

ORDINANCE 518

AN ORDINANCE OF THE CITY COUNCIL OF SOLANA BEACH, CALIFORNIA, ADOPTING ADDITIONS TO CHAPTER 15.22 (ENERGY CODE) AND CHAPTER 15.23 (GREEN BUILDING CODE) OF TITLE 15 (BUILDING AND CONSTRUCTION) OF THE SOLANA BEACH MUNICIPAL CODE TO ADOPT THE 2019 CALIFORNIA BUILDING CODE AND CALIFORNIA GREEN BUILDING CODE WITH CERTAIN AMENDMENTS, ADDITIONS, AND DELETIONS RELATED TO CLIMATE ACTION THROUGH ENERGY EFFICIENCY, SOLAR ENERGY, BUILDING ELECTRIFICATION, AND ELECTRIC VEHICLE INFRASTRUCTURE

WHEREAS, consensus exists among the world's leading climate scientists that climate change caused by greenhouse gas (GHG) emissions from human activities is among the most significant problems facing the world today; and

WHEREAS, the City of Solana Beach declared a Climate Emergency in 2020; and

WHEREAS, the City of Solana Beach adopted a Climate Action Plan (CAP) that directs the City in reducing approximately 70,000 metric tons of GHG emissions annually by the year 2035 to meet reduction goals consistent with California's GHG targets; and

WHEREAS, measures in the CAP aim to curb the use of fossil fuels, a primary contributor to GHG emissions, in buildings and transportation; and

WHEREAS, reach codes that extend beyond the California building code are being adopted by cities state-wide to accelerate GHG reductions from new construction by limiting the use of natural gas, increasing local solar production, and installing electric vehicle (EV) infrastructure to charge a greater number of EV's beyond state code requirements; and

WHEREAS, forty-nine cities and counties in California have passed ordinances restricting or disincentivizing the use of natural gas in residential, commercial and multi-family buildings; and

WHEREAS, cost effectiveness is demonstrated by the statewide studies (included by reference) "2019 Costeffectiveness Study: Low-Rise Residential New Construction", prepared by Frontier Energy, Inc. and Misti Bruceri & Associates, LLC, dated July 17, 2019, and "2019 Nonresidential New Construction Reach Code Cost Effectiveness Study", prepared by TRC and EnergySoft, dated July 15, 2019; and

WHEREAS, the assumptions for climate zones, building types, cost effectiveness, and the provisions of the model reach code are applicable to the City of Solana Beach; and

WHEREAS, the City of Solana Beach wishes to adopt the reach code ordinance with modifications to enhance building electrification, on-site solar electricity generation, and EV infrastructure within the City as part of Title 15 of the Municipal Code.

NOW THEREFORE, the City Council of the City of Solana Beach, California, does ordain as follows:

SECTION ONE. FINDINGS.

The City Council finds and determines the foregoing recitals are true and correct and are hereby incorporated herein as findings and determinations of the City Council. The recitals constitute findings in this matter and, together with the staff report, other written reports, public testimony and other information contained in the record, are an adequate and appropriate evidentiary basis for the actions taken in this Ordinance.

SECTION TWO. ENVIRONMENTAL REVIEW.

This Ordinance is exempt from the provisions of the California Environmental Quality Act (“CEQA”) pursuant to Sections 15307 and 15308 of the CEQA Guidelines (14 CCR 15307 and 15308) because it is an activity undertaken to assure the maintenance, restoration, enhancement and protection of the environment and pursuant to Section 15061(b)(3) because there is no possibility that the activity in question may have a significant effect on the environment.

SECTION THREE. ADDITION OF SECTIONS 15.22.020 THROUGH 15.22.050 AND 15.23.020 THROUGH 15.23.060 TO THE SOLANA BEACH MUNICIPAL CODE. Sections 15.22.020 through 15.22.050 and 15.23.020 through 15.23.060 of the Solana Beach Municipal Code are hereby added to amend the 2019 California Building Code, California Code of Regulations, Title 24, Part 6 and Part 11 and shall read as follows:

CHAPTER 15.22 ENERGY CODE

15.22.020 Applicability

- A. The requirements of this Chapter shall apply at the time of building permit application for all Newly Constructed buildings, as defined in Section 15.22.030.
- B. The requirements of this Chapter shall not apply to the use of portable propane appliances for use outside of the building envelope, such as outdoor cooking and outdoor heating appliances.

