

**DOCKETED**

<b>Docket Number:</b>	16-BSTD-07
<b>Project Title:</b>	Local Ordinance Applications - 2016 Standards
<b>TN #:</b>	227821
<b>Document Title:</b>	Carlsbad Ordinance CS347 Full Text
<b>Description:</b>	This is the complete text of Ordinance CS-347, an ordinance of the city council of the city of Carlsbad, California, amending Carlsbad Municipal Code Chapters 18.21 and 18.30 regarding requirements for energy efficiency measures and photovoltaic systems in new or existing residential and nonresidential buildings, and water heating systems in new nonresidential buildings.
<b>Filer:</b>	Peter Strait
<b>Organization:</b>	City of Carlsbad
<b>Submitter Role:</b>	Commission Staff
<b>Submission Date:</b>	4/22/2019 1:29:15 PM
<b>Docketed Date:</b>	4/22/2019

**ORDINANCE NO. CS-347**

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CARLSBAD, CALIFORNIA, AMENDING CARLSBAD MUNICIPAL CODE CHAPTERS 18.21 AND 18.30 REGARDING REQUIREMENTS FOR ENERGY EFFICIENCY MEASURES AND PHOTOVOLTAIC SYSTEMS IN NEW OR EXISTING RESIDENTIAL AND NONRESIDENTIAL BUILDINGS, AND WATER HEATING SYSTEMS IN NEW NONRESIDENTIAL BUILDINGS.

PROJECT NAME: CLIMATE ACTION PLAN ORDINANCES

PROJECT NUMBER: MCA 17-0002 (PUB17Y-0013)

WHEREAS, on September 22, 2015, the City Council of the City of Carlsbad approved Resolution No. 2015-244, approving the Climate Action Plan (CAP) which aims to reduce communitywide greenhouse gas emissions (GHG); and

WHEREAS, in connection with approval of the CAP, the City Council certified a program environmental impact report (EIR 13-02) in compliance with the California Environmental Quality Act (CEQA), which evaluated the potential environmental effects of CAP implementation, including adoption and enforcement of various ordinances and programs intended to reduce GHG; and

WHEREAS, this ordinance fulfills a CAP requirement to address energy efficiency measures, photovoltaic systems and alternative water heating systems for new and existing residential and nonresidential buildings (CAP measures B-1, B-2, D-3, E, F-3, and J-2); and

WHEREAS, the City Planner has determined that: 1) adoption of this ordinance is a subsequent activity of the CAP for which program EIR 13-02 was prepared; 2) a notice for the activity has been given, which includes statements that this activity is within the scope of the program approved earlier, and that program EIR 13-02 adequately describes the activity for the purposes of CEQA Section 15168(c)(2) and (e); 3) the project has no new significant environmental effect not analyzed as significant in the prior EIR 13-02; and 4) none of the circumstances requiring a subsequent or a supplemental EIR under CEQA Guidelines Sections 15162 or 15163 exist; and

WHEREAS, California Health and Safety Code section 17958 requires that cities adopt building regulations that are substantially the same as those adopted by the California Building Standards Commission and contained in the California Building Standards; and

WHEREAS, the California Green Building Standards Code is a part of the California Building Standards which contains mandatory green building provisions, as well as a range of voluntary

measures, known as CALGreen Voluntary Tier 1 and Tier 2, relating to energy efficiency and renewable energy; and,

WHEREAS, the California Energy Code is a part of the California Building Standards which implements minimum energy efficiency standards in buildings through mandatory requirements, prescriptive standards, and performances standards; and

WHEREAS, California Health and Safety Code Sections 17958.5, 17958.7 and 18941.5 provide that the City may make changes or modifications to the building standards contained in the California Building Standards based upon express findings that such changes or modifications are reasonably necessary because of local climatic, geological or topographical conditions; and

WHEREAS, California Green Building Standards Code Section 101.7.1 provides that local climatic, geological or topographical conditions include environmental conditions established by a city, county, or city and county; and

WHEREAS, the City Council of the City of Carlsbad finds that each of the amendments, additions and deletions to the California Green Building Standards Code and California Energy Code contained in this ordinance are reasonably necessary because of local climatic, geological or topographical conditions described in Attachment A to this ordinance; and

