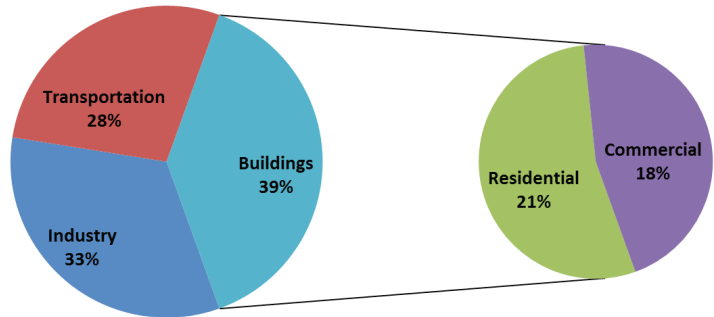


# Zero Net Energy Overview

Did you know that residential and commercial buildings are responsible for approximately 40 percent of U.S. energy consumption and carbon dioxide emissions? Building retrofits and energy-efficient construction present a huge opportunity to reduce greenhouse gas emissions and energy burdens on families, businesses and public agencies. As energy efficiency and renewable energy technologies become more affordable and available, the pursuit of zero net energy (ZNE) buildings has emerged as an aspirational policy goal in California.

Share of U.S. Energy Consumption

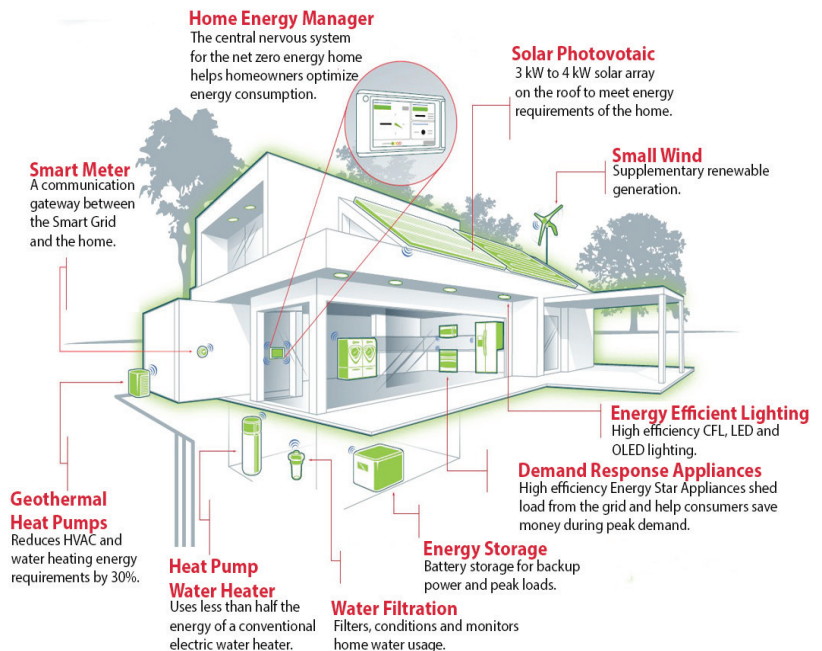


## What is Zero Net Energy?

Broadly defined, a building achieves zero net energy when it produces as much energy as it consumes over the course of one year. Buildings achieve ZNE first through high levels of energy efficiency, and then through the addition of clean, on-site renewable power generation, typically solar photovoltaics (solar PV).

## Energy Code Compliance

According to the California Energy Commission, “a zero net energy building is one where the net amount of energy produced by on-site renewable resources is equal to the value of the energy consumed annually by the building, at the level of a single “project” seeking development entitlements and building code permits, measured using the California Energy Commission’s Time Dependent Valuation (TDV) metric.” A zero net energy code building meets an energy use intensity value designated by the Building Energy Efficiency standards, specific to building type and climate zone, reflecting best practices for highly efficient buildings.



Learn more about  
zero net energy homes at:  
[CaliforniaZNEHomes.com](http://CaliforniaZNEHomes.com)

## ZNE Action Plan

The Statewide Energy Efficiency Strategic Plan and the 2015-2020 New Residential ZNE Action Plan lay out a strategy and process to take the marketplace of today towards the goals defined by the state. Financing is an integral part of achieving the ZNE mission, both for new construction and existing building retrofits.

In the retrofit market, the ultimate goal for homeowners should be to make smart renovations that increase the efficiency of their home to offset any remaining energy needs with renewable generation, either through on-site generation or purchasing green power in a community choice aggregation, from the utility, or some other method. Strategic Partners working in the existing building market should look for ways to help their customers understand the whole-house concept behind ZNE, especially for those homeowners inquiring about solar or who have already installed solar on their homes.

## The Role of Financing in Achieving Zero Net Energy Goals

In September 2013, the California Public Utilities Commission (CPUC) authorized several energy efficiency financing pilot programs for Investor Owned Utility (IOU) customers, including residential, multi-family, small business, and non-residential customers. The pilots are administered by the California Alternative Energy and Advanced Transportation Authority (CAEATFA). The purpose of the residential pilot program is to use credit enhancements to help Participating Financial Institutions and Participating Finance Lenders provide better loan terms to customers and by offering a loan repayment option called On-Bill Repayment (OBR) that tests the effectiveness of including the customer's monthly loan payment on their utility bill to increase debt service performance. The first pilot to launch is the Residential Energy Efficiency Loan (REEL) Program, which began enrolling loans in the 3rd quarter 2016 through its participating financial institutions. Additional pilots focusing on the small business, multifamily and other commercial marketing sectors are scheduled to launch throughout the next few years. Please see [www.TheCHEEF.com](http://www.TheCHEEF.com) for more information.



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