SolarTech Power Solutions

Solar panels connect to on-site energy

Overview

These systems capture sunlight and convert it into electricity through the photovoltaic effect, where the PV cells within the solar panels generate a direct current (DC) that is then converted into alternating current (AC) by an inverter to be used by the electrical loads on site.How can on-site solar PV & energy storage improve sustainability?

To achieve sustainability goals while meeting the increasing electricity demands of electrification, organizations are pairing on-site solar PV generation with on-site energy storage. These systems, which are considered as "behind-the-meter" (BTM) systems, allow facilities to maximize the benefits of on-site renewable generation.

Is on-site solar power a necessity?

In some markets, on-site generation is a necessity if a company wishes to get a facility through the planning process. And, at a time of increasing energy costs, every penny counts. "On-site solar power is one of the lowest-cost sources of clean energy but can have some limitations," says Iron Mountain's Pennington.

Can a solar system connect to a campus?

Solar systems can connect to base building systems or be connected directly to the main electrical bus for a campus, but it's important to consider how this additional power source can be disconnected or isolated when needed.

Can on-site storage be used alongside solar PV?

If a utility restricts the exports from a facility to the grid, the use of on-site storage alongside solar PV can provide a solution to avoid costly infrastructure upgrades, thus increasing the feasibility of larger on-site PV installations.

What are the benefits of an on-site solar PV system?

For the scenario represented in the graph, an on-site solar PV system allows

the facility to reduce the amount of electricity drawn from the grid during the middle of the day. Increasing the amount of solar PV production on-site can provide additional cost and emission reductions and resiliency benefits for facilities.

Can solar panels be installed over a data Hall?

"Installing solar panels often requires roof penetrations to secure them to the building. These holes should not be made over data hall areas, as they may increase the risk of roof leaks." Weight is a consideration for any rooftop solar deployment.

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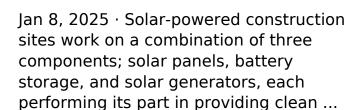

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