WHEREAS, Public Resources Code Section 25402.1(h)2 and Section 10-106 of the Building Energy Efficiency Standards (Standards) establish a process which allows local adoption of energy standards that are more stringent than the statewide Standards, provided that such local standards are cost effective and the California Energy Commission finds that the standards will require buildings to be designed to consume no more energy than permitted by the California Energy Code; and

WHEREAS, the City of Carlsbad has performed cost effectiveness analyses as required by the California Energy Commission for the local amendments to the California Green Building Standards Code and California Energy Code contained in this ordinance; and

WHEREAS, based upon these analyses, the City Council of the City of Carlsbad finds that the local amendments to the California Green Building Standards Code and California Energy Code contained in this ordinance are cost effective and will require buildings to be designed to consume no more energy than permitted by the California Energy Code.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Carlsbad, California, ordains as follows that:

1. The above recitations are true and correct.
2. Chapter 18.21 List of Sections is amended to add a reference to a new section as follows:

**18.21.155 California Green Building Standards Code Appendix A5 adopted in part and amended as mandatory requirements – Energy efficiency.**

3. Section 18.21.010 is amended to read as follows:

**18.21.010 Adoption.**

The 2016 California Green Building Standards Code copyrighted by the California Building Standards Commission, together with those amendments, exceptions, additions and deletions incorporated into this chapter, is adopted by reference as the Green Building Standards Code of the City of Carlsbad.

3. Section 18.21.155 is added to read as follows:

**18.21.155 California Green Building Standards Code Appendix A5 adopted in part and amended as mandatory requirements – Energy efficiency.**

California Green Building Standards Code Appendix A5 - Nonresidential Voluntary Measures, Division A5.2 – Energy Efficiency, Sections A5.201, A5.202, Subsections A5.203.1.1 (Tier 1 Prerequisites) through A5.203.1.2.1 Tier 1, and Sections A5.211 through A5.213, are adopted and amended herein as mandatory requirements for construction of nonresidential, high-rise residential, hotels/motels, and alterations thereto having a building permit valuation of at least \$200,000 or additions of at least 1,000 square feet.

- A. Section A5.203.1.1.2 of the California Green Building Standards Code is amended to read as follows:

**A5.203.1.1.2 Service water heating in restaurants.** Newly constructed restaurants shall comply with California Energy Code Section 140.5.

- B. Section A5.211 of the California Green Building Standards Code is amended to read as follows:

**A5.211.1 On-site renewable energy.** Use on-site renewable energy sources such as solar, wind, geothermal, low-impact hydro, biomass and bio-gas for at least 1 percent of the electric power calculated as the product of the building service voltage and the amperage specified by the electrical service overcurrent protection device rating or 1 kW, (whichever is greater), in addition to the electrical demand required to

meet 1 percent of the natural gas and propane use. The building project's electrical service overcurrent protection device rating shall be calculated in accordance with the 2016 California Electrical Code. Natural gas or propane use is calculated in accordance with the 2016 California Plumbing Code.

**A5.211.1.1 Documentation.** Using a calculation method approved by the California Energy Commission, calculate the renewable on-site energy system to meet the requirements of Section A5.211.1, expressed in kW. Factor in net-metering, if offered by local utility, on an annual basis.

**A5.211.3 Green power.** If offered by local utility provider, participate in a renewable energy portfolio program that provides a minimum of 50 percent electrical power from renewable sources. Maintain documentation through utility billings.

**Exception to A5.211.1, A5.211.1.1 and A5.211.3:** All new nonresidential, high-rise residential, and hotel/motel buildings, and alterations thereto having a building permit valuation of at least \$1,000,000 and affecting at least 75 percent of existing floor area, or alterations that increase roof size by at least 2,000 square feet, shall instead comply with California Energy Code Section 120.10.

4. Chapter 18.30 List of Sections is amended to add references to new sections as follows:

- 18.30.110** California Energy Code Subchapter 1 amended - Definitions
- 18.30.130** California Energy Code Subchapter 3 amended – Nonresidential photovoltaic system required.
- 18.30.150** California Energy Code Subchapters 3 and 5 amended – Nonresidential water heating requirements.
- 18.30.190** California Energy Code Subchapter 9 amended – Energy efficiency in existing residential buildings.

