



## Remote monitoring of solar powered cold room storages

### Background

In many regions, tons of food are thrown away due to a lack of cooling options. Solar cold stores are gaining more and more importance to minimize post harvest losses. Since these cold storage facilities are often deployed remotely in rural areas, managing and operating them is a particular challenge. The company W. Giertsen Energy Solutions offers turnkey solar cooling containers. For this, EcoPhi was appointed to provide the remote monitoring solutions.



### Key facts

- ✓ Remote Monitoring System for a solar cooling container in Kenya
- ✓ EcoPhi Inverter Box Premium including sensors
- ✓ Monitoring of the inverter and system performance
- ✓ Continuous measurement of solar radiation, temperature and air humidity



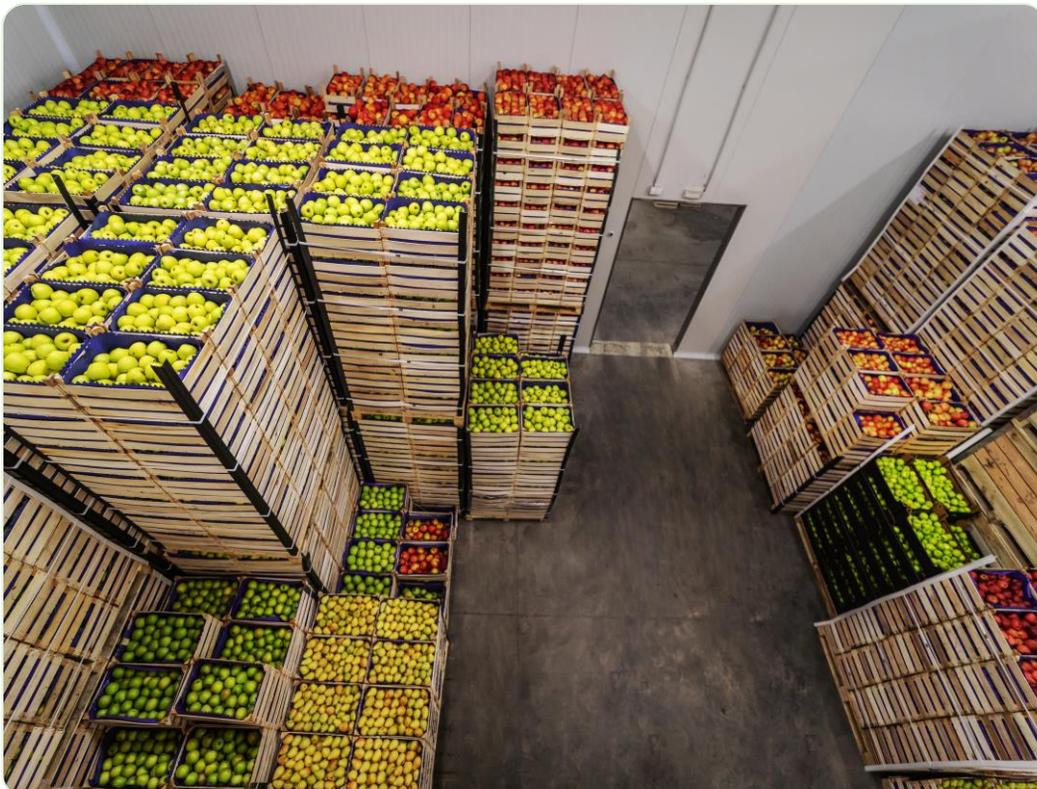


## What EcoPhi does

EcoPhi handles the entire monitoring of the solar cold storage container. In addition to the performance data of the inverter, other important parameters are captured using additional sensors. An irradiation sensor as well as several temperature and humidity sensors enable precise analyses of the system's performance.

All this can be well covered by the Inverter Box Premium. The inverter as the central component has been integrated and is complemented by the additional sensor values. EcoPhi thus provides a comprehensive picture and deep insights into the operation, use and performance of the unit.

The Inverter Box Premium sends the data via Wifi as well as via the mobile data network. This allows the container to be used even in remote regions. On the platform side, EcoPhi offers visualization of the individual systems, overview dashboard, data export and reports.





## How does the service help

A large number of systems can be monitored through the cloud platform. User-specific displays and specific reports allow the team to focus only on the critical assets.

The service makes it possible to gain insight into the system. When comparing multiple systems, weak spots can be identified and corrected. Quick failure analysis can be done, allowing technicians to prepare specifically, thereby saving travel time. Remote control of the inverter is also possible, so that troubleshooting is possible remotely and settings can be made without necessarily having to be on site. Alarms allow the right people to be notified quickly if problems are detected with the equipment.

A door sensor makes it possible to draw conclusions about how intensively the refrigerated container is being used. In addition, it can alert if the doors are left open for too long, as this has a negative impact on the performance of the overall system.



# EcoPhi

Renewables Engineering

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