

ORDINANCE NO. 2023-12

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SANTA CRUZ AMENDING SECTION 18.04.030 – ADOPTION OF CODES OF THE SANTA CRUZ MUNICIPAL CODE AND ADDING CHAPTER 18.15 - ENERGY CODE, ADOPTING LOCAL AMENDMENTS TO THE CALIFORNIA ENERGY CODE, PART 6 OF THE CALIFORNIA BUILDING CONSTRUCTION AND FIRE PREVENTION CODE

BE IT ORDAINED By the City of Santa Cruz as follows:

**Section 1.** Section 18.04.030 of Chapter 18.04 of the Santa Cruz Municipal Code is hereby amended to read as follows:

**18.04.030 ADOPTION OF CODES.**

Subject to the modifications and deletions set forth in Section 18.04.040 and by the State of California Building Standards Commission, the following documents are hereby adopted as part of the Building Code of the city of Santa Cruz:

California Code of Regulations Title 24 (hereafter CCR T 24), Part 1, The 2022 California Administrative Code;

CCR T 24, Part 2, Volumes 1 and 2, The 2022 California Building Code, including Appendices H, I, and P except as modified herein (hereafter CBC);

CCR T 24, Part 2.5, The 2022 California Residential Code, including Appendices AH, AK, AQ, and AX, except as modified herein (hereafter CRC);

CCR T 24, Part 10, The 2022 California Existing Building Code, except as modified herein (hereafter CEBC);

CCR T 24, Part 11, The 2022 California Green Building Standards Code, except as modified herein (refer to Chapter 24.15, Green Building Regulations);

CCR T 24, Part 12, The 2022 California Referenced Standards Code;

The Uniform Administrative Code, 1997 Edition, for the purpose of maintaining and administering the existing fee structure, except as modified herein (hereafter UAC);

The Uniform Housing Code, 1997 Edition, except as modified herein (hereafter UHC);

The Uniform Code for the Abatement of Dangerous Buildings, 1997 Edition, except as modified herein (hereafter UCADB);

One copy of each of the above documents is and shall be maintained on file in the office of the building official, for use and examination by the public.

**Section 2.** Chapter 18.15 of the Santa Cruz Municipal Code is hereby added to read as follows:

**Chapter 18.15**

**ENERGY CODE**

**18.15.010 ENERGY CODE OF THE CITY OF SANTA CRUZ.**

This chapter constitutes the Energy Code of the city of Santa Cruz.

**18.15.030 ADOPTION OF THE ENERGY CODE.**

The following documents are hereby adopted as part of the Energy Code of the City of Santa Cruz:

CCR T 24, Part 6, The 2022 California Energy Code, except as modified herein (hereafter CEnC).

One copy of the above documents is and shall be maintained on file in the office of the building official, for use and examination by the public.

**18.15.040 ENERGY CODE – MODIFICATIONS**

The following sections of the code as adopted in Section 18.15.030 are hereby modified as follows:

Section 100.1(b) of the CEnC is amended to add the following:

**ELECTRIC HEATING APPLIANCE.** A device that produces heat energy to create a warm environment by the application of electric power to resistance elements, refrigerant compressors, or dissimilar material junctions, as defined in the California Mechanical Code.

**NET FREE AREA (NFA)** is the total unobstructed area of the air gaps between louver and grille slats in a vent through which air can pass. The narrowest distance between two slats, perpendicular to the surface of both slats is the air gap height. The narrowest width of the gap is the air gap width. The NFA is the air gap height multiplied by the air gap width multiplied by the total number of air gaps between slats in the vent.

Section 130.0 of the CEnC is amended to read as follows:

- a) The design and installation of all lighting systems and equipment in nonresidential and hotel/motel buildings, outdoor lighting, and electrical power distribution systems within the scope of Section 100.0(a), shall comply with the applicable provisions of Sections 130.0 through 130.6.

**NOTE:** The requirements of Sections 130.0 through 130.6 apply to newly constructed buildings. Section 141.0 specifies which requirements of Sections 130.0 through 130.6 also apply to additions and alterations to existing buildings. None of the amended requirements of the City of Santa Cruz apply to additions and alterations to existing buildings.

