

# Zero Net Energy Action Bulletin



## Factsheets Support Zero Net Energy Designers and Developers

California is advancing the conversation and the market around zero net energy (ZNE) buildings with more ZNE buildings than any state in the country. An easy-to-read series of three factsheets are available to support consistent and clear communications about these high-performance buildings for general audiences, architecture and engineering professionals, and developers and real estate professionals. ZNE buildings, which produce as much energy as they consume over the course of a year, are defined within the [Frequently Asked Questions](#) (FAQ) factsheet. The FAQ factsheet provides an overview of ZNE fundamentals, including benefits to the environment, benefits to San Diegans who live and work in and around these buildings, and to the bottom line. The impact of ZNE buildings extends beyond the building footprint. The FAQ underscores the importance of frontline community engagement during the design and development process as well as the role of off-site renewables and all-electric equipment and appliances.

Faster leasing rates, reduced operating costs, better financing and incentives, as well as future-proofing against changing building codes and changing utility rates, are a few of the benefits ZNE projects can deliver. The high-performance features of the La Jolla Commons Tower II project, for example, saves \$310,000 annually and afforded the developer, Hines, a six-year payback on the 15-year lease.

Architects and engineers can read and share the benefits of ZNE buildings outlined in the ZNE for [Architecture and Engineering](#) professionals factsheet, which includes providing enhanced value to clients, distinguishing their expertise, elevating their firm, and contributing to social equity. In addition, the factsheet contains an overview of the integrated design process that is key to ZNE projects such as the David and Lucille Packard Foundation Headquarters and Miller Hull Studio, profiled in the factsheet. All three factsheets are available on the [Local Energy Codes resources page](#) for easy sharing.



# San Diego County Moves Forward with Plan for Zero Carbon by 2035

In January 2021, the San Diego County Board of Supervisors unanimously approved a proposal to develop the Regional Decarbonization Framework (RDF), which is expected to move the county to zero carbon within 14 years. Zero carbon buildings are all-electric zero net energy buildings that do not use carbon based energy to operate the building. Supervisors Terra Lawson-Remer and Nora Vargas led the effort to reduce the burden on working families and provide well-paying jobs while targeting region-specific strategies to achieve zero carbon in key sectors, including energy, transportation, and land use. The draft RDF was released for public

comment in November 2021, and its adoption is anticipated in early 2022.

The development of the framework was led by the School of Global Policy and Strategy at UC San Diego in collaboration with the Energy Policy Initiatives Center at the University of San Diego School of Law and outside consultants. The team used energy modeling to evaluate, 1) the reduction of carbon dioxide emissions to reach zero operational emissions; 2) the curtailment of “super-pollutants” such as soot and smog; 3) and carbon storage and capture through natural and technological means.

**For more information, and to comment on the draft, visit the [County Sustainability website](#).**

Miller Hull Studio | San Diego, CA  
Credit: Chipper Hatter





North Park Seniors | San Diego, CA  
Credit: [www.chworks.org/apartment-details/north-park-seniors](http://www.chworks.org/apartment-details/north-park-seniors)

## Project Spotlight

### Mission Cove and North Park

San Diego has many sustainably built buildings, but Mission Cove and North Park Seniors residences, developed by Community HousingWorks, are unique communities that provide safe, inclusive, and affordable housing for seniors, including veterans and people experiencing homelessness. As Sue Reynolds, CEO of Community HousingWorks said, “These are not just affordable apartments. We are building opportunity and stable, healthy futures.”

Mission Cove is a 138-unit building with sustainable technology features, including electric vehicle charging stations, solar thermal hot water heating, and solar photovoltaic (PV) panels for clean common area electricity. Because of the sustainability aspects, Mission Cove won the [SDG&E Energy Efficiency & Sustainability Award for New Construction at the 2019 Ruby Awards](#).

Similarly, North Park Senior community was recognized by SDG&E at the [2019 Energy Showcase for Excellence in Energy Leadership—Residential Sector](#). North Park is an LGBTQ-affirming senior community, a first to the area and the seventh in the country. Built to a LEED Silver standard and above code energy requirements, the design of the 76-unit building includes a solar PV system, energy efficient appliances, and 100% ADA accessibility.

# San Diego Workforce Partnership to Support Internships and Training in Green Jobs

The San Diego Workforce Partnership seeks applicants to advance green job training through its County Youth Internship and Construction Career Jumpstart programs. The [County Youth Internship program](#) will support regional climate goals and create new opportunities for underemployed youths in fields such as renewable energy, sustainable land use, and waste management. Participants will receive job-readiness training and three months of part-time work in a county department such as Parks and Recreation or Planning and Development.

