



SUSTAINABILITY COMMISSION
Standing Subcommittee on Solar and Green Building
CITY OF PALM SPRINGS, CALIFORNIA

www.palmsprings-ca.gov www.yoursustainablecity.com

April 2, 2019
11:00 AM

REGULAR
MEETING AGENDA

City Hall
Economic Development
Conference Room
 3200 E Tahquitz Canyon Way
 Palm Springs, CA 92262

COMMISSION SUBCOMMITTEE	
David Freedman	Jim Flanagan
John Goins	

Staff representatives: Patrick Tallarico, Manager, Office of Sustainability; Dan DeGarmo, Program Coordinator.

City of Palm Springs Vision Statement: Palm Springs aspires to be a unique world-class desert community, where residents and visitors enjoy our high quality of life and a relaxing experience. We desire to balance our cultural and historical resources with responsible, sustainable economic growth and enhance our natural desert beauty. We are committed to providing responsive, friendly, and efficient customer service in an environment that fosters unity among all our citizens.

Please **MUTE OR TURN OFF** all audible electronic devices for the duration of this meeting. Thank you!

- CALL TO ORDER**
- ROLL CALL**
- ACCEPTANCE OF AGENDA**

PUBLIC COMMENTS: This time is for members of the public to address the Sustainability Commission on Agenda items and items of general interest within the subject matter jurisdiction of the Commission. The Commission values your comments but, pursuant to the Brown Act, cannot take action on items not listed on the posted Agenda. Three (3) minutes are assigned for each speaker.

- A. Reach Code Opportunities. (10 MINUTES)**
- B. EV Charger Policy. (10 MINUTES)**
- C. Solar Policy For Accessory Dwelling Units. (10 MINUTES)**
- D. Desert Community Energy Update. (10 MINUTES)**
- E. Energy Code Training Programs. (10 MINUTES)**
- F. ADJOURNMENT - The meeting of the Sustainability Commission Standing Subcommittee on Solar and Green Building will adjourn to a future meeting date to be determined.**

It is the intention of the City of Palm Springs to comply with the Americans with Disabilities Act (ADA) in all respects. If, as an attendee or a participant at this meeting, you need special assistance beyond what is normally provided, the City will attempt to accommodate you in every reasonable manner. Please contact the Office of the City Clerk at (760) 323-8204 at least 48 hours prior to the meeting to inform us of your needs and to determine if accommodation is feasible.

Pursuant to G.C. Section 54957.5(b)(2) the designated office for inspection of records in connection with the meeting is the Office of Sustainability, City Hall, 3200 E. Tahquitz Canyon Way, Palm Springs, CA 92262. Agenda and staff reports are available on the City's website www.palmspringsca.gov. If you would like additional information on any item appearing on this agenda, please contact the Office of Sustainability at 760-323-8214.

AFFIDAVIT OF POSTING: I, Patrick Tallarico, Manager, Office of Sustainability of the City of Palm Springs, California, certify this Agenda was posted at or before 5:00 p.m. on Thursday, March 28, 2019, as required by established policies and procedures.

Patrick Tallarico, Manager, Office of Sustainability



MEMORANDUM

DATE: APRIL __, 2019

SUBJECT: SOLAR PV REQUIREMENTS FOR ACCESSORY DWELLING UNITS

TO: Patrick Tallarico, Manager, Office of Sustainability
Flinn Fagg, Director, Department of Planning Services

FROM: David Freedman, Sustainability Commissioner; Solar / Green Building
Committee Member

SUMMARY:

During City Council's discussion at its meeting on February 20, 2019, of an ordinance to amend the Zoning Code provisions on accessory dwelling units (ADUs) to conform to recent state law, Council asked for input from the Sustainability Commission on whether the City should adopt a policy on solar photovoltaic (PV) systems for ADUs, as is the case for new residential construction. Although the question of whether ADUs must include PV systems is covered by mandatory provisions of the 2019 Energy Code that will enter into effect on January 1, 2020, there may be opportunities for a City policy to encourage such systems when approving an ADU.

