

Photovoltaic Container Hybrid Used in Kenyan Port Terminals





Overview

What is integrated energy system in a sustainable port?

This study focuses on an integrated energy system that involves wind energy, photovoltaic energy, hydrogen energy and energy storage in the sustainable port. The multiple energy sources are used to generate electricity to support container loading and unloading in vessels.

Does a port's energy system integrate wind and photovoltaic?

This paper studies a port's energy system integrating wind, photovoltaic, hydrogen energy. A two-stage model is formulated to incorporate uncertain demand, and electricity storage and sales. An adaptive large neighborhood search based metaheuristic is designed. Experiments are conducted to validate the proposed methodology and derive insights.

Which energy is used to generate electricity in a port integrated energy system?

In the port integrated energy system, wind energy and photovoltaic energy are used to generate electricity. In addition, wind energy and photovoltaic energy are used to produce hydrogen energy that is further used to generate electricity. Then, we describe the electricity generation from wind energy, photovoltaic energy, and hydrogen energy.

Is solar a viable option for shipboard power systems?

(Tick all that apply) Despite being a hard-to-abate industry, shipping is witnessing an acceleration in the adoption of clean technologies. Solar is emerging as a particularly attractive option for integration into shipboard power systems due to its abundance, reliability and zero-emission profile.



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