15.22.030 Definitions

For purposes of this Chapter and Chapter 15.23, the following definitions shall apply:

“Mixed-Fuel building” means a building that is plumbed for the use of natural gas or propane as fuel for any systems.

“Newly Constructed” (or “New Construction”) means a building that is new, previously unoccupied or substantially changed as defined herein. For the purpose of enforcing the amendments to the California Energy Code and California Building Code, any work, addition to, remodel, repair, renovation, or alteration of any building(s) or structure(s) shall be defined as “New Construction” when:

- a. Any Non-Residential or mixed-use remodel project has a permit valuation of \$750,000 or more; or alters 50% or more of major structural components including exterior walls, interior walls, floor area, roof structure, or foundation, or has an increase of 50% or more of floor area.
- b. Any residential remodel project alters 50% or more of major structural components including exterior walls, interior walls, floor area, roof structure, or foundation, or has an addition of 700 square feet or more of floor area.

“Non-Residential” means buildings with the following occupancies: nonresidential, residential of four (4) or more stories, hotels and motels.

“Low-Rise Residential” means all single-family residential and low-rise multifamily buildings of three (3) stories or fewer.

15.22.040 Non-Residential Photovoltaic System Required

- A. All Newly Constructed Non-Residential buildings under 10,000 square feet of gross floor area shall install a minimum 5 kilowatt (kWdc) PV system., except as provided in Sections 15.22.040(C) through (H), inclusive, below.

Note to Section 15.22.040(A): Applicants are encouraged to right-size the PV system based on the building's electrical demand to improve the system's cost effectiveness.

B. All Newly Constructed Non-Residential buildings with greater than or equal to 10,000 square feet of gross floor area shall install a minimum PV system sized at 15 kilowatts direct current (kWdc) per 10,000 square feet of gross floor area, except as provided in Sections 15.22.040(C) through (H), inclusive, below.

Note to Section 15.22.040(B): PV system size = 15 kWdc X Building Size Factor, where the Building Size Factor (BSF) shall equal gross floor area / 10,000 sq. ft., rounded to the nearest tenth. The resulting product shall then be rounded to the nearest whole number. For example, a 126,800 square foot building shall require a minimum 191 kilowatt (kWdc) PV system, as follows:

$$\text{PV system size} = 15 \text{ kWdc} \times \text{BSF}, \text{ where}$$

$$\text{BSF} = 126,800 \text{ s.f.} / 10,000 \text{ s.f.} \Rightarrow 12.7 \text{ (rounded)}$$

$$15 \text{ kWdc} \times 12.7 \Rightarrow 191 \text{ kWdc (rounded)}$$

Note to Sections 15.22.040(A) and (B): Where appropriate and where approved by the Community Development Director or his or her designee, a PV system based on gross floor area may be based on the scope of the application where the system size reflects only the gross square footage controlled by the applicant, such as a tenant improvement that only affects the tenant's portion of a building's total gross floor area or a general renovation of a nonresidential building by a property owner or manager that only affects common areas. Applicant specific gross floor area PV systems shall be the minimum requirement unless an applicant can demonstrate to the Community Development Director or his or her designee that serving applicant specific load is infeasible per Section 15.22.040(C).

C. The building official may waive or reduce, by the extent necessary, the provisions of this section 15.22.040(A) or (B) above if the official determines that there are sufficient practical challenges to make satisfaction of the requirements infeasible. Practical challenges may be a result of the building site location, limited rooftop availability, or shading from nearby structures, topography or vegetation. The applicant is responsible for demonstrating requirement infeasibility when applying for an exemption.

D. The building official may waive or reduce, by the extent necessary, the provisions of this section 15.22.040(A) or (B) above if the official determines that the

building has satisfied the purpose and intent of this provision through the use of alternate on-site zero carbon, renewable generation systems such as wind energy systems.