BACKGROUND:

At its meeting of February 20, 2019, Council voted to introduce Ordinance 1981, which amends various sections of the Zoning Code relating to ADUs in residential zones. The intent of the Ordinance, which Council adopted on second reading at its meeting of March 6, 2019, is to encourage the creation of ADUs in the City's single-family and multiple-family residential zones and conform the Zoning Code to the State's ADU law, Government Code Section 65852.2. One of the key features of the Ordinance, as codified in Zoning Code Section 93.23.14(I), is that an application for an ADU must be approved in a ministerial manner without discretionary review or a hearing if a complete application is submitted that demonstrates that the ADU complies with the requirements of Section 93.23.14.

During the discussion of the ordinance on first reading, Mayor Moon asked Director Fagg whether there was any requirement to include solar panels on ADUs. Director Fagg responded that there was no such requirement in the Ordinance, and this was a policy

question for Council to consider. Following further discussion among Councilmembers, they referred the question to the Sustainability Commission's Solar / Green Building Committee for further consideration.

ANALYSIS:

ADUs, like other buildings, are regulated under the state's building codes, including the Energy Code. As the state ADU law encourages cities to adopt ADU ordinances, the California Energy Commission, which administers the Energy Code, has been active in providing guidance on ADU requirements under the Energy Code. In Issue 122 (January – March 2018) of its quarterly Blueprint newsletter, the Energy Commission answered a Q&A on whether ADUs are considered additions, alterations or newly constructed buildings. In the 2016 and 2019 Energy Codes, these terms are defined as follows:

- Newly constructed building - A building that has never been used or occupied for any purpose.
- Addition - Any change to a building that increases conditioned floor area and conditioned volume. Newly conditioned space is any space being converted from unconditioned to directly or indirectly conditioned space. Newly conditioned spaces must comply with the requirements for an addition.
- Alteration - Any change to a building's water-heating, space-conditioning, lighting, or electrical power distribution systems or envelope that is not an addition.

In a June 2018 webinar on Energy Code standards for ADUs, Commission staff identified five separate scenarios for ADUs:

- When an existing attached unconditioned structure (like a garage) is converted to an ADU, it is an addition.
- When an ADU is built new sharing a common wall with the existing house, it is an addition.
- When an existing detached unconditioned structure (like a garage) is converted to an ADU, it is an addition.
- When an ADU is built new and is detached from the existing house, it is a newly constructed building. This building would need to meet the requirements as a new building.
- Converting existing conditioned space (i.e. a conditioned basement) into an ADU is an alteration. Compliance may be triggered only if altering water-heating, space-conditioning, lighting or electrical power distribution systems or envelope.

The 2019 Energy Code for the first time requires PV systems on all low-rise (i.e., three stories or less) residential buildings. An ADU that is built new and is detached from the existing home will be treated as a newly constructed building and thus subject to the PV system prescriptive standards of Section 150.1(c)14 or the alternative performance standards of 150.1(b)1. Section 150.1(c)14 provides for certain exceptions, such as when the effective annual solar access is restricted to less than 80 contiguous square feet by shading from existing permanent natural or manmade barriers (e.g., the existing house structure). Other exceptions allow for a smaller sized system than would otherwise be

required in Climate Zone 15, where Palm Springs is located, because of shading, or for a dwelling unit plan that is approved by the planning department prior to January 1, 2020 with an available solar ready zone between 80 and 200 square feet.

However, under Section 150.2, PV systems will not be required for an ADU that is either an addition or an alteration. This is because under Exception 7 to Section 150.2(a), PV systems, as specified in Section 150.1(c)14, are not required for additions. PV systems are not among the requirements for alterations under Section 150.2(b).

Accordingly, the only situation where a PV system may be required for an ADU is when it is a newly constructed detached building and none of the exceptions to Section 150.1(c)14 apply. In all other cases, the 2019 Energy Code does not require a PV system for an ADU. It should be noted that any local requirement that exceeds the Energy Code (e.g., mandating a PV system on an ADU that is an addition or alteration) must be approved by the Energy Commission and accompanied by a cost-effectiveness study.