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Subchapter 4 of the CEnC is amended to add Section 130.6 to be numbered, entitled, and to read as follows:

### **130.6 Electric Readiness Requirements for Systems Using Gas or Propane**

Where nonresidential systems using gas or propane are installed, construction drawings shall indicate electrical infrastructure and physical space accommodating the future installation of an electric heating appliance by including the following, as certified by a registered design professional or licensed electrical contractor:

- a) Branch circuit wiring, electrically isolated and designed to serve all electric heating appliances in accordance with manufacturer requirements and the California Electrical Code, including the appropriate voltage, phase, minimum amperage, and an electrical receptacle or junction box within five feet of the appliance that is accessible with no obstructions. Appropriately sized conduit may be installed in lieu of conductors.
- b) Labeling of both ends of the unused conductors or conduit that includes the terms “For Future Electrical Appliance.”
- c) Reserved circuit breakers in the electrical panel for each branch circuit, appropriately labeled (e.g., “Reserved for Future Electric Range”), and positioned on the opposite end of the panel supply conductor connection.
- d) Connected subpanels, panelboards, switchboards, busbars, and transformers that are sized to serve the future electric heating appliances. The electrical capacity requirements shall be adjusted for demand factors in accordance with the California Electric Code.
- e) Physical space for future electric heating appliances, including equipment footprint, and if needed, a pathway reserved for routing of ductwork to heat pump evaporator(s), all of which shall be depicted on the construction drawings. The footprint necessary for future electric heating appliances may overlap with non-structural partitions and with the location of currently designed gas-fueled equipment.

Section 140.0 of the CEnC is amended to read as follows:

Nonresidential and hotel/motel buildings shall comply with all of the following:

- a) The requirements of Sections 100.0 through 110.12 applicable to the building project (mandatory measures for all buildings).
- b) The requirements of Sections 120.0 through 130.56 (mandatory measures for nonresidential and high-rise residential and hotel/motel buildings).
- c) Either the performance compliance approach (energy budgets) specified in Section 140.1 or the prescriptive compliance approach specified in Section 140.2. for the climate zone in which the building will be located. Climate zones are shown in Figure 100.1-A

**NOTE to Section 140.0(c):** The Commission periodically updates, publishes, and makes available to interested persons and local enforcement agencies precise descriptions of the Climate Zones, which is available by zip code boundaries depicted in the Reference Joint Appendices along with a list of the communities in each zone.

**NOTE to Section 140.0:** The requirements of Sections 140.1 through 140.10 apply to newly constructed buildings. Section 141.0 specifies which requirements of Section 140.1 through 140.10 also apply to additions or alterations to existing buildings. None of the amended requirements of the City of Santa Cruz apply to additions and alterations to existing buildings.

Section 140.1 of the CEnC is amended to read as follows:

The following conditions are necessary for a building to comply with the performance approach:

1. The time-dependent valuation (TDV) energy budget calculated for the proposed design building under Subsection (b) is no greater than the TDV energy budget calculated for the Standard Design Building under Subsection (a); and
2. The source energy budget calculated for the proposed design building under Subsection (b) has a source energy compliance margin, relative to the energy budget calculated for the standard design building under Subsection (a), of at least 7 percent for all nonresidential occupancies.

**EXCEPTION 1 to 140.1 item 2** A source energy compliance margin of at least 7 percent is not required when nonresidential occupancies are designed with single zone space-conditioning systems complying with Section 140.4(a)2.

(a) – (c): Subsections 140.1 (a) – (c) are adopted without modification.

Section 150.0 of the CEnC is amended as follows:

Single-family residential buildings shall comply with the applicable requirements of Sections 150(a) through 150.0(v).

**NOTE:** The requirements of Sections 150.0 (a) through (v) apply to newly constructed buildings. Sections 150.2(a) and 150.2(b) specify which requirements of Sections 150.0(a) through 150.0(r) also apply to additions or alterations. None of the amended requirements of the City of Santa Cruz apply to additions and alterations to existing buildings. The City of Santa Cruz amendments to sections 150.0 (t) do not apply to additions or alterations.

(a) – (s): Subsections 150.0(a) – (s) are adopted without modification.

