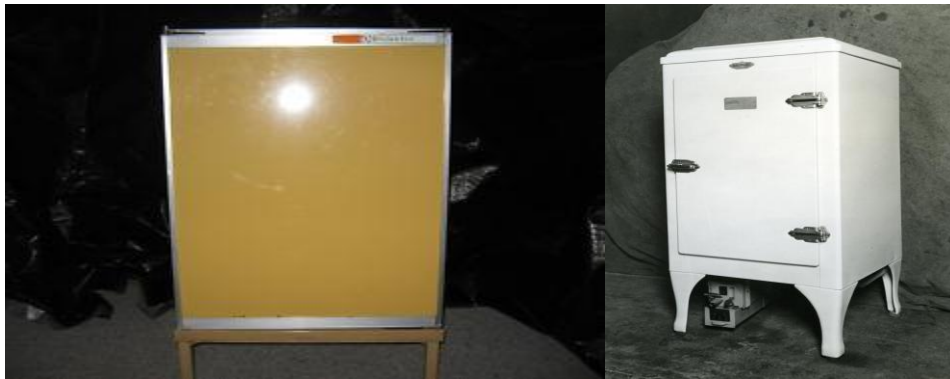


Solar Powered Refrigeration

By Geoffrey Kaila

The Problem

In areas where grid electricity is unreliable or not available at all, keeping food and vaccines for a long time is a very big challenge.



Kerosene Powered refrigerators

Kerosene or gas powered refrigerators are the most common alternatives for food and vaccine storage. Kerosene fridges burn about a liter or two per day, therefore requiring constant supply of kerosene which is costly, smelly and produces smoke. Kerosene smoke has been cited as the cause of a lot of respiratory illnesses in rural Zambia.

Using kerosene powered fridges has four major disadvantages

- Recurrent cost of kerosene.
- It is difficult to maintain accurate temperature in a vaccine fridge.
- Kerosene has a risk of causing fires
- Kerosene causes respiratory illnesses

The Solution

Solar powered refrigerators use photovoltaic solar modules which convert sunlight to electricity, the electricity then powers a DC (direct current) compressor which makes the fridge work. Storage batteries are used to store the converted electricity, for use at night when the solar panels are sleeping and during cloudy days when there is no sunshine.



Solar Powered Refrigerators

Compared to kerosene fridges, solar powered fridges have no recurrent costs, they can maintain accurate temperature on vaccine storage units since they employ electronic control devices and solar powered fridges have no risk causing fires since there is no naked flame involved. Make the switch now, start using sunshine for refrigeration.

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