5. Section 18.30.110 is added to read as follows:

- 18.30.110** California Energy Code Subchapter 1 amended – Definitions.

Section 100.1(b) is amended by adding the following definition:

SOLAR ELECTRIC GENERATION SYSTEM or PHOTOVOLTAIC SYSTEM is the complete set of all components for converting sunlight into electricity through the photovoltaic process, including the array of panels, inverter(s) and the balance of system components required to enable the system to effectively deliver power to reduce a building's consumption of electricity from the utility grid.

6. Section 18.30.130 is added to read as follows:

**18.30.130 California Energy Code Subchapter 3 amended – Nonresidential photovoltaic system required.**

Section 120.10 is added to the California Energy Code as follows:

**SECTION 120.10  
NONRESIDENTIAL PHOTOVOLTAIC SYSTEM REQUIRED**

All new nonresidential, high-rise residential, and hotel/motel buildings shall comply with the requirements of Section 120.10(a) or 120.10(b). Additions to existing nonresidential, high-rise residential, and hotel/motel buildings where the total roof area is increased by at least 2,000 square feet, and alterations to existing nonresidential, high-rise residential, and hotel/motel buildings with a permit valuation of at least \$1,000,000 that affect at least 75 percent of the gross floor area shall also comply with the requirements of Section 120.10(a) or (b).

The required installation of a photovoltaic (PV) system shall be sized according to one of the following methods:

**(a) Based on gross floor area.**

1. 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.

**Note to Section 120.10(a)1:** PV system size = 15 kWdc X (Gross Floor Area / 10,000 sq. ft.), where the building size factor shall be rounded to the nearest tenth and the resulting product shall be rounded to the nearest whole number. For example, an applicant with a 126,800 square foot building shall install a minimum 191 kilowatt (kWdc) PV system.

2. Buildings under 10,000 square feet of gross floor area shall install a minimum 5 kilowatt (kWdc) PV system.

**Note to Section 120.10(a)2:** Applicants are encouraged to right-size the PV system based on the building's electrical demand to improve the system's cost effectiveness.

- (b) Based on Time Dependent Valuation (TDV).** Install a solar PV system that will offset 80 percent 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.

**Exception 1 to Section 120.10:** The Building Official may waive or reduce, by the maximum extent necessary, the provisions of this Section if the Official determines 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.

**Exception 2 to Section 120.10:** The Building Official may waive or reduce, by the maximum extent necessary, the provisions of this Section if the Official determines the building has satisfied the purpose and intent of this provision through the use of alternate on-site renewable generation systems such as wind energy systems.

7. Section 18.30.150 is added to read as follows:

**18.30.150 California Energy Code Subchapters 3 and 5 amended – Nonresidential water heating requirements.**

- A. Section 120.11 is added to the California Energy Code as follows:

**SECTION 120.11  
NONRESIDENTIAL MANDATORY REQUIREMENTS FOR SERVICE WATER HEATING SYSTEMS**

Any newly constructed nonresidential building shall derive its service water heating from a system that provides at least 40 percent of the energy needed for service water heating from on-site solar energy or recovered energy. Solar energy includes solar photovoltaics and solar-water heating systems.

**Exception to Section 120.11:** Buildings for which the Building Official has determined that service water heating from on-site solar energy or recovered energy is economically or physically infeasible. Applicant is responsible for demonstrating requirement infeasibility when applying for an exemption.

- B. Section 140.5 of the California Energy Code is amended to read as follows:

**SECTION 140.5  
PRESCRIPTIVE REQUIREMENTS FOR SERVICE WATER HEATING SYSTEMS**

(a) **Nonresidential occupancies.** A service water-heating system installed in a nonresidential building shall comply with the applicable requirements of Sections 110.1, 110.3, 120.3, and 120.11. In addition, a service water-heating system shall meet the requirements of 1, 2, or 3 below:

1. A heat pump water heater. The storage tank shall be located in a conditioned space.

2. An electric resistance water heater.
3. A solar water-heating system with a minimum solar savings fraction of 0.40. Solar water-heating systems and collectors shall be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the Executive Director.