(t) **Heat pump space heater ready.** Systems using a gas or propane furnace to serve individual dwelling units shall include the following:

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1. A dedicated 240-volt branch circuit wiring shall be installed within 3 feet from the furnace and accessible to the furnace with no obstructions. The branch circuit conductors shall be rated at 30 amps minimum. The blank cover shall be identified as “240V ready.” All electrical components shall be installed in accordance with the California Electrical Code.
2. The main electrical service panel shall have a reserved space to allow for the installation of a double pole circuit breaker for a future heat pump space heater installation. The reserved space shall be permanently marked as “For Future 240V use.”
3. A designated exterior location for a future heat pump compressor unit with either a drain or natural drainage for condensate and adequate space to maintain the equipment in accordance with California Mechanical Code 304.1 & California Electrical Code 110.26.

(u) – (v): Subsections 150.0(u) – (v) are adopted without modification.

Section 150.1 of the CEnC is amended to read as follows:

- (a) Section (a) is adopted without modification.
- (b) Performance Standards. A building complies with the performance standards if the energy consumption calculated for the proposed design building is no greater than the energy budget calculated for the standard design building using Commission-certified compliance software as specified by the Alternative Calculation Methods Approval Manual.
  1. **Newly Constructed Buildings.** The Energy Budget for newly constructed buildings is expressed in terms of the Energy Design Ratings, which are based on source energy and time-dependent valuation (TDV) energy. The Energy Design Rating 1 (EDR1) is based on source energy. The Energy Design Rating 2 (EDR2) is based on TDV energy and has two components, the Energy Efficiency Design Rating, and the Solar Electric Generation and Demand Flexibility Design Rating. The total Energy Design Rating shall account for both the Energy Efficiency Design Rating and the Solar Electric Generation and Demand Flexibility Design Rating. The proposed building shall separately comply with the Source Energy Design Rating, Energy Efficiency Design Rating and the Total Energy Design Rating. A building complies with the performance approach if the TDV energy budget calculated for the proposed design building is no greater than the TDV energy budget calculated for the Standard Design Building with an EDR1 compliance margin of at least 9, relative to the Source Energy Design Rating 1 calculated for the Standard Design building.

**EXCEPTION 1 to Section 150.1(b)1.** A community shared solar electric generation system, or other renewable electric generation system, and/or community shared battery storage system, which provides dedicated power, utility energy reduction credits, or payments for energy bill reductions, to the permitted building and is approved by the Energy Commission as specified in Title 24, Part 1, Section 10-115,

may offset part or all of the solar electric generation system and demand flexibility Energy Design Rating required to comply with the Standards, as calculated according to methods established by the Commission in the Residential ACM Reference Manual.

**EXCEPTION 2 to Section 150.1(b)1.** A newly constructed building that does not require a PV system in accordance with section 150.1(c)14 does not need a Source Energy compliance margin of at least 9, relative to the Source Energy Design Rating 1 calculated for the Standard Design building.

2. **Additions and Alterations to Existing Buildings.** The Energy Budget for additions and alterations is expressed in terms of TDV energy. None of the amended requirements of the City of Santa Cruz apply to additions and alterations to existing buildings.
3. Section (b)(3) is adopted without modification.

(c) Section (c) is adopted without modification.

Section 160.4 of the CEnC is amended to remove subsection (a) as follows:

(a) Reserved.

Sections (b) to (f) are adopted without amendments.

Section 160.9 Sections (a) to (c) of the CEnC are adopted without amendments. Sections (d) and (e) are added as follows:

(d) Systems using gas or propane water heaters to serve individual dwelling units shall include the following:

1. A dedicated 125-volt, 20-amp electrical receptacle that is connected to the electric panel with a 120/240-volt 3 conductor, copper branch circuit rated to 30 amps, within 3 feet from the water heater and accessible to the water heater with no obstructions.
  - A. Both ends of the unused conductor shall be labeled with the word “spare” and be electrically isolated.
  - B. A reserved single pole circuit breaker space in the electrical panel adjacent to the circuit breaker for the branch circuit in (A) above shall be included and labeled with the words “Future 240V Use.”
2. A condensate drain that is no more than 2 inches higher than the base of the installed water heater, and allows natural draining without pump assistance.
3. Construction drawings that indicate the reserved location of the future heat pump water heater with minimum interior dimensions of 39” x 39” x 96.”

