

National ZNE Policy Analysis

Example	Source	Type	Sector	Building Type	Scope	Location	CA specific	Date issued	Link	Comments
					Provides a scale for measuring commercial building energy performance. Sets energy targets for actual energy consumption rather than using a predictive energy model of building energy performance to calculate a "percent better than code" metric. zEPI sets an energy use intensity (EUI) target for building type and is adjusted for climate. It is also the measure by which a building's energy efficiency is calculated once operational and occupied based on measured energy use data.				http://newbuildings.org/code-policy/zepi/	The scale establishes zero net energy as the absolute goal making the need for a baseline obsolete. The only measurement that matters is how far a building has progressed towards zero net energy performance. The scale goes from zero to 100, with 100 representing the average energy consumption based on 2003 Commercial Buildings Energy Consumption Survey (CBECS) data.
New Buildings Institute zEPI	Industry organization	Other	Commercial	Both		International	No - national			
New Buildings Institute Codes and Policies	Industry organization						No - national			
New Buildings Institute Incentives	Industry organization						No - national			
New Buildings Institute Stretch Codes	Industry organization	Building Code	All	Both	A stretch code is a locally mandated code or alternative compliance path that is more aggressive than base code, resulting in buildings that achieve higher energy savings.	MA, OR, CA	No - other	NA	http://newbuildings.org/code-policy/utility-programs-stretch-codes/stretch-codes/	Can work in tandem with utility incentive programs.
Pima NetZero	Local jurisdiction	Building Ordinances	All	Both	The Net-Zero Energy Standard has a prescriptive residential section and a prescriptive commercial section covering apartments, office and retail. These building types represent approximately 30% of total energy use in the metro area. The Net-Zero Energy Standard also has a performance section for both residential and commercial that will allow buildings that can not use the prescriptive path to achieve a net-zero certification by using energy modeling software.	Tucson & Pima Counties, AZ	No - other	6/6/2012	http://www.pima.gov/netero/ http://www.pima.gov/netero/Documents/Net-Zero-Code-Final.pdf	The goal of the project was to develop a building standard that will provide a prescriptive set of rules for designing a building that generates as much energy as it uses. There is also a performance path in the code using Energy Modeling. The performance path is recommended for maximum benefit.
Boulder Sustainable Energy Plan	Local jurisdiction	Energy or Community Plan	All	Both	The SEP identifies a host of strategies to reduce greenhouse gas emissions and make our communities "ClimateSmart." These strategies are designed to reduce the major sources of greenhouse gas emissions. Accordingly, the strategies are organized by the main ways we use energy: in our homes, businesses, industries, government operations, and transportation.	Boulder, CO	No - other	4/1/2008	http://www.bouldercolorado.gov/ohc/publichealth/susemrvpn.pdf	20 key recommend first-tier actions out of 35. 30 actions have associated cost, cost savings, and GHG reduction impacts quantified while the remaining 5 focus on planning, educational, and revenue generating efforts that could not be quantified.
Lancaster Zero Energy Road Map	Local jurisdiction	Energy or Community Plan	All	Both	The goal has two phases: first to reach 215 megawatts (MW) of renewable power capacity, then 530 MW.	Lancaster, CA	Yes		https://energycenter.org/case-study-lancaster-zne-goal	As of January 2014, the city required new single-family homes to provide solar-generated power at a minimum average of 1 kilowatt per home.
City of Lancaster Mandatory Solar Requirement for New Homes	Local jurisdiction	Policy	Residential	Both	All residential buildings with a building permit issuance date of January 1, 2014 or later must have a certain amount of photovoltaics (PV) installed. The specific system size requirements vary according to zone and lot type (see link).	Lancaster, CA	Yes	1/1/2014	http://programs.dsireusa.org/system/program/detail/5624	
Massachusetts Stretch Code	Local jurisdiction	Building Code	Municipal	Both	Local mandated jurisdictional option: this code shall be the building code for all towns, cities, state agencies or authorities in accordance with M.G.L. c. 143, § 94. The provisions of this code and other referenced specialized codes shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appendances connected or attached to such buildings or structures. http://www.mass.gov/eops/docs/dps/8th-edition/13-energy-efficiency.pdf	175 Municipalities in MA http://www.mass.gov/eops/docs/dps/8th-edition/13-energy-efficiency.pdf	No - other	7/24/2009	http://www.mass.gov/eops/docs/dps/8th-edition/13-energy-efficiency.pdf	Although the standard "non-stretch" energy provisions of the code will be based on the IECC 2012 as of July 1, 2014, the stretch code will continue to be based on amendments to the IECC2009 (and ASHRAE 90.1-2007 for large commercial buildings) until such time as the stretch code is updated.
Oregon Stretch Code	Local jurisdiction	Building Code	All	Both	Alternative compliance path more stringent than state-based energy code: the Oregon Reach Code is adopted to provide optional standards for the effective use of energy and the utilization of renewable energy technologies in the construction and design of buildings to provide approaches and techniques for achieving effective energy use and reducing negative impacts of the built environment.	OR	No - other	7/1/2016	http://www.bcd.oregon.gov/notices/Adopted_Rules/2011/070111_ReachCode_pr.pdf	The code is an optional set of construction standards and methods that are economically and technically feasible, to regulate the design and construction of buildings for the effective use of energy and the employment of renewable energy technologies. The code is intended to provide flexibility to permit the use of innovative approaches and techniques to achieve the effective use of energy, and to reduce the negative potential impacts of the built environment.