(b) **High-rise residential and Hotel/Motel occupancies.** A service water heating system installed in a high-rise residential or hotel/motel building shall meet the requirements of either 1, 2, or 3. For recirculation distribution systems serving individual dwelling units, only Demand Recirculation Systems with manual on/off control as specified in the Reference Appendix RA4.4.9 shall be used:

1. For systems serving individual dwelling units, the water heating system shall meet the requirement of either A, B, or C:
  - A. A single heat pump water heater. The storage tank shall be located in the garage or conditioned space. In addition, one of the following:
    - i. A compact hot water distribution system; or
    - ii. A photovoltaic system of 0.3 kWdc larger than the requirement specified in Section 120.10.
  - B. A single heat pump water heater that meets the requirements of NEEA Advanced Water Heater Specification Tier 3 or higher. The storage tank shall be located in the garage or conditioned space.
  - C. A solar water-heating system meeting the installation criteria specified in Reference Residential Appendix RA4 and either a minimum solar savings fraction of 0.60 or a minimum 40 square feet of collectors.
2. For systems serving multiple dwelling units, a central water-heating system that includes the following components shall be installed:
  - A. Gas or propane water heating system; and
  - B. A recirculation system that meets the requirements of Sections 110.3(c)2 and 110.3(c)5, includes two or more separate recirculation loops serving separate dwelling units, and is capable of automatically controlling the recirculation pump operation based on measurement of hot water demand and hot water return temperature; and

**EXCEPTION to Section 140.5(b)2B:** Buildings with eight or fewer dwelling units may use a single recirculation loop.

- C. A solar water-heating system meeting the installation criteria specified in Reference Residential Appendix RA4 and with a minimum solar savings fraction of either a or b below:
  - i. A minimum solar savings fraction of 0.60 or a minimum of 40 square feet of collectors; or
  - ii. A minimum solar savings fraction of 0.40. In addition, a drain water heat recovery system shall be installed.
- 3. A water-heating system serving multiple dwelling units determined by the Executive Director to use no more energy than the one specified in subsection B above.

8. Section 18.30.190 is added to read as follows:

**18.30.190 California Energy Code Section Subchapter 9 amended - Energy efficiency in existing residential buildings.**

Section 150.2 of the California Energy Code is amended to add paragraph (d) as follows:

- (d) All additions and alterations of residential buildings with a building permit valuation of \$60,000 or higher shall include one of the following energy efficiency measures:
  - 1. Additions and alterations of single family residential buildings built before 1978 shall include one of the following:
    - A. Duct sealing pursuant to 2016 Title 24 Section 150.2(b)1E without verification by a Home Energy Rating System (HERS) rater. All exceptions as stated in 2016 Title 24 Section 150.2(b)1E are allowed. Projects that require duct sealing as part of an HVAC alteration or replacement must meet all of the requirements of Title 24, Part 6, including HERS rater verification.
    - B. Attic insulation with a minimum of R-38 rating. Buildings without vented attic spaces and buildings with existing attic insulation levels greater than R-5 are exempt from this attic insulation energy efficiency measure.
    - C. Cool roof with an aged solar reflectance of greater than or equal to 0.25 and a thermal emittance of greater than or equal to 0.75. All exceptions as stated in 2016 Title 24 Section 150.2(b)1Hi for steep slope roofs and 150.2(b)1Hii for low slope roofs are allowed. Only areas of roof that are to be re-roofed subject to the cool roof upgrade. Projects that are not

installing a new roof as part of the scope are exempt from this cool roof energy efficiency measure.