E. In lieu of Sections 15.22.040(A) or (B), all Newly Constructed Non-Residential buildings may install a solar PV system based on Time Dependent Valuation (TDV) such that the installed system will offset 80% of the building's TDV energy on an annual basis. The system sizing requirement shall be based upon total building TDV energy use including both conditioned and unconditioned space and calculated using modeling software or other methods approved by the building official.

Note to Section 15.22.040(E): Where appropriate and when approved by the Community Development Director or his or her designee, TDV may be based on the scope of the application where the system size reflects only the load controlled by the applicant, such as a tenant improvement that only affects a tenant's portion of a building or a general renovation of a nonresidential building by a property owner that only affects common areas. Applicant specific TDV shall be the minimum requirement unless an applicant can demonstrate to the Community Development Director or their designee that serving common area load is infeasible per Section 15.22.040(C).

F. Greenhouse structures used for commercial cultivation, educational purposes, or the conservancy of plants or animals are exempted from the requirements of this Section 15.22.040. The Community Development Director or his or her designee may exempt other greenhouse structure uses on a case- by-case basis.

G. An applicant may install a ground-mounted solar PV system that meets the requirements of Section 15.22.040(A) or (B) as a voluntary alternative to installing rooftop solar PV. The ground-mounted solar photovoltaic system shall comply with all existing health and safety requirements and limitations in the City.

H. Permit valuation shall exclude valuations for aesthetic exterior alterations in determining the \$750,000 permit valuation for alterations to existing non-residential, high-rise residential, and hotel/motel buildings.

Note to Section 15.22.040(H): Exclusion of aesthetic exterior alterations is intended to remove façade alterations and other exterior alterations that do not affect internal floor space or are not otherwise required to comply with health and safety requirements.

15.22.050 Required Electric End Uses

- A. All Newly Constructed buildings shall use electricity as the source of energy for its space heating, water heating (including pools and spas), and clothes drying appliances, except as provided in 15.22.050(B) below.
- B. Solar thermal pool and spa heating are exempt from section 15.22.050(A) above.

CHAPTER 15.23 GREEN BUILDING CODE

15.23.020 Applicability

- A. The requirements of this Chapter shall apply at the time of building permit application for all Newly Constructed buildings, as defined in Section 15.22.030.
- B. The requirements of this Chapter shall not apply to the use of portable propane appliances for use outside of the building envelope, such as outdoor cooking and outdoor heating appliances.

15.23.030 Definitions

For purposes of this Chapter, the following definitions shall apply:

“EV Capable Space” means a parking space linked to a listed electrical panel with sufficient capacity to provide at least 220/240 volts and 40 amperes to the parking space. Raceways must be at least 1" in diameter and may be sized for multiple circuits as allowed by the California Electrical Code. The panel circuit directory shall identify the overcurrent protective device space(s) reserved for EV charging as “EV CAPABLE.” Construction documents shall indicate future completion of raceway from the panel to the parking space, via the installed raceways.

“Level 2 EV Ready Space” means a parking space served by a complete electric circuit with 208/240 volt, 40-ampere capacity including electrical panel capacity, overprotection device, a minimum 1" diameter raceway that may include multiple circuits as allowed by the California Electrical Code, wiring and either a) a receptacle labeled “Electric Vehicle Outlet” with at least a ½" font adjacent to the parking space, or b) electric vehicle supply equipment (EVSE) with a minimum capacity of 30 amperes.

“Electric Vehicle Charging Station” or “EVSE” means a parking space (or spaces in the event of multiple spaces for which a single charging station with a dedicated charging port for each space) that includes installation of electric vehicle supply equipment (EVSE)

with a minimum capacity of 30 amperes connected to a circuit serving a Level 2 EV Ready Space. EVSE installation may be used to satisfy a Level 2 EV Ready Space requirement.

“Mixed-Fuel building” has the same meaning as in Section 15.22.030.

“Newly Constructed” or “New Construction” has the same meaning as in Section 15.22.030.

“Low-Rise Residential” has the same meaning as in Section 15.22.030.