In the absence of a requirement for a PV system for an ADU that is an addition or alteration, the City Council may wish to consider a policy that encourages such a system, either for the ADU alone or for ADU and the existing house (if it does not already have a PV system) and the ADU. The City's existing solar policy adopted by Council in January 2018, which expresses a preference for PV systems on new single-family and multi-family residential construction as a condition of approval of a discretionary application, could be used as a framework for a request to construct an ADU that does not conform to the requirements of Zoning Code Section 93.23.14 and thus would require a variance under Section 94.04.00 of the Zoning Code. For conforming ADUs, which are ministerially approved and thus do not involve approval of a discretionary application, Council may wish to consider an incentive, such as partial or complete waiver of permit fees when the applicant installs a PV system on the ADU and/or the existing house. The fiscal impact of that waiver would require further study.

Energy Code for ADUs

Christopher Olvera
California Energy Commission
Outreach and Education Unit



CABEC Brown Bag Webinar

June 20, 2018



Presenter



Christopher Olvera is the supervisor of the California Energy Commission's Outreach and Education Unit. He has over 15 years of experience working at the Energy Commission. He began work as a student on the Energy Standards Hotline, and has served in several other positions supporting a variety of programs, including: Home Energy Rating System (HERS), Acceptance Test Technician Certification Provider (ATTCP), low interest Energy Conservation Assistance Act (ECAA) loans, Bright Schools, and Clean Energy Jobs Act (Proposition 39).



