



# 140 kWh solar energy storage system

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The 2022 Building Energy Efficiency Standards (Energy Code) has battery storage system requirements for newly constructed nonresidential buildings that require a solar photovoltaic (solar PV) system (2022 Nonresidential Solar PV Fact Sheet).

The solar PV requirements apply to buildings where at least 80 percent of the total floor area (conditioned or not) is made up of building types listed in Table 140.10-B, including mixed occupancy buildings. These include:

The required battery storage system size is based on the solar PV system size determined for building types listed in Table 140.10-B, including mixed-occupancy buildings.

Prescriptive Compliance Section 140.10(b) of the 2022 Energy Code has two equations to calculate the total battery capacity for building types listed in Table 140.10-B using the solar PV system size from Equation 140.10-A.

The total capacities of a battery storage system shall be no less than those calculated from the equations above. For mixed use buildings that contain the building types listed in Table 140.10-B, the capacities should be determined for each building type, including its support areas, then added together for the entire mixed use building.

Performance Compliance The standard design battery storage system size is determined using the prescriptive solar PV size requirement for the proposed design, regardless of the fuel type. A battery storage system can be installed as a standalone system for additional compliance credit, when not required prescriptively. Also, a battery system larger than the prescriptive requirement can be used to tradeoff for a smaller solar PV system.

The installed battery must meet or exceed requirements in the 2022 Reference Joint Appendix JA12 and be manufacturer-certified to the California Energy Commission (CEC). A list of certified batteries is available on the CEC website.

Yes. The battery storage system is self-certified by the manufacturer to the CEC to meet the JA12 qualifications - PDF to comply with applicable prescriptive and performance requirements in the Energy Code. For more information, please visit the manufacturer certifications of building equipment Battery and Energy Storage Systems webpage.

As we covered in our recent blog, Overview of 2022 Title 24, Part 6 Changes, the California Energy Code is implementing numerous changes on January 1, 2023. One of the biggest is a requirement for the installation of PV Systems and Battery Storage on new non-residential projects.

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Previously, the code required that projects designate roof areas for future solar installations (Solar Ready) and reserve space for inverters, metering equipment, and pathways for conduits associated with a future PV system installation. Building on these previous requirements, Section 140.10 now defines new provisions, including an expanded sizing provision, called SARA (Solar Access Roof Area).

SARA includes the building's roof area (capable of structurally supporting a PV system), and the roof areas of all covered parking areas, carports, and other newly constructed structures, capable of supporting a PV system.

For this code cycle, only new construction is affected, and only certain types of buildings need to meet the new requirements. The following lists which project types are affected:

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