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4. A ventilation method that incorporates one of the following:
  - A. A space reserved for the future heat pump water heater with a volume of at least 700 cu. ft.
  - B. A space reserved for the future heat pump water heater that vents to a communicating space in the same pressure boundary via permanent openings with a minimum total net free area of 250 sq. in., so that the total combined volume connected via permanent openings is 700 cu. ft. or greater. The permanent openings shall be:
    - i. Fully louvered doors with fixed louvers consisting of a single layer of fixed flat slats; or
    - ii. Two permanent fixed openings, consisting of a single layer of fixed flat slat louvers or grilles, one commencing within 12 inches from the top of the enclosure and one commencing within 12 inches from the bottom of the enclosure.
  - C. A space reserved for the future heat pump water heater that includes two 8" capped ducts, venting to the building exterior.
    - i. All duct connections and building penetrations shall be sealed.
    - ii. Exhaust air ducts and all ducts that cross pressure boundaries shall be insulated to a minimum insulation level of R-6 in compliance with California Mechanical Code 502.0.
    - iii. Airflow from termination points shall be diverted away from each other.
- (e) Central Heat Pump Water Heater Electric Ready. Water heating systems using gas or propane to serve multiple dwelling units shall meet the requirements of 160.9(e) and include the following for the future heat pump:
  1. A system input capacity of the gas or propane water heating system that is determined as the sum of the input gas or propane capacity of all water heating devices associated with each gas or propane water heating system.
  2. A space reserved that includes and complies with the following:
    - A. Heat Pump. The minimum space reserved shall include space for service clearances, air flow clearances, and compliant working spaces. Additionally, unless the space reserved is sufficient to support a heat pump water heater system that meets the total building hot water demand as calculated and documented by the responsible person associated with the project, the space reserved shall comply with the following:

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- i. If the system input capacity of the gas water heating system is less than 200,000 BTU/HR, the minimum space reserved for the heat pump shall be 2.0 square feet per input 10,000 BTU/ HR of the gas or propane water heating system, and the minimum dimension of reserved spaces shall be 48 inches.
    - ii. If the system input capacity of the gas water heating system is greater than or equal to 200,000 BTU/HR, the minimum space reserved for the heat pump shall be 3.6 square feet per input 10,000 BTU/ HR of the gas or propane water heating system, and the minimum dimension of reserved spaces shall be 84 inches.
  - B. Tanks. The minimum space reserved shall include space for service clearances and keep outs. Additionally, unless the space reserved is sufficient to support a heat pump water heater system that meets the total building hot water demand as calculated and documented by the responsible person associated with the project, the space reserved shall comply with the following:
    - i. If the system input capacity of the gas water heating system is less than 200,000 BTU/HR, the minimum space reserved for the storage and temperature maintenance tanks shall be 4.4 square feet per input 10,000 BTU/HR. of the gas or propane water heating system.
    - ii. If the system input capacity of the gas water heating system is greater than or equal to 200,000 BTU/HR, the minimum physical space reserved for the storage and temperature maintenance tanks shall be 3.1 square feet per input 10,000 BTU/HR. of the gas or propane water heating system.
- 3. Ventilation, which shall be provided by including the following:
  - A. A physical space reserved for the heat pump located outside, or
  - B. A pathway reserved for future routing of supply and exhaust air via ductwork from the reserved heat pump location to an appropriate outdoor location. Penetrations through the building envelope for louvers and ducts shall be planned and identified for future use. Additionally, unless the reserved pathway and penetrations are sized to serve a heat pump water heater system that meets the total building hot water demand as calculated and documented by the responsible person associated with the project, the reserved pathway and penetrations through the building envelope shall be sized to comply with one of the following:
    - i. If the system input capacity of the gas water heating system is less than 200,000 BTU/HR, the minimum air flow rate shall be 70 CFM per input 10,000 BTU/HR of the gas or propane water heating system and the total external static pressure drop of ductwork and louvers shall not exceed 0.17" when the future heat pump water heater is installed.



