FRONTRUNNER: CITY OF DAVIS

DAVIS ADVANCES 40+ YEAR SUSTAINABILITY HISTORY WITH COMPREHENSIVE REACH CODES

OVERVIEW

Davis, located only 11 miles west of Sacramento, is home to the University of California-Davis, which has forged an international reputation as a leader in veterinary medicine and animal husbandry with a total enrollment of 38,000 students. With nearly 70,000 residents, the city is also well-known for embracing sustainability and a green lifestyle, with well-known and highly-respected bicycle-friendly infrastructure and a long history of energy efficiency and sustainability spanning four decades. The city adopted its first Energy Conservation Building Code in 1972, which eventually was the basis for California's Title 24 requirements and Energy Code.

ADVANCING THE HERITAGE THROUGH REACH CODES: NONRESIDENTIAL AND RESIDENTIAL MEASURES

The City sustainability staff focused on developing and implementing its current package of reach codes to extend these codes beyond the statewide 2019 Building Energy Efficiency Standards and help the City achieve aggressive new goals. In March 2019, the City Council approved a Resolution declaring a climate emergency and proposed mobilization efforts to restore a safe climate that included an acceleration of the carbon neutrality goal for the Davis community from 2050 to 2040.



The historic Davis train station, in the Spanish/Mission Revival style, was added

April 2019: Nonresidential & High-Rise Residential Provisions

In April, the City adopted a set of provisions focusing primarily on nonresidential and high-rise residential construction. For these building types, the team focused on holistic approaches like those found in building rating systems such as LEED (Leadership in Energy and Environmental Design) as well as CALGreen (Title 24 Part 11), the 2019 Building Energy Efficiency Standards (Title 24 Part 6) and the Davis Municipal Code.

“By developing a set of measures that essentially requires new construction to achieve this holistic level of compliance, the result is a LEED Gold equivalency,” notes Greg Mahoney, Assistant Director, Community Development & Sustainability.

Provisions

- Enacts an energy efficiency and green “reach code” for nonresidential and high-rise residential projects requiring a 10% compliance margin
- Codifies the Davis Electric Vehicle (EV) Charging Plan previously adopted by Council resolution
- Requires installation of photovoltaics (PV) to achieve the lesser of approximately 80% offset of modelled annual electric load or 15 DC watts/ft2 of solar zone
- Adopts the latest draft or publication of the International Code Council (ICC) Commissioning (Cx) Guideline to clarify and define the required commissioning process
- Requires 120-volt receptacle at most remote sink, measured from the water heater, for new single-family dwellings, additions and remodels to accommodate future installation of an on-demand hot water recirculation pump

These provisions were approved by the California Energy Commission at its August 2019 business meeting and became effective the same month. An update for the 2019 Energy Code has been submitted to the Energy Commission.

September 2019: Residential Provisions

Later in 2019, the City team turned its focus to primarily residential construction. Mahoney noted, “for residential construction, we recognized the opportunity to incentivize all-electric homes while still providing a compliance pathway for mixed-fuel use. We did this by requiring no additional provisions for all-electric homes while adding requirements for mixed-fuel construction.” The applicable provisions include:

New mixed-fuel single-family dwellings:

- meet a Total Energy Design Rating (EDR) margin of 9.5
- provide capacity for a future retrofit to facilitate installation of all-electric appliances, including capacity and space at the electrical service panel, pre-wiring and installed circuit breakers for heat-pump water heater; induction stove top and oven; electric clothes dryer; heat-pump for code-required comfort heating



Downtown Davis offers shopping, dining and sight seeing in a bike friendly setting.

New mixed fuel low-rise multifamily dwellings:

- meet a Total Energy Design Rating (EDR) margin of 10
- provide capacity for a future retrofit to facilitate installation of all-electric appliances, including capacity and space at the electrical service panel, pre-wiring and installed circuit breakers for heat-pump water heater; induction stove top and oven; electric clothes dryer; heat-pump for code-required comfort heating

The provisions, adopted by the Davis City Council in September, were approved by the CEC at its January 2020 meeting and became effective the same month.

“We anticipate the implementation of these new reach codes to be highly effective,” Mahoney observed. “The city enjoys community-wide support of its sustainability efforts and is committed to achieving its long-term climate goals.”

RESOURCES

The City of Davis houses a comprehensive repository of its reach codes and other sustainability activities at https://www.cityofdavis.org/city-hall/community-development-and-sustainability/sustainability-program/climate-change

All of the Davis ordinances, staff reports and cost-effectiveness reports filed with the CEC are available at https://efiling.energy.ca.gov/Lists/ DocketLog.aspx?docketnumber=19-BSTD-06

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