15.23.040 Electric-Readiness

A. In Newly Constructed Mixed-Fuel buildings, where natural gas- or propane-plumbed systems and appliances are installed, raceways and electrical capacity shall be installed for future electrification of each system or appliances. Electric ready measures include panel capacity and raceways (or conductors) from the electrical panel(s) to the location of each gas outlet sufficiently sized to meet future electric power requirements at the time of construction so that wall penetrations and demolition work is avoided at or minimized when the systems and appliances are converted to electric-powered systems. The locations of specific gas appliances shall be made electric-ready as follows:

- 1) Combined Cooktop and Oven or Stand Alone Cooktop. Buildings plumbed for natural gas or propane equipment shall include the following components for each gas terminal or stub out:
 - a) A dedicated 240 volt, 40 amp or greater circuit and 50 amp or greater electrical receptacle located within three (3) feet of the equipment and accessible with no obstructions;
 - b) The electrical receptacle shall be labeled with the words “For Future Electric Range” and be electrically isolated; and
 - c) A double pole circuit breaker in the electrical panel labeled with the words “For Future Electric Range”.
- 2) Stand Alone Cooking Oven. Buildings plumbed for natural gas or propane equipment shall include the following components for each gas terminal or stub out:
 - a) A dedicated 240 volt, 20 amp or greater receptacle within three (3) feet of the appliance and accessible with no obstructions;
 - b) The electrical receptacle shall be labeled with the words “For Future Electric Oven” and be electrically isolated; and
 - c) A double pole circuit breaker in the electrical panel labeled with the words “For Future Electric Oven”.

3) Service Capacity

- a) All newly installed electrical panels and subpanels serving common loads in a Mixed-Fuel Building shall have both space for overcurrent protective devices as well as bus bars of adequate capacity to meet all of the building's potential future electrical requirements as specified in California Electric Code, Title 24, Part 3, Article 220 Sections 220.50.1 and 220.50.2.
- b) All newly installed raceways in a Mixed-Fuel Building between the main electric panel and any subpanels, and the point at which the conductors serving the building connect to the common conductors of the utility distribution system, shall be sized for conductors adequate to serve all of the building's potential future electrical requirements as specified in California Electric Code, Title 24, Part 3, Article 220 Sections 220.50.1 and 220.50.2.
- c) The service capacity requirements of this section shall be determined in accordance with California Electric Code, Title 24, Part 3, Article 220 Section 220.50.4.

4) Conductor, Raceway and Subpanel Sizing

- a) Raceway and subpanel capacity shall be sized to be large enough to meet the requirements at the service voltage.
 - b) The electrical capacity requirements may be adjusted for demand factors in accordance with the California Electric Code, Title 24, Part 3, Article 220.
 - c) For purposes of gas pipe equivalence, gas pipe capacity shall be determined in accordance with the California Plumbing Code, Title 24, Part 5, Section 1208.4.
- B. If the design includes bus bar capacity, raceway or conductor capacity, and space necessary for the installation of electrical equipment that can serve the intended function of the gas equipment, as calculated and documented by a licensed design professional associated with the project, it shall be exempt from the requirements of Section 15.23.040(A)(3).

15.23.050 Energy Storage Pre-Wiring

All Low-Rise Residential buildings as defined in Section 15.22.030 of this code shall be prewired for the installation of battery storage. The pre-wiring shall be in accordance with California Building, Residential, and Electrical Codes and be adequately sized by a licensed professional to accommodate the backup loads installed in the critical load panel with a minimum of five (5) kwh.

15.23.060 Electric Vehicle Charging

A. California Green Building Code, Title 24, Part 11, Residential Mandatory Measures, Section 4.106.4 is amended as follows (~~strikeouts~~ indicated deletions and underscores indicate additions):

4.106.4.1 New one and two-family dwellings and townhouses with attached private garages. For each dwelling unit with one parking space, one Level 2 EV Ready Space shall be installed. For each dwelling unit with two or more parking spaces, at least one Level 2 EV Ready Space and one EV Capable Space shall be installed.

4.106.4.1.1 Identification. ~~The service panel or subpanel circuit directory shall identify the overcurrent protective device space (s) reserved for future EV charging as "Level 2 EV CAPABLE."~~ The raceway termination location shall be permanently and visibly marked as "EV CAPABLE" "EV READY" or "EV CAPABLE", as the case may be.