- ii. If the system input capacity of the gas water heating system is greater than or equal to 200,000 BTU/HR, the minimum air flow rate shall be 420 CFM per input 10,000 BTU/HR of the gas or propane water heating system and the total external static pressure drop of ductwork and louvers shall not exceed 0.17" when the future heat pump water heater is installed.
4. Condensate drainage piping. An approved receptacle that is sized in accordance with the California Plumbing Code to receive the condensate drainage shall be installed within 3 feet of the reserved heat pump location, or piping shall be installed from within 3 feet of the reserved heat pump location to an approved discharge location that is sized in accordance with the California Plumbing Code. Additionally, unless the condensate drainage receptacles and piping are sized to serve a heat pump water heater system that meets the total building hot water demand as calculated and documented by the responsible person associated with the project, the condensate drainage shall comply with the following:
  - A. If the system input capacity of the gas water heating system is less than 200,000 BTU/HR, condensate drainage shall be sized for 0.2 tons of refrigeration capacity per input 10,000 BTU/HR
  - B. If the system input capacity of the gas water heating system is greater than or equal to 200,000 BTU/HR, condensate drainage shall be sized for 0.7 tons of refrigeration capacity per input 10,000 BTU/HR
5. Electrical.
  - A. Physical space shall be reserved on the bus system of the main switchboard or on the bus system of a distribution board to serve the future heat pump water heater system including the heat pump and temperature maintenance tanks. In addition, the physical space reserved shall be capable of providing adequate power to the future heat pump water heater as follows:
    - i. Heat Pump. For the Heat Pump, the physical space reserved shall comply with one of the following:
      - a. If the system input capacity of the gas water heating system is less than 200,000 BTU/HR, provide 0.1 kVA per input 10,000 BTU/HR
      - b. If the system input capacity of the gas water heating system is greater than or equal to 200,000 BTU/HR, provide 1.1 kVA per input 10,000 BTU/HR
      - c. The physical space reserved supplies sufficient electrical power required to power a heat pump water heater system that meets the total building hot water demand as calculated and documented by the responsible person associated with the project.

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- ii. Temperature Maintenance Tank. For the Temperature Maintenance Tank, the physical space reserved shall comply with one of the following:
  - a. If the system input capacity of the gas water heating system is less than 200,000 BTU/HR, provide 1.0 kVA per input 10,000 BTU/HR
  - b. If the system input capacity of the gas water heating system is greater than or equal to 200,000 BTU/HR, provide 0.6 kVA per input 10,000 BTU/HR
  - c. The physical space reserved supplies sufficient electrical power required to power a heat pump water heater system that meets the total building hot water demand as calculated and documented by the responsible person associated with the project.

The building electrical system shall be sized to meet the future electric requirements of the electric ready equipment specified in sections 160.9(a) – 160.9(e). To meet this requirement the building main service conduit, the electrical system to the point specified in each subsection, and any on-site distribution transformers shall have sufficient capacity to supply full rated amperage at each electric ready appliance in accordance with the California Electric Code.

Section 170.1 of the CEnC is adopted with amendments as follows:

A building complies with the performance approach if the TDV energy budget calculated for the proposed design building under Subsection (b) is no greater than the TDV energy budget calculated for the Standard Design Building under Subsection (a). Additionally,

1. The source energy budget of a newly constructed low-rise multifamily building shall be at least 10% lower than that of the Standard Design Building.
2. The source energy budget of a newly constructed high-rise multifamily building shall be at least 4% lower than that of the Standard Design Building.

Sub-sections (a) to (d) are adopted without amendments.

**18.15.050 PERMIT FEES.**

The chief building official shall charge and receive such fees for services, inspections, and permits relating to any work subject to this chapter as set forth in Chapter 3, Table 3C, of the Uniform Administrative Code as adopted in Section 18.04.030 and in the fee schedule established by city council resolution.

**18.15.060 PENALTIES.**

Any person, firm, or corporation violating any provisions of this chapter shall be subject to the penalties provided in Title 4 or alternatively delineated in the Santa Cruz County superior court uniform bail and penalty schedule for the city of Santa Cruz.

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**Section 3.** This ordinance shall take effect and be in full force thirty (30) days after final adoption.

PASSED FOR PUBLICATION this 14<sup>th</sup> day of November, 2023, by the following vote:

AYES: Councilmembers Newsome, Brown, Watkins, Brunner, Kalantari-Johnson;  
Vice Mayor Golder; Mayor Keeley.

NOES: None.

ABSENT: None.

DISQUALIFIED: None.

APPROVED:

  
Fred Keeley, Mayor

ATTEST:

  
Bonnie Bush, City Clerk Administrator

PASSED FOR FINAL ADOPTION this 28<sup>th</sup> day of November, 2023 by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED:

  
Fred Keeley, Mayor

ATTEST:

  
Bonnie Bush, City Clerk Administrator

This is to certify that the above and foregoing document is the original of Ordinance No. 2023-12 and that it has been published or posted in accordance with the Charter of the City of Santa Cruz.

  
Bonnie Bush, City Clerk Administrator