

BLUEPRINT

CALIFORNIA ENERGY COMMISSION
EFFICIENCY DIVISION

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The CEC welcomes feedback on Blueprint. Please contact the editor at Title24@energy.ca.gov

CalAPP Program Grants

The California Automated Permit Processing (CalAPP) program application deadline is May 1, 2023. Applying reserves the grant funds for California cities and counties to establish online solar permitting, such as SolarAPP+. The jurisdiction has until 2027 to complete the grant activities and receive reimbursement. As of March 1, 2023, more than \$6 million in grant awards are approved for 110 jurisdictions.

If the jurisdiction has already adopted an online solar permitting platform, there still may be opportunities to receive funding. Some acceptable grant activities include:

- Training events for staff and local installers.
- Maintenance costs, which can include adding support for permitting of energy storage paired with solar energy systems.
- Up to three years of subscription costs for the software database that supports the newly adopted platform.

Please review the solicitation manual and terms and conditions before completing an application. Visit the [CalAPP program webpage](#) for program documents, common questions, and the application form.

SARA Calculations for PV

The California Energy Commission (CEC) has posted a regulatory advisory to clarify requirements in the 2022 Building Energy Efficiency Standards (Energy Code) for the solar access roof area (SARA) calculations. When there is another part of the California Building Code that requires roof area to be left clear, those areas do not need to be included in SARA. See the [SARA regulatory advisory](#) for more information.

Battery Sizing Examples

The 2022 Energy Code [§ 140.10](#) and [§ 170.2\(g-h\)](#) have prescriptive requirements for solar photovoltaic (PV) and battery storage systems for newly constructed nonresidential and high-rise multifamily buildings, respectively. The minimum

PV capacity (W/ft² of conditioned floor area) is determined using **Equation 140.10-A** or **Equation 170.2-D** for each building type shown in **Table 140.10-A** or **Table 170.2-U**. The battery sizing is determined based on the PV capacity calculated for each building type.

However, when the PV capacity is determined by multiplying the solar access roof area (SARA) by 14 watts per square foot, it yields the required PV capacity for the whole building. To determine the battery storage requirements, the whole building PV capacity needs to be allocated to each building type

shown in **Table 140.10-B** or **Table 170.2-V**. The CEC recommends using the percentage allocations that occur when the PV capacity is determined using the PV equation as shown in Figure 1. The CEC recommends using the SARA-based PV capacity percentage allocations to determine the battery capacity requirements for each building type as shown in Figure 2.

The example in Figure 1 and Figure 2 uses a hypothetical total PV capacity per the equation of 699.64 kWdc and SARA-based PV capacity of 296.42 kWdc for a mixed-use, newly constructed building.

Figure 1: Example of Allocations for SARA-Based PV Capacity

Building Type	PV per Equation (kWdc)	Percentage of PV (%)	PV share with SARA (kWdc)
High-rise multifamily	643.95	92.04	272.82
Retail	43.17	6.17	18.29
Office	12.52	1.79	5.31
Total	699.64 kWdc	100%	296.42 kWdc

Figure 2: Example of Allocations for SARA-Based Battery Capacity

Building Type	Percentage of PV (%)	PV share with SARA (kWdc)	Energy Capacity (kWh)	Power Capacity (kWdc)
High-rise multifamily	92.04	272.82	288.30	70.93
Retail	6.17	18.29	19.33	4.76
Office	1.79	5.31	9.15	2.23
Total	100%	296.42 kWdc	316.78 kWh	77.92 kWdc

For additional help with the Energy Code, see Energy Code Ace's **online offerings** of trainings, tools, and resources.



Demand Response Controls

The Energy Code has certification requirements for demand-responsive controls in **§ 110.12(a)**.

For demand-responsive controls that comply according to **§ 110.12(a)1A**, the certified OpenADR 2.0 Virtual End Node (VEN) can be incorporated into a networked system of devices allowing the VEN to communicate with multiple devices in the network. Alternatively, each demand-responsive control device in the building could be a certified VEN. Devices downstream of the certified OpenADR 2.0 VEN do not need to be certified to **§ 110.12(a)1**. The OpenADR 2.0 VEN must be installed on-site as part of the demand-responsive control system and at time of inspection.

For demand-responsive controls that comply according to **§ 110.12(a)1B**, the demand-responsive control system must be certified to the CEC as being capable of automatically responding to a certified OpenADR 2.0b VEN. The VEN may be separately located on-site, off-site, or in the cloud, and is not required to be in operation at the time of permitting. The demand-responsive control

must be programmed or configured so any test control strategy defined in the building code can be deployed at the time of permitting.