2. Additions and alterations of single family residential buildings built in 1978 or after shall include one of the following:
  - A. A lighting package consisting of:
    - i. replacement all interior and exterior screw-in (A-base) incandescent and halogen lamps with screw-in LED lamps; and,
    - ii. installation of manual-on automatic-off vacancy sensors that meet Title 24 Section 110.9(b)4C in all bathrooms, bedrooms, offices, laundry rooms, utility rooms, and garages. Spaces which already include vacancy sensors, motions sensors, or dimmers do not need to install new Title 24 Section 110.9(b)4C sensors.
  - B. A water heating package consisting of:
    - i. addition of exterior insulation meeting a minimum of R-6 to storage water heaters 20 gallons are larger in size, except if insulation installation would void the water heater warranty; and,
    - ii. insulation of all accessible hot water pipes with pipe insulation a minimum of 0.75 inches in thickness. This includes insulating the supply pipe leaving the water heater, piping to faucets underneath sinks, and accessible pipes in attic spaces and crawlspaces; and,
    - iii. upgrading of fitting in sinks and showers to meet current CALGreen (Title 24, Part 11 of the California Building Code) standards, except for fixtures with rated flow rates no more than 10 percent greater than current CALGreen standards.
3. Additions and alterations of multi-family residential buildings built before 1978 shall include attic insulation with a minimum of R-38 rating. Buildings without vented attic spaces and buildings with existing attic insulation levels greater than R-5 are exempt from this attic insulation energy efficiency measure.
4. Additions and alterations of multi-family residential buildings built between 1978 and 1990 shall include one of the following:
  - A. Duct sealing pursuant to 2016 Title 24 Section 150.2(b)1E without verification by a HERS rater. All exceptions as stated in 2016 Title 24 Section 150.2(b)1E are allowed. Projects that require duct sealing as part of an HVAC alteration or replacement must meet all of the requirements of Title 24, Part 6, including HERS rater verification.

- B. Attic insulation with a minimum of R-38 rating. Buildings without vented attic spaces and buildings with existing attic insulation levels greater than R-5 are exempt from this attic insulation energy efficiency measure.
  - C. Cool roof with an aged solar reflectance of greater than or equal to 0.25 and a thermal emittance of greater than or equal to 0.75. All exceptions as stated in 2016 Title 24 Section 150.2(b)1Hi for steep slope roofs and 150.2(b)1Hii for low slope roofs are allowed. Only areas of roof that are to be re-roofed are subject to the cool roof upgrade. Projects that are not installing a new roof as part of the scope are exempt from this cool roof energy efficiency measure.
5. Additions and alterations of multi-family residential buildings built after 1991 shall include one of the following:
- A. A lighting package consisting of:
    - i. replacement all interior and exterior screw-in (A-base) incandescent and halogen lamps with screw-in LED lamps; and,
    - ii. installation of manual-on automatic-off vacancy sensors that meet Title 24 Section 110.9(b)4C in all bathrooms, bedrooms, offices, laundry rooms, utility rooms, and garages. Spaces which already include vacancy sensors, motions sensors, or dimmers do not need to install new Title 24 Section 110.9(b)4C sensors.
  - B. A water heating package consisting of:
    - i. addition of exterior insulation meeting a minimum of R-6 to storage water heaters 20 gallons are larger in size, except for buildings with central water heating systems or if insulation installation would void the water heater warranty; and,
    - ii. insulation of all accessible hot water pipes with pipe insulation a minimum of 0.75 inches in thickness. This includes insulating the supply pipe leaving the water heater, piping to faucets underneath sinks, and accessible pipes in attic spaces and crawlspaces; and,
    - iii. upgrading of fittings in sinks and showers to meet current CALGreen standards, except for fixtures with rated flow rates no more than ten percent greater than current CALGreen standards.

**Note:** To the extent the provisions of Section 150.2(d) conflict with other provisions of the California Energy Code, then the most energy conserving provisions shall supersede and control.

**Exception to Section 150.2(d):** The requirement for inclusion of energy

efficiency measures does not apply to residential buildings that receive a rating of seven (7) or higher on the U.S. Department of Energy's Home Energy Score rating system based upon an assessment by a Home Energy Score Certified Assessor, to the satisfaction of the Building Official.

EFFECTIVE DATE: This ordinance shall be effective upon approval by the California Energy Commission; and the City Clerk shall certify the adoption of this ordinance and cause the full text of the ordinance or a summary of the ordinance prepared by the City Attorney to be published at least once in a newspaper of general circulation in the City of Carlsbad within fifteen days after its adoption.

