FRONTRUNNER: CITY OF CARLSBAD

CITY OF CARLSBAD BECOMES FIRST CALIFORNIA CITY TO ADOPT 2019 ENERGY REACH CODES

OVERVIEW

Nestled along the southern California coastline, between Los Angeles and San Diego, the City of Carlsbad offers its nearly 120,000 residents magnificent beaches, temperate weather, a robust and diversified economy, and a strong commitment to protecting the local environment. The City is home to numerous tourist attractions, such as LEGOLAND® California Resort, SEA LIFE Aquarium and The Flower Fields, as well as a hub for the biotech sector.

The Adoption Process

In 2015, the City adopted a comprehensive General Plan update, including an ambitious Climate Action Plan (CAP), which aims to reduce emissions of greenhouse gases such as carbon dioxide, methane, nitrous oxide and water vapor. Over the past few years, City officials studied a variety of experiences and options for implementation. Early in 2019, the City Environmental Management and Planning Departments proposed a package of ordinances to fulfill the promise of the City's CAP. The ambitious proposal included:



UNDERSTANDING REACH CODES

A Reach Code is law adopted by a local government that requires building energy performance beyond current CA Building Efficiency Standards. It typically applies to residential or nonresidential new construction, alterations or additions and involve extended measures in the areas such as energy or water efficiency. Reach Codes expire at the end of each three-year CA Building Efficiency Standards cycle.

ORDINANCE	DESCRIPTION	APPLICABILITY
Energy Efficiency Measures	Install packaged improvements	Residential retrofit
	Meet CalGreen Tier 1 energy efficiency	Nonresidential new construction & major retrofit
Photovoltaic Systems	Minimum PV system based on building size or electricity use	Nonresidential new construction & major retrofit
Alternative Water Heating	Solar thermal or heat pump water heating systems	Residential new construction Nonresidential new construction
Electric Vehicle Charging	One EV-ready space per dwelling unit	Single family residential (one or two dwelling units) new construction & retrofit
	At least 10% parking spaces are EV-capable, 50% of EV-capable spaces equipped with EV charging station	Multifamily residential (three or more dwelling units) new construction and major retrofits, and nonresidential new construction
Transportation Demand Management	Reduce the number of single-occupancy vehicle-trips by employees	Nonresidential new construction with high volume of employee-generated trips

“We had never pursued reach codes before,” noted Mike Grim, CAP Administrator, City of Carlsbad, “but we had a clear mandate and Carlsbad residents are strongly committed to preserving an outdoors-oriented lifestyle that would benefit from an ambitious ordinance package.”

The City team, led by Grim and David de Cordova, Principal Planner, collaborated with TRC Solutions, the Center for Sustainable Energy, and the Statewide Codes & Standards Program to develop Carlsbad-specific cost-effectiveness studies.

This analysis is required by the California Energy Commission (CEC) before a City may adopt local energy ordinances that exceed the stringency of the state’s Building Efficiency Standards (Title 24), to demonstrate that the development community, commercial tenants, and homeowners will not be unduly burdened by such ordinances.

“The cost-effectiveness analyses were extremely helpful in identifying the parameters of the actual proposed ordinances,” states de Cordova. “We were able to very accurately frame realistic guidelines based on the findings of these studies.” The team also found the Codes & Standards team helpful in facilitating vital working conversations with CEC personnel to work through issues as ordinance drafting was underway.

The final package of ordinances was adopted by the Carlsbad City Council on March 12, 2019 and submitted for CEC approval, which occurred in August 2019. The ordinances have varying effective dates, but all are effective by January 1, 2020, the effective date of the California Building Code (Title 24).



A Closer Look at the Ordinances

Each of the approved ordinances focuses on a specific aspect identified in the City's CAP, related to energy efficiency, renewable energy, alternative water heating and electric vehicle charging infrastructure. Implementation of these ordinances is designed to reduce greenhouse gas (GHG) emissions and assist in reaching the GHG reduction targets contained in the CAP.

Energy Efficiency Provisions

The focus here is to increase the energy efficiency of residential and nonresidential buildings, by mandating cost-effective energy efficiency measures in new construction and/or major renovations.

Residential efficiency provisions apply to renovations of existing single-family and multi- family residential buildings with a building permit valuation of $60,000 or more. Building permit applicants can opt to perform a home energy assessment and be exempted from the ordinance requirements if they achieve a minimum energy efficiency score.

Nonresidential efficiency provisions apply to all new construction and major renovations adding more than 1,000 ft2 of floor area or with a building permit valuation of $200,000 or more.

Photovoltaic (PV) Energy Provisions

Intended to increase the amount of locally- generated renewable energy in nonresidential buildings, this provision mandates inclusion of cost-effective PV systems in all new nonresidential construction and major renovations with building permit valuations of $1,000,000 or more that affect 75 percent or more of the existing floor area. It also applies to projects increasing the existing roof area by 2,000 ft2 or more.

Water Heating Provisions

Designed to reduce usage of natural gas for heating water in residential and nonresidential buildings, this provision requires the inclusion of cost- effective energy-efficient electric water heaters and/or solar thermal water heating systems in all new residential and nonresidential construction. A separate ordinance focused on residential systems, relying on the 2019 Building Efficiency Standards (Title 24 Part 6), was part of the overall package. Consequently, this specific provision will become effective on January 1, 2020 when the statewide standard also becomes effective.

Electric Vehicle (EV) Ordinance

Designed to promote increased EV use by providing more opportunity for EV charging, this ordinance requires the inclusion of EV charging infrastructure in residential and nonresidential new construction and major renovations. It also applies to major residential renovations that meet specific criteria.

Conclusion

“The adoption process always presents challenges and opportunities, both for the City and for developers, businesses and residents,” observes de Cordova. The City is working with developers and builders to help them understand the value of the required improvements. “In a couple

cases, significant new developments proactively integrated the reach code provisions into their project planning. The results were striking commercial properties that the developer markets highlighting the sustainable aspects of the construction.”

The City is very pleased with the outcome of the reach code adoptions, and how it has helped fulfill the vision of the Climate Action Plan. The planning team will continue to evaluate additional reach code provisions tied to future Building Efficiency Standards cycles, Grim and de Cordova noted.



RESOURCES

The comprehensive code package from the City of Carlsbad is available from the City's website.

The City's application package for California Energy Commission approval is posted on the CEC website.

Cost-effectiveness Studies, Model Ordinance Language, and other resources are available from the Statewide Codes and Standards Reach Codes Program.

OTHER FRONTRUNNERS

City of San Rafael Pursues Collaboration in its Development and Adoption of a Flex Path Residential Reach Code City of Cotati City of San Luis Obispo
Archives