

SolarTech Power Solutions

Solar on-site energy outdoor energy storage field



Overview

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.

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.

What is thermal energy storage (TES)?

In Figure 5, the addition of thermal energy storage (TES) allows the facility to use the on-site solar PV to charge both the TES and BES instead of exporting to the grid or curtailing the excess generation. Also, the addition of TES further reduces peak demand from 70 kW to less than 50 kW.

Should solar PV production be reduced on-site?

Increasing the amount of solar PV production on-site can provide additional cost and emission reductions and resiliency benefits for facilities. However, the additional generation that can result from larger systems during peak daylight hours must be exported or managed through curtailment on-site.

Is solar photovoltaic electricity a viable energy source?

The cost of solar photovoltaic electricity has been divided by 10 in the last 12 years, making it one of the most competitive energy sources in the world today. It is now possible to dispose one's own autonomous energy ecosystems that can continuously meet up to 100% of one's own electricity needs.

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