

Farm Use of Baku Photovoltaic Container Exchange





Overview

Are container farms energy efficient?

The energy efficiency of container farms, a novel production system, is studied. Crop loads related to daily growth are factored in building energy modeling. 2 active and 2 passive energy-saving strategies are assessed under 8 climates. Container farms in colder areas show greater energy-saving potential.

Are container farms a sustainable food production system?

Container farms in colder areas show greater energy-saving potential. Container farms (CFs), integrating plant factories into mobile prefabricated buildings, are emerging as a novel decentralized food production system to fortify sustainable urban development. However, the high energy demand needs to be optimized to promote wider CF application.

Are energy-saving methods effective in plant factories?

Some effective energy-saving methods have been evaluated in plant factories, but not in CFs. Kikuchi et al. (2018) evaluated active measures such as solar photovoltaic power and recycling unused heat in real plant factories.

How to develop a plant energy sub-model?

First, the plant energy sub-model was developed by four steps: programming the mathematical model (Section 2.1) in Python, obtaining unknown variables through crop growth experiments (Section 2.2), processing experimental data (Section 3.1) and feeding dynamic plant loads into EnergyPlus (Section 2.3.2).



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