4.106.4.2 New multifamily dwellings. If residential parking is provided, ~~ten (10)~~ twenty five percent (25%) of the total number of parking spaces on a building site, provided for all types of parking facilities, shall have an EVSE installed with the remaining seventy-five percent (75%) of parking facilities being ~~be~~ electric vehicle charging spaces (EV Capable Spaces) capable of supporting future EVSE. Calculations for the required number of EVSE spaces shall be rounded up to the nearest whole number.

4.106.4.3 New hotels and motels. All parking spaces in newly constructed hotels and motels shall provide EV Capable Spaces capable of supporting future installation of EVSE. The construction documents shall identify the location of the EV Capable Spaces. ~~Additionally, at least twenty-five percent (25%) of the total number of parking spaces provided for all types of parking facilities, but in no case less than one, shall be equipped with functional 240V (Level 2) EVSE.~~

4.106.4.3.1 Number of required EV spaces. ~~The number of required EV spaces shall be based on the total number of parking spaces provided for all types of parking facilities in accordance with Table 4.106.4.3.1.~~ Calculations for the required number of EVSE spaces shall be rounded up to the nearest whole number.

B. California Green Building Code, Title 24, Part 11, Nonresidential Mandatory Measures, Section 5.106.5.3.3 is amended as follows:

5.106.5.3.3 EV charging space calculation. Where parking is included in the project scope, at least twenty percent (20%) of the total number of parking spaces on a building site, provided for all types of parking facilities, shall have an EVSE installed with an

additional fifteen (15) percent parking facilities being electric vehicle charging spaces (EV Capable Spaces) capable of supporting future EVSE. Calculations for the required number of EV spaces shall be rounded up to the nearest whole number. [N] Table 5.106.5.3.3 shall be used to determine if single or multiple charging space requirements apply for the future installation of EVSE.

SECTION FOUR. SEVERABILITY.

If any section, subsection, paragraph, sentence, clause, phrase or term (each a "Provision") in this Ordinance, or any Provision's application to any person or circumstance, is held illegal, invalid or unconstitutional by a court of competent jurisdiction, all other Provisions not held illegal, invalid or unconstitutional, or such Provision's application to other persons or circumstances, shall not be affected. The City Council declares that it would have passed this Ordinance, and each Provision therein, whether any one or more Provisions be declared illegal, invalid or unconstitutional.

SECTION FIVE. PUBLICATION AND EFFECTIVE DATE. Within fifteen (15) days after its adoption, the City Clerk of the City of Solana Beach shall cause this Ordinance to be published pursuant to the provisions of Government Code Section 36933. This Ordinance shall become effective 30 days after its adoption and shall be in full force and effect following submission to and approval by the California Energy Commission pursuant to applicable law.

INTRODUCED AND FIRST READ at a regular meeting of the City Council of the City of Solana Beach, California held on the 10th day of November 2021, and thereafter,

PASSED, APPROVED AND ADOPTED at a regular meeting of the City Council of the City of Solana Beach, California, on the _____ day of _____ 2021, by the following vote:

AYES: Councilmembers –
NOES: Councilmembers –
ABSTAIN: Councilmembers –
ABSENT: Councilmembers –

LESA HEEBNER, Mayor

APPROVED AS TO FORM:

JOHANNA N. CANLAS, City Attorney

ATTEST:

ANGELA IVEY, City Clerk

BUILDING ELECTRIFICATION
Solana Beach Draft Ordinance 518

This Memo sets forth restated provisions and revisions to the proposed "draft" Ordinance.