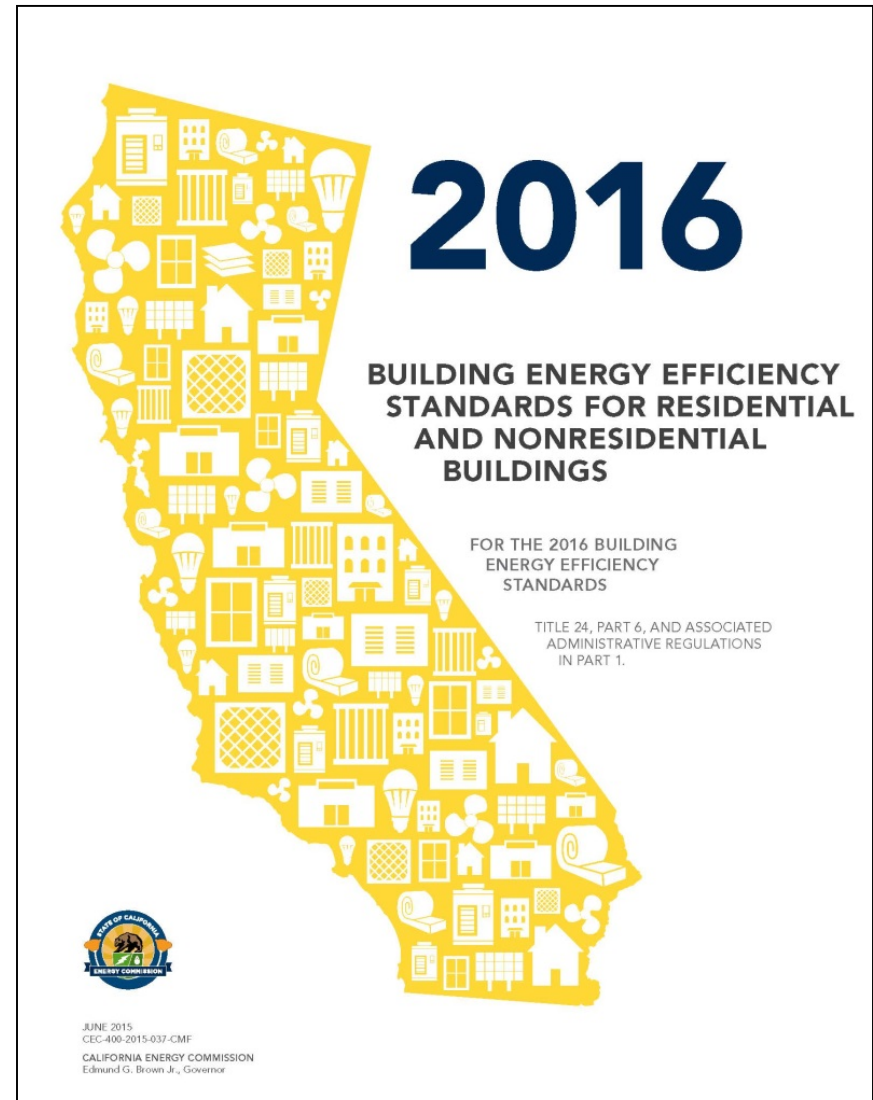
Goals

- Define additions vs. newly constructed buildings per the Energy Code
- Clarify when an ADU is an addition or a newly constructed building
- Specify the prescriptive requirements for additions
- Identify workarounds for modeling additions under the performance approach



Current Energy Code

- **2016 Building Energy Efficiency Standards**
 - Title 24, Part 6 (Energy Code)
 - In effect since January 1, 2017
- **ADUs:**
 - Within the scope of Part 6
 - Requirements will depend on construction/project type





What is an ADU?

- **Accessory Dwelling Unit**

- A secondary dwelling unit on a residential lot

- Can be attached, detached, a conversion

- Living space for another “family”

- **Also referred to as:**

- In-Law unit

- Granny unit/flat





Other ADUs

- **Covered by Part 6**
 - JADUs
 - Efficiency units
- **NOT covered by Part 6**
 - HUD labeled/HCD regulated housing
 - Manufactured/factory-built homes
 - Mobile homes





Energy Code Definitions

- **Newly constructed building**
 - A building that has never been used or occupied for any purpose
- **Addition**
 - Any change to a building that increases conditioned floor area and conditioned volume
 - **Newly conditioned space** – any space being converted from unconditioned to directly or indirectly conditioned space. Newly conditioned spaces must comply with the requirements for an addition.
- **Alterations**
 - Any change to a building's water-heating, space-conditioning, lighting, or electrical power distribution systems, or envelope that is not an addition.



Defining ADUs

- **Detached** – separate from the existing dwelling, no common wall shared
 - Newly constructed building, or an addition (newly conditioned space)
- **Attached** – connected to the existing dwelling by a common wall
 - Addition (traditional) or as newly conditioned space
- **Conversion of existing space**
 - Addition (as newly conditioned space), or an alteration



Scenario I



- Converting an existing attached unconditioned structure (like a garage) to an ADU
- Is this ADU an addition or a newly constructed building?
 - This is an addition (as newly conditioned space)



Scenario II

- A new ADU is built sharing a common wall with an existing home
- Is this ADU an addition or a newly constructed building?
 - This is an addition (traditional)





Scenario III

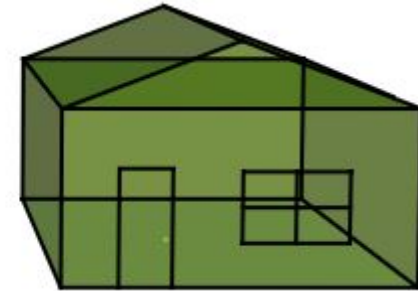
- Converting an existing detached unconditioned structure to an ADU
- Is this ADU an addition or a newly constructed building?
 - This is an addition (as newly conditioned space)





Scenario IV

- An ADU is built new and is detached from the existing home
- Is this ADU an addition or a newly constructed building?
 - This is a newly constructed building





Scenario V

- Converting existing conditioned space (i.e. a conditioned basement) into an ADU
- Is this ADU an addition or a newly constructed building?
 - Neither! This is an alteration.
 - Compliance may be triggered only if altering water-heating, space-conditioning, or lighting systems, or envelope