The 2022 Energy Code **§ 110.12(a)2** requires that all demand-responsive controls must be capable of communicating with the VEN using a wired or wireless bidirectional communication pathway. The communication pathway to the VEN must be installed or established to comply. See the **2022 Nonresidential and Multifamily Compliance Manual Appendix D, Section 1** for more information.

To verify demand-responsive controls are certified to the CEC, visit the **demand responsive lighting control webpage** or the **occupant controlled smart thermostats webpage**.

ENERGY STANDARDS

HOTLINE

Available to help with Energy Code (Title 24, Part 6) questions.

✉ EMAIL
title24@energy.ca.gov

☎ CALL
800-772-3300 | 916-654-5106
Toll free in CA | Outside CA

HOURS 8 a.m.–12 p.m. and 1 p.m.–4:30 p.m.

Compliance Software

Approved updated versions of the 2022 Energy Code compliance software are available on the **2022 Energy Code compliance software webpage**.

- For single-family buildings
 - CBECC-Res 2022.2.1
 - EnergyPro 9.1
- For nonresidential and multifamily buildings
 - CBECC 2022.2.1
 - EnergyPro 9.1

All permit applications submitted on or after January 1, 2023, need to comply using software and forms approved for the 2022 Energy Code. The previous software versions CBECC 2022.1.0 and CBECC-Res 2022.1.0 are expired. Please visit the **compliance software webpage** for the latest versions of the software and software expiration dates.

Q&A

Solar Ready

Does a newly constructed accessory dwelling unit (ADU) need to comply with the solar ready mandatory requirements in § 110.10 if the project is not required to install PV?

No. Per **§ 110.10(a)1** solar ready applies to new single-family homes located in subdivisions of ten or more. Therefore, solar ready is not applicable to a newly constructed ADU on an existing lot.

Single-Family Energy Storage Ready

Could a 200 amp panel meet the mandatory energy storage system (ESS) ready requirements in the 2022 Energy Code § 150.0(s)1B?

Yes. A 200 amp panel could meet the requirement if the busbar rating is 225 amps and it is clearly marked on the panel. However, if there is no specific busbar rating on the panel, the 200 amp panel will not meet the requirement, since the busbar rating will be the same as the panel rating. Panels must also meet applicable requirements in the California Electrical Code.

Does an ADU need to have its own 225 amp panel if the ADU is built with a subpanel connected to the existing main residence?

No. The subpanel to the ADU from the main panel could meet **§ 150.0(s)1B**, as long as the main panel has the 225 amp busbar rating.

Does installing a battery storage system in a newly constructed single-family home meet the mandatory ESS ready requirements in § 150.0(s)?

Yes. If the newly built home's energy storage system meets all the necessary wiring and other electrical components required to support a fully operating energy storage system, this will satisfy the mandatory requirements in **§ 150.0(s)**.

Nonresidential Dehumidifiers

Does a commercial dehumidifier need to meet federal standards to comply with the 2022 Energy Code dehumidification requirements in § 120.6(h)1A?

Yes. A commercial dehumidifier is subjected to federal regulations. The unit must meet all minimum requirements of 10CFR430.32(v)2 when tested with 10CFR430.32(z) and 10CFR430 (Subpart B) Appendix X or X1 as specified by the product description per **§ 120.6(h)1A**.

Is there a list to verify compliance for commercial dehumidifiers?

No. Commercial dehumidifiers do not need to be listed in the U.S. Department of Energy compliance certification database. Additionally, the CEC does not maintain a list for commercial dehumidifiers, and there are currently no California regulations requiring the certification of these units to the Title 20 appliance database (MAEDbS).

Nonresidential and Multifamily Roof Alterations

Is a full roof recoat exempt from the 2022 Energy Code insulation requirements in § 141.0(b)2Bii and § 180.2(b)1Aiii?

Yes. If a roof has an existing coating, the application of a top coating for renewal or maintenance (roof recoat) is exempt from the low-sloped roof insulation requirements of **§ 141.0(b)2Bii** and **§ 180.2(b)1Aiii**. However, when a roof recoat layer is part of a roof recover as defined in **§ 100.1**, it is required to meet the insulation requirements of **§ 141.0(b)2Bii** and **§ 180.2(b)1Aiii**.

FOR MORE INFORMATION

Online Resource Center (ORC):
www.energy.ca.gov/orc

Home Energy Rating System (HERS):
www.energy.ca.gov/HERS

Acceptance Test Technician Certification Provider Program (ATTCP): www.energy.ca.gov/ATTCP

2022 Approved Compliance Software:
<https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency-1>

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Blueprint newsletter serves as a resource to assist stakeholders in complying with the Energy Code. It does not provide legal advice. Please refer to California Code of Regulations, Title 24, Parts 1 and 6 for specific requirements.



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