INTRODUCED AND FIRST READ at a Regular Meeting of the Carlsbad City Council on the 26<sup>th</sup> day of February 2019, and thereafter

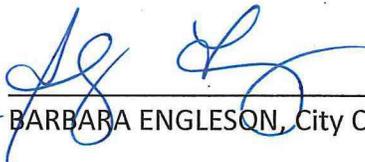
PASSED, APPROVED AND ADOPTED at a Regular Meeting of the City Council of the City of Carlsbad on the 12<sup>th</sup> day of March 2019, by the following vote, to wit:

- AYES: Hall, Blackburn, Bhat-Patel, Schumacher, Hamilton.
- NOES: None.
- ABSENT: None.

APPROVED AS TO FORM AND LEGALITY:

  
CELIA A. BREWER, City Attorney

  
MATT HALL, Mayor

*for*   
BARBARA ENGLERSON, City Clerk  
(SEAL)



**FINDINGS FOR LOCAL AMENDMENTS TO  
2016 CALIFORNIA GREEN BUILDING STANDARDS CODE  
2016 CALIFORNIA ENERGY CODE**

California Health and Safety Code Section 17958 provides that the city may make changes to the provisions in the uniform codes that are published in the California Building Standards Code. Health and Safety Code Sections 17958.5, 17958.7 and 18941.5 require that for each proposed local change to those provisions in the uniform codes and published in the California Building Standards Code which regulate buildings used for human habitation, the city council must make findings supporting its determination that each such local change is reasonably necessary because of local climatic, geological, or topographical conditions. Furthermore, California Green Building Standards Code Section 101.7.1 provides that local climatic, geological or topographical conditions include environmental conditions established by a city, county, or city and county.

<b>California Green Building Standards Code</b>				
<b>Section</b>	<b>Title</b>	<b>Add</b>	<b>Amend</b>	<b>Justification</b>
Appendix A5, Division 5.2	Energy efficiency	✓	✓	C, T, E
A5.203.1.1.2	Service water heating in restaurants		✓	C, T, E
A5.211	On-site renewable energy		✓	C, T, E

<b>California Energy Code</b>				
<b>Section</b>	<b>Title</b>	<b>Add</b>	<b>Amend</b>	<b>Justification</b>
100.1(b)	Definitions	✓		C, T, E
120.10	Nonresidential photovoltaic system required	✓		C, T, E
120.11	Nonresidential mandatory requirements for service water heating systems	✓		C, T, E
140.5	Prescriptive requirements for service water heating systems		✓	C, T, E
150.2(d)	Energy efficiency in existing residential buildings	✓		C, T, E

**Key to Justification for Amendments to Title 24 of the California Code of Regulations**

- C** This amendment is justified on the basis of a local **climatic** condition. Carlsbad has many brush-covered hillsides and protected natural open space areas adjacent to developed areas. Though relatively moderate compared to inland portions of the region, the seasonal climatic conditions during the late summer and fall in Carlsbad are characterized by frequent Santa Ana weather patterns. Santa Ana conditions are dry, hot, strong and gusty winds that produce

extreme dryness and some of the highest winds in San Diego County, have fanned the region's most catastrophic wildfires and can impact public health in the populated coastal zone by the extreme heat and occasional smoke.<sup>1</sup>

Carlsbad has experienced larger increases in annual temperature than other parts of the state. Compared to the first six decades of the 20th century, annual temperatures have increased by more than 1°F in many parts of the state, with some areas (including the San Diego region) exceeding 2°F.<sup>2</sup> This heating is expected to continue well into the future, with estimates ranging between 4-6°F and 7-9°F by the end of the century.<sup>3</sup>

- T** This amendment is justified on the basis of a local **topographical** condition. Carlsbad has six and a half miles of beaches, three lagoons, several creeks and other low-lying areas prone to flooding. The San Diego Multi-jurisdictional Hazard Mitigation Plan ranks coastal storm, erosion and flooding among the top five hazards for Carlsbad, with potential property loss exposure approaching \$200 million dollars.<sup>4</sup> There is broad scientific consensus that the earth will continue to warm and that sea levels will rise as a result of thermal expansion of the oceans and increased contributions from melting glaciers. By the end of the century, sea level could rise by 1.7 to 6.6 feet, inundating beaches and impacting miles of roads and public accesses, the state campgrounds, hundreds of properties, and more than 1,000 acres of environmentally sensitive lands in Carlsbad.<sup>5</sup>
- E** This amendment is justified on the basis of local **environmental** conditions. Sustainability is a core value of the Community Vision, and an intrinsic part of the Carlsbad General Plan. Energy efficiency enhances the public health and welfare by promoting the environmental and economic health of the city through incorporating green practices into the design, construction, maintenance and operation of new and existing buildings. Installation of renewable energy systems to provide a building's energy and water heating needs enhances the public health and welfare by reducing air pollution and greenhouse gas (GHG) emissions that come from fossil fuel combustion.

