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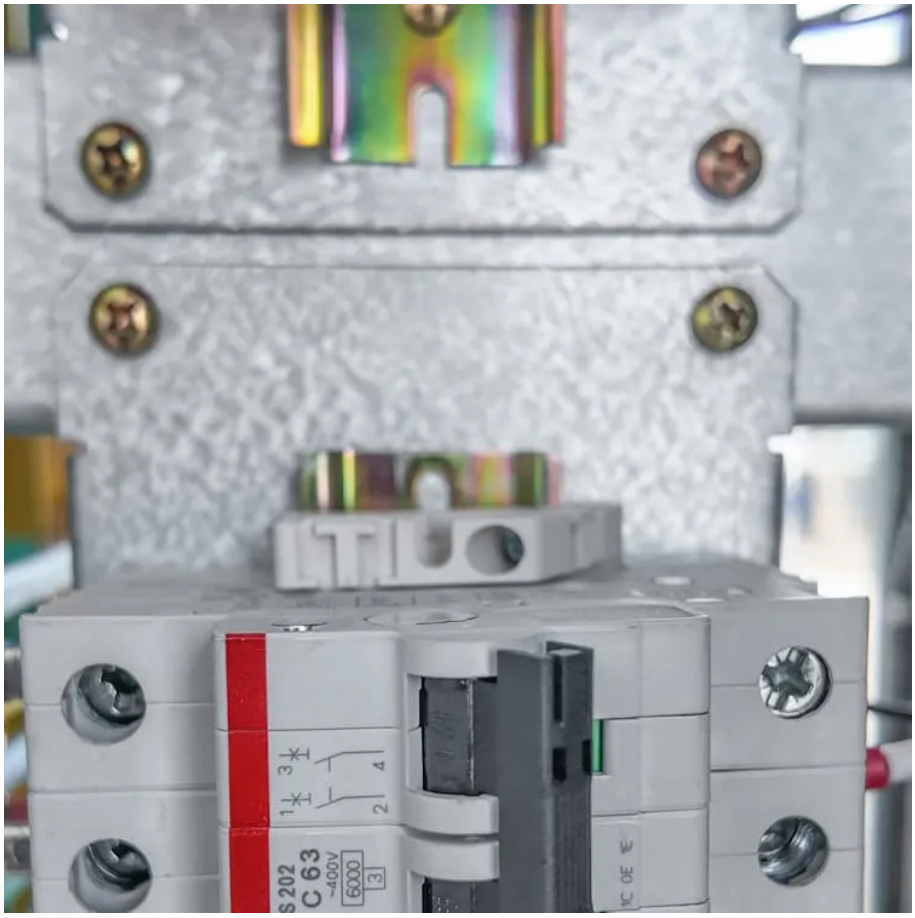
Park power generation and energy storage



Overview

What is a park-level integrated energy system?

Propose a two-stage optimization model. Park-level integrated energy systems (PIESs) have a unique role in developing communities' energy infrastructure in more economical and sustainable ways. The design and operation of a PIES depend on the energy demand of buildings, which could be significantly affected by climate change.

How do energy parks work?

Energy parks integrate multiple renewable energy source and storage solutions like batteries, and potentially co-locate with electricity consumers such as factories or data centers, all connected to the grid at a single point. They do this to speed up development, share costly onsite infrastructure, and directly connect complementary resources.

Are energy parks a solution to rising electricity demand?

Energy parks are an affordable, quick solution to rising electricity demand. As we seek to clean up our electricity supply and leverage zero-emission electricity to cut climate pollution from buildings, transportation and industry, we need to think outside the box to reach the speed and scale our times demand.

Does power generation increase with the capacity of a PGU?

As the capacity of PGU increases, the total annual power generation of PGU does not always increase. When the installed capacity of the PGU was optimal, the PGU utilization rate of each case was between 0.5 and 0.6. Cold temperatures increase heat demand.

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