California Stretch Code	Local jurisdiction	Building Code	All	Both	Local mandated jurisdictional option		Yes		http://www.californiaec.org/documents/best-practices/local-reach-codes	
Austin Energy Green Building	Local jurisdiction	Policy	All	Both		Austin, TX	No - other			
Minnesota Sustainable Building 2030 - Chapter 278	Local jurisdiction	Policy	Municipal	Both	In 2008, the governor signed into law Chapter 278, which provides for the Minnesota Sustainable Building 2030 (SB 2030) standards. It requires that every five years, total carbon emissions from building energy use be reduced by 10% to a final reduction of 100% by 2030 compared with the MN 2003 baseline of building average energy use. It requires that all buildings be scientifically benchmarked and real reduction in energy consumption measured and that utilities develop and implement programs to help building owners achieve the energy savings goals through design assistance, incentives and verification. And it requires analysis and evaluation of the effectiveness and cost-effectiveness of Sustainable Building 2030 performance standards, conservation improvement programs, and building energy codes.	Minnesota	No - other	6/30/2008	https://www.leg.state.mn.us/docs/2010/mandated/100310.pdf	
Executive Order B-18-12	Local jurisdiction	Policy	Municipal	Both	New State building and major renovations after 2025 must be ZNE. 50% of new facilities after 2020 must be ZNE. Take measures toward achieving ZNE for 50% of existing state-owned building area by 2015.	California	Yes			
City of Hayward ZNE Policy for Municipal Buildings - Executive Order B-18-12	Local jurisdiction	Policy	Municipal	Both	All new city building that begin design after 2025 be ZNE. All existing city building for which renovations exceeding 50% of the building's value and that begin design after 2025 be ZNE. Lesser improvements to existing city buildings should include efficiencies and technologies that facilitate achieving ZNE by 2030.	Hayward, CA	Yes	9/10/2015		
Santa Barbara County ZNE	Local jurisdiction	Policy	Municipal	Both	All new Santa Barbara County owned facilities and major renovations beginning design after 2025 [will] be constructed as Zero Net Energy Facilities with an interim target for 50% of facilities beginning design after 2020 to be Zero Net Energy. Santa Barbara County departments shall also take measures toward achieving Zero Net Energy for 50% of existing Santa Barbara County owned facilities by 2025 and the remaining 50% by 2035.	Santa Barbara, CA	Yes	November, 2014	https://santabarbaracounty.com/Legislationbeta/leg.aspx?ID=1639014&GUID=30909C28A-27D0-4604-96F4-E445A7F60637	Passed 3/4/2014
The Downtown Palo Alto Net Zero Energy (DPANZE) Initiative	Local jurisdiction	Policy	Commercial	Existing	Achieve Net Zero Energy (NZE) for at least 100 existing commercial buildings in downtown Palo Alto by year-end 2017.	Palo Alto, CA	Yes		http://www.clean-coalition.org/site/wp-content/uploads/2015/03/DPANZE-Initiative-Overview-24-18-16-Dec-2014.pptx	

Example	Source	Type	Sector	Building Type	Scope	Location	CA specific	Date issued	Link	Comments
					(a) A bold policy target of Net Zero Emissions for new construction: New buildings should achieve net zero beginning in 2020, starting with municipal buildings and phasing in the requirement for other building types between 2022-2030. (b) Targeted improvements to existing buildings: The Building Energy Use and Disclosure Ordinance (BEUDO) will provide the information necessary to target energy retrofit activity, including, over the long term, the regulation of energy efficiency retrofits at time of renovation and/or sale of property. (c) Proliferation of renewable energy: Increase renewable energy generation, beginning with requiring solar-ready new construction and support for community solar projects, evolving to a minimum requirement for onsite renewable energy generation. (d) Coordinated communications and engagement: Support from residents and key stakeholders is imperative to the success of the initiative.				file:///C:/Users/karkok/Downloads/netzero_20150316_detailedactionplan.pdf	
Cambridge Getting to Net Zero	Local jurisdiction	Energy or Community Plan	Municipal	New Construction		Cambridge	No - other	3/16/2015		Extend beyond municipal
Research Roadmap for Getting to ZNE Buildings - State of California Energy Commission	Industry organization	RFP language	All	Both	Develop a research roadmap that identifies, describes and prioritizes research, development, demonstration and deployment (RDD&D) gaps that needs to be addressed to achieve the state's goals for Zero-Net Energy (ZNE) buildings – in California's Investor-Owned Utility service territories – in a safe, equitable and cost-beneficial manner.	California	Yes	11/12/2015	http://www.energy.ca.gov/contracts/RFP-15-315/	The goal is to develop a technical assessment and Research Roadmap that identifies, describes, and prioritizes key RDD&D needs for achieving the state's goals for Zero-Net Energy (ZNE) buildings in a safe, equitable, and cost-beneficial manner. Specifically, the research roadmap must synthesize the input of stakeholders and experts in order to:
Reducing Costs for Communities and Businesses Through Integrated Demand-Side Management and ZNE Demos	Industry organization	RFP language	All	Both	Fund integrated technologies, strategies, and demonstrations that emphasize energy efficiency packages that include, but are not limited to: advanced building envelope materials or construction methods; advanced heating, ventilation, and air conditioning (HVAC) technologies and strategies; including right sizing systems and components based on increased energy efficiency; building and occupancy controls or energy management systems for HVAC, lighting, plug loads and other energy-using systems; advanced lighting technologies and daylighting controls; and demand response technologies.	California	Yes	11/2/2015	http://www.energy.ca.gov/contracts/GFO-15-308/	Each application must fall within one of the following project groups applicable to applied research and development research stage or technology demonstration and deployment research stage: Group 1: Applied Research and Development: Emerging Building Technology and Approaches for Existing Buildings; Group 2: Applied Research and Development: Emerging Technology Pilots for Zero Net Energy New Buildings; Group 3: Applied Research and Development: Develop Cost-Effective Approaches to Achieve California's Zero Net Energy Buildings Goals; Group 4: Applied Research and Development: Zero Net Energy Cost-Effectiveness Models by Climate Zone for Multifamily and Commercial Buildings; Group 5: Technology Demonstration and Deployment: Integrated Demand-Side Management Demonstrations to Achieve Maximum Efficiency; and Group 6: Technology Demonstration and Deployment: Large-Scale, Community-Wide Demonstrations to Achieve Zero Net Energy.
Prop 39 ZNE Pilot Program (PG&E)	Industry organization	RFP language	Municipal	Existing	To provide commercial project design and technical assistance services in support of PG&E's Proposition 39 (Prop 39) Zero Net Energy (ZNE) Pilot Program. PG&E seeks high-quality technical support to provide the detailed design, technical, and performance assistance that will be offered to project teams through the Prop 39 ZNE Pilot Program. PG&E will use the services of consultants to assist PG&E staff. PG&E will award contract work based on each consultant team's areas of expertise and the needs of the Prop 39 ZNE Pilot Program	California	Yes	5/15/2015	http://www.pge.com/includes/docs/pdfs/b2b/purchasing/bidopportunity/CA_Proposition39eZeroNetEnergyPilotProgram.pdf	K-12 and Community Colleges
Prop 39 ZNE Pilot Program (SCE)	Industry organization	RFP language	Municipal	Existing	Same as above	California	Yes	6/7/2016		
NREL RFP Language for ZNE	Industry organization	RFP language	Municipal	New Construction	The Department of Defense in its Annual Energy Management Report, May 2010, set a goal for Fort Carson to be a Net Zero installation by the year 2020. In accordance with this stated goal, it has been determined that the Butt's Plateau and 13th Combat Aviation Brigade (CAB) complex will be a Net Zero campus. In support for Fort Carson's Net Zero objective all new vertical construction is to be Net Zero Ready. Consequently, each individual building should be designed and constructed to minimize energy and water use and limit the amount of waste produced.	Fort Carson, CO	No - other	June, 2012	http://apps1.eere.energy.gov/buildings/publications/pdfs/ef/annotated_rfp_ftcarson.pdf	Increased preference will be given to proposals that exhibit significant energy reduction (well beyond 40%) through the use of passive design strategies, prior to the inclusion of renewable energy that incorporates efficient design strategies for the mechanical/electrical systems, building envelope, and fenestration. Higher proposed building energy efficiency and higher renewable energy percentages will be rated more favorably. Higher proposed building energy efficiency is more preferred and will be rated more favorably than higher renewable energy percentages. More favorable ratings will be given for proposed energy systems that exhibit favorable qualities in terms of performance, quality, maintenance, and operability. Less favorable ratings will be given for LCCA's (if applicable) which are inadequate, which is based on unrealistic assumptions
Santa Clara County ZNE Plan	Local jurisdiction	Energy or Community Plan	Municipal	Existing	ZNE Study for 400,000 sf county government center, 6 MW fuel cell RFP and eval, tariff analyses and emissions study, on-site and off-site renewable energy technology eval, 11 mw solar PV res-bct analysis	San Jose, CA	Yes		http://www.sagereview.com/santa-clara-county/	Zero net energy plan for the County's existing multi city block Government Center, including their County Offices, Courthouse and Jail.
NYU Green Lease Guide	Industry organization	Lease Language	Commercial	Existing	This Green Lease Guide aims to provide general guidelines, key points and sample provisions that will be useful to New York University (NYU) in reducing the carbon footprint and overall sustainability of the facilities that it occupies as a tenant.	New York, NY	No - other	8/1/2011	http://www.scps.nyu.edu/export/sites/scps/pdfs/real-estate/sbe-green-lease.pdf	
The Pathways to Zero Grant Program	Industry organization	Incentive Program	All	Both	The Pathways to Zero Grant Program is a \$3.5 million Department of Energy Resources (DOER) initiative launched in 2014 to spur the development of Zero Net Energy