Addition Requirements

Envelope

- Additions $\leq 700 \text{ ft}^2$ have less stringent requirements:
 - Meet mandatory R-22 ceiling insulation (HPA not required)
 - [Extension](#) of wood frame walls allowed to be same dimensions
 - Existing walls (Scenarios I & III) treated as wall extensions
 - Cool roof not required for additions $\leq 300 \text{ ft}^2$
 - Climate Zones 2, 4, and 6–16
 - Allowed 60 ft^2 of west facing fenestration
 - For additions $\leq 700 \text{ ft}^2$ and $> 400 \text{ ft}^2$, total allowed fenestration is greater of: 120 ft^2 or 25% of CFA
 - For additions $\leq 400 \text{ ft}^2$, total allowed fenestration is greater of: 75 ft^2 or 30% of CFA



Addition Requirements *cont.*

HVAC

- New space-conditioning systems (ducting and equipment)
 - Insulation
 - HERS testing
 - Filtration
- Ventilation (ASHRAE 62.2)
 - Local
 - Whole building (newly constructed buildings, and additions > 1,000 ft²)





Addition Requirements *cont.*

Water Heating

- Gas or propane instantaneous $\leq 200,000$ Btu/hr
- Gas or propane storage $\leq 105,000$ Btu/hr
 - Requires QII and/or other HERS
- Electric or heat pump allowed only if no natural gas is connected to the building





Addition Requirements *cont.*

Lighting

- Newly installed/replaced hardwired lighting, indoor and outdoor, must be high efficacy
 - Table 150.0-A or JA8-2016
- JA8-2016-E required for:
 - Light sources in recessed downlights and enclosed luminaires
- JA8 light sources must have a dimmer or vacancy sensor





Performance Approach

- May be used to demonstrate compliance for ADUs
- Standard design based on:
 - Addition alone: newly constructed building (150.1)
 - E+A+A: addition requirements detailed earlier (150.2)
- Trade offs are permissible, but not for mandatory measures



Workaround I

Modeling wall extensions (& detached ADU walls)

- Remember, including Scenarios I & III
- Require R-15 for 2x4, and R-19 for 2x6
 - No continuous insulation
- BUT, model as HPW
 - Climate zones 1 -5, & 8-16
 - U-0.051 = R-19 in 5½ in. cavity (2x6 @ 16 in. O.C.), R-5 sheathing, synthetic stucco
 - Climate zones 6, 7
 - U-0.065 = R-15 (2x4 @ 16 in. O.C.), R-3.8 sheathing, synthetic stucco



Workaround II

Modeling E+A+A for detached ADUs

- This approach requires a connection (wall) between the existing building and addition
- Need to create 1 ft² of interior wall

Interior Wall Data

Currently Active Wall:

Interior Wall Name:

Belongs to Zone:

Is a Party Surface

Zone on Other Side:

Construction:

Wall Area: ft²



Modeling Questions?

Please email them to:

- CBECC-Res

➤ cbec.res@gmail.com

- EnergyPro

➤ support@energysoft.com

- Wrightsoft Right-Energy Title 24

➤ support@wrightsoft.com



ADU Resources

- **HCD**

- <http://www.hcd.ca.gov/policy-research/AccessoryDwellingUnits.shtml>

- **CBECC Software FAQs**

- http://www.bwilcox.com/BEES/docs/CBECC-Res_FAQs.pdf

- **ECA Decoding ADUs Training & Handout**

- <https://energycodeace.com/content/training-ace/courseId=23941>

- **ECA “Coffee & Code” ADU Training**

- <https://energycodeace.com/content/training-ace/courseId=23809>



Online Resource Center (ORC)

Online Resource Center

The Online Resource Center is provided to assist the building community and enforcement agencies with Building Energy Efficiency Standards (Energy Standards) compliance. Energy Standards apply to newly constructed buildings, as well as additions and alterations for existing buildings. Presently, the Energy Standards are updated every three years.

To assist in the compliance process, we provide compliance documents and free Public Domain Compliance Software programs for commercial and residential buildings. Training and links to the Energy Standards and compliance software are available on the Energy Commission website and at utility training centers throughout the state. To help direct you to an appropriate resource, Energy Commission and external resource information are provided on this page.

