Assessment of Refrigeration Load for a Solar Cold Storage System in Guwahati, Assam, India

Overview

This project evaluates the refrigeration load for a 10 MT solar-powered cold storage unit in Guwahati, Assam, aimed at reducing agricultural post-harvest losses.

Objectives

- Calculate the refrigeration load using thermodynamic principles.
- Design and optimize the area for solar collectors to meet the energy demands of the cold storage system.

Key Results

- **Total Energy Required**: 87,205.17 kWhr annually.
- **Solar Collector Area**: 195.04 sq.m required for sustaining the system.

How to Use

1. Input location-specific temperature and humidity data.
2. Calculate refrigeration load using provided equations.
3. Determine the necessary solar collector area.