15.22.030 Definitions

1. **"New Construction"** (or **"Newly Constructed"**) means a building that is new construction, previously unoccupied, or substantially changed or Remodeled (as defined herein). Any construction work, alteration, remodel, replacement, repair, or renovation of any building(s) or structure(s) (collectively **"Remodel"**) shall constitute New Construction when:
 - A. Residential Remodel (1-2 units).
 - (1) Any construction that Remodels more than fifty percent (50%) of the existing Square Footage (as defined herein) of any of the following major structural components:
 - (i) exterior walls (measured by lineal feet);
 - (ii) interior walls (measured by lineal feet);
 - (iii) roof/ceiling (measured by multiplying the length by width);
 - (iv) floor and/or foundation (measured by multiplying the length by width); or
 - (2) The addition of seven hundred (700) or more square feet.
 - B. Non-Residential Remodel.
 - (1) Any construction that Remodels more than fifty percent (50%) of the existing Square Footage (as defined herein) of any of the following major structural components:
 - (i) exterior walls (measured by lineal feet);
 - (ii) interior walls (measured by lineal feet);
 - (iii) roof (measured by multiplying the length by width);
 - (iv) floor and/or foundation (measured by multiplying the length by width);

- (2) The addition of seven hundred (700) or more square feet; or
- (3) The Remodel project has a permit valuation of three hundred thousand dollars (\$300,000) or more.

Regarding Non-Residential buildings, when there is a Remodel that qualifies hereunder as New Construction, compliance with the electrification requirements herein shall only apply to the following for a multi-tenant building:

- (i) the floor area of the leased premises being Remodeled (for example, for a tenant improvement that affects the tenant's portion of a building's total gross floor area); or
- (ii) when the common area of the building or the project are being Remodeled, the common area of the building or project that are owned or controlled by the property owner (for example, a Remodel of a building that only affects common areas of the building or project).

C. Cumulative Analysis.

Remodel of the major structural components and addition of square footage is cumulative over time from the date this ordinance is enacted.

2. **"Non-Residential"** means buildings with the following occupancies: non-residential; residential of four (4) or more stories; hotel and motel; and commercial (e.g., retail, restaurant, office, and industrial).
3. **"Square Footage"** means:
 - (a) walls (interior or exterior walls) measured by lineal distance;
 - (b) floor/foundation and roof/ceiling areas measured by multiplying the length by width of the area.

15.22.040 Non-Residential Photovoltaic System Required.

- A. All New Construction of Non-Residential buildings shall be required to install a minimum five (5) kilowatt direct current (kWdc) on-site photovoltaic system, except as provided in 15.22.040 (B) or (C) below.

The required photovoltaic system shall be sized based on gross floor area of the building or leased premises. If the gross floor area of the New Construction is more than one thousand (1,000) square feet, then for each square foot of the gross floor area that exceeds one thousand (1,000)

square feet the size of the photovoltaic system shall be increased by four (4) watts per square foot.

- (1) The building official may reduce (by the minimum extent necessary) the size of the photovoltaic system to the extent the size required herein exceeds the reasonable average annual electricity demand for the proposed use of the building. The burden is on the property owner or occupant to provide a written report from a certified energy analyst which establishes the electrical demand for the building based on the proposed use of the building. The City's certified energy analyst shall confirm the report and analysis provided by the owner/occupant.

ADDITIONAL TERMS

1. 15.23.050 Energy Storage Pre-Wiring

This requirement shall apply to all New Construction, not solely Low-Rise Residential. See the revisions to this section below:

All Low-Rise Residential buildings - New Construction as defined in Section 15.22.030 of this code shall be prewired for the installation of battery storage. The pre-wiring shall be in accordance with California Building, Residential, and Electrical Codes and be adequately sized by a licensed professional to accommodate the backup loads installed in the critical load panel with a minimum of five (5) kwh.

2. 5.106.5.3.3 EV Charging Space Calculation

Change the EV Capable chargers to EV Ready. See the revisions to this section below:

5.106.5.3.3 EV charging space calculation Where parking is included in the project scope, at least twenty percent (20%) of the total number of parking spaces on a building site, provided for all types of parking facilities, and no less than one, shall have an EVSE installed, with and an additional fifteen (15) percent parking facilities being electric vehicle charging spaces (EV Capable Spaces) capable of supporting future EVSE of spaces shall be EV Ready. Calculations for the required number of EV spaces shall be rounded up to the nearest whole number. [N] Table 5.106.5.3.3 shall be used to determine if single or multiple charging space requirements apply for the future installation of EVSE.