Building Energy Efficiency Standards



2016
Energy Standards



2013
Energy Standards



Past
Energy Standards

Energy Standards Information and Training Materials



Overview



Commissioning



Covered Processes

Follow



Energy Standards Questions?

[Energy Standards Hotline](#)

Energy Standards Booth Handouts

[Handouts - 02212017 \(zip file, 507 mb\)](#)

[Help with the zip file](#)

Forms

[2016 Residential Compliance Forms](#)

[2016 Nonresidential Compliance Forms](#)

Trainings & Events

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Outreach & Education Schedule](#)

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Blueprint

- Email Newsletter
- Published quarterly
- Clarifications on frequently asked questions



Issue 115 | March - April 2016

BLUEPRINT

California Energy Commission
Efficiency Division

In This Issue

- New Mechanical Acceptance Test Technician Certification Provider
- Small Duct High Velocity Space Conditioning Systems
- Demand Responsive Controls for Additions and Alterations
- Residential Water Heating Options
- EnergyPro Version 7.0
- Alternative Path for Complying with Lighting Alteration Requirements
- Lighting Standards to Save Californians More Than \$4 Billion in Electricity Costs
- Q&A
 - Illuminated Areas
 - Track Lighting Alterations
 - Compliance Documents
 - Townhouses and Duplexes
 - Commissioning
- Energy Code Ace Training Schedule

New Mechanical Acceptance Test Technician Certification Provider

On January 13, 2016, the California Energy Commission (Energy Commission) approved the National Environmental Balancing Bureau (NEBB), as a mechanical Acceptance Test Technician Certification Provider (ATTCP).

This gives NEBB the authority to train, certify, and oversee acceptance test technicians (ATTs) and their employees. NEBB will train and certify ATTs to perform all 17 mechanical acceptance tests required in the 2013 *Building Energy Efficiency Standards* (Energy Standards).

The Conditions of Approval are available for review in the **Executive Director's recommendation**.

For more information, please visit: <http://energy.ca.gov/title24/attcp/>.

Small Duct High Velocity Space Conditioning Systems

Small duct high velocity (SDHV) systems may be used to comply with the Energy Standards. The following is a list of requirements with direction on how SDHV systems can comply with the low-rise residential requirements of the Energy Standards.

Mandatory Requirements

United States Department of Energy Standards: SDHV systems manufactured on or after January 23, 2006, and before January 1, 2015, must have a minimum Seasonal Energy Efficiency Ratio (SEER) of 11, and a minimum Heating Seasonal Performance Factor (HSPF) of 6.8.

SDHV systems manufactured on or after January 1, 2015, must have a minimum SEER of 12, and a minimum HSPF of 7.2.

Energy Standards:

Section 150.0(m)13B - Single zone systems that use forced air ducts to supply cooled air to an occupiable space must either meet minimum airflow and fan efficacy requirements, or meet the return duct and grille sizing requirements of **TABLES 150.0-C or 150.0-D**.

NOTE: The return duct and grille sizing alternative will likely be the method chosen for compliance when installing a SDHV system.

Section 150.0(m)15 - Specific to systems with multiple thermostatically controlled zones, this section requires the same mandatory airflow and fan efficacy requirements as **Section 150.0(m)13B**. However, it does not have the same duct and grille sizing alternative. If such systems cannot satisfy the airflow and fan efficacy requirements of this section, compliance must be demonstrated via the performance approach.

The duct leakage and insulation requirements apply as with any other system.

Prescriptive Requirements

The refrigerant charge and duct insulation requirements apply as with any other system.



E-Mail Lists

- Receive updates on the Energy Standards
- Sign up
 - www.energy.ca.gov/listservers/
- Subscribe to the following Efficiency Lists
 - Building Standards
 - Blueprint
- Respond to confirmation email within 24 hours



Energy Standards Hotline

- Open Monday through Friday
8:00 a.m. to 12:00 p.m. and 1:00 p.m. to 4:30 p.m.
- Call
800-772-3300 (in CA)
916-654-5106 (outside CA)
- Email
Title24@energy.ca.gov