The [Construction Career Jumpstart program](#) is a partnership supported by SDG&E, the San Diego Foundation, and the International Brotherhood of Electrical

Workers to provide hands-on training and certification for careers in the energy, construction, and utility sectors. Participants can choose the Electrical Training Institute (ETI) pathway to become a skilled tradesperson or the GRID Alternatives pathway to prepare for a career as a solar installer. In addition, the program aims to diversify the entry-level workforce pipeline by serving those underrepresented in construction, including women, Veterans, and BIPOC populations.

**More details on the programs and how to apply can be found here: [workforce.org/programlist](https://workforce.org/programlist)**

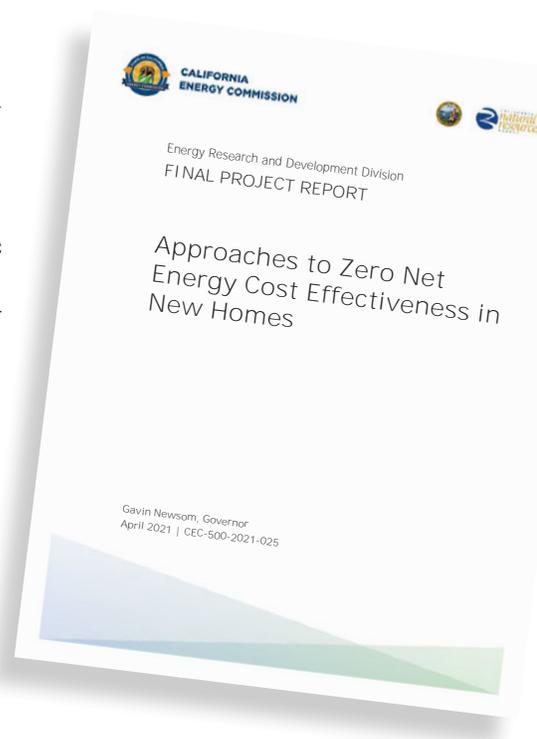
## Report Details ZNE Home Cost Data

A 2021 California Energy Commission (CEC) funded report, [Approaches to Zero Net Energy Cost Effectiveness in New Homes](#), sheds light on cost-effective options to support California's aggressive ZNE and GHG reduction goals.

Researchers performed energy modeling of new ZNE homes in California to inform future building codes and understand the cost-effectiveness of all-electric homes compared to mixed-fuel homes, amongst other things. The report found that new all-electric homes can save 38% of CO<sub>2</sub> emissions compared to mixed-fuel homes and have similar lifecycle costs in most climate zones. Additionally, transitioning new single-family and multifamily homes to all-electric ZNE by 2050 would result in more than 3.3 million metric tons net carbon dioxide savings.

The research shows that all-electric single-family homes are comparable in lifecycle costs to mixed-fuel homes in most climate zones. However, first costs are reduced when natural gas infrastructure is eliminated.

The report also identifies the conditions in which battery storage and precooling options can be cost-effective and provide non-energy benefits. All-electric homes with onsite solar PV coupled with electricity storage offer the potential for greater resiliency, fewer power disruptions, and reduced potential hazards associated with power outages.



Fuel Type	INITIAL COST (\$)		
	Code Compliant (T-24 2019)	Cost-Effective ZNE Measures	Savings
<b>Single-family, All-electric</b>	\$70,362	\$76,041	\$5,679
<b>Single-family, Mixed Fuel</b>	\$72,786	\$74,943	\$2,157

Climate Zone 7 Single-family, 2,100 SF Home Construction Cost



## Resources

NBI maintains a collection of ZNE resources, including case studies, research, and tools and guides for getting your project to ZNE. Visit [gettingtozeroforum.org](https://gettingtozeroforum.org).



New Buildings Institute (NBI) is a nonprofit organization driving better energy performance in commercial buildings. We work collaboratively with industry market players—governments, utilities, energy efficiency advocates and building professionals—to promote advanced design practices, innovative technologies, public policies and programs that improve energy efficiency. We also develop and offer guidance and tools to support the design and construction of energy efficient buildings.

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This program is funded by California utility customers and administered by San Diego Gas & Electric® Company under the auspices of the California Public Utilities Commission.