The amendments to the California Green Building Standards Code and Energy Code are reasonably necessary to achieve the following goals of the General Plan Sustainability Element and Carlsbad Climate Action Plan:

- Promote energy efficiency and conservation in the community;
- Pursue the use of sustainable energy sources;
- Reduce the community's greenhouse gas emissions and foster green development patterns;
- Maintain a long-term balance among environmental, social and economic concerns, to

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<sup>1</sup> Kalansky, Julie, Dan Cayan, Kate Barba, Laura Walsh, Kimberly Brouwer, Dani Boudreau. (University of California, San Diego). 2018. *San Diego Summary Report*. California's Fourth Climate Change Assessment, p.27.

<sup>2</sup> Bedsworth, Louise, Dan Cayan, Guido Franco, Leah Fisher, Sonya Ziaja. (California Governor's Office of Planning and Research, Scripps Institution of Oceanography, California Energy Commission, California Public Utilities Commission). 2018. *Statewide Summary Report*. California's Fourth Climate Change Assessment, p. 22.

<sup>3</sup> *San Diego Summary Report*, p. 19.

<sup>4</sup> 2017 San Diego Multi-jurisdictional Hazard Mitigation Plan, Table 5.3-1.

<sup>5</sup> City of Carlsbad. December 2017. Sea Level Rise Vulnerability Assessment, Table 7, p. 44.

ensure a vibrant, healthy and prosperous community.

The above-listed conditions within the city pose local hazards for which amendments to the California Green Building Standards Code and California Energy Code are required. Human activities that release heat-trapping greenhouse gases into the atmosphere (such as through fossil fuel combustion) are the primary driver of climate change.<sup>6</sup> Failure to address and significantly reduce GHG emissions could result in increased extreme heat events, dry weather conditions and risk of wildfire. Rises in sea level, including in the city's lagoons, could put at risk Carlsbad homes and businesses, public facilities, public roads (especially Carlsbad Boulevard) and accessways.

According to the Carlsbad Climate Action Plan, community-wide GHG emissions need to be reduced 49 percent by 2035 to help achieve statewide reduction targets necessary to reduce impacts from climate change. Residential land uses account for 25 percent of the community's GHG emissions, while commercial and industrial uses are responsible for about 32 percent. Implementation of energy efficiency, photovoltaic energy and alternative water heating systems in new and existing residential and nonresidential buildings will significantly reduce emissions from these uses.

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<sup>6</sup> U.S. Global Research Program. Fourth National Climate Change Assessment, <https://www.globalchange.gov/climate-change>. Accessed on 12/28/18.

STATE OF CALIFORNIA       )  
COUNTY OF SAN DIEGO    ) ss.

I, Sherry Freisinger, Deputy City Clerk of the City of Carlsbad, County of San Diego, State of California, hereby certify that I have compared the foregoing copy with the original ORDINANCE NO. CS-347, AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CARLSBAD, CALIFORNIA, AMENDING CARLSBAD MUNICIPAL CODE CHAPTERS 18.21 AND 18.30 REGARDING REQUIREMENTS FOR ENERGY EFFICIENCY MEASURES AND PHOTOVOLTAIC SYSTEMS IN NEW OR EXISTING RESIDENTIAL AND NON-RESIDENTIAL BUILDINGS, AND WATER HEATING SYSTEMS IN NEW NONRESIDENTIAL BUILDINGS, PROJECT NO. MCA 17-0002 (PUB17Y-0013), on file in the Office of the City Clerk of the City of Carlsbad; that the same contains a full, true and correct transcript therefrom and of the whole thereof.

Witness my hand and the seal of said City of Carlsbad, this 13<sup>TH</sup> day of March 2019.

  
\_\_\_\_\_  
SHERRY FREISINGER  
Deputy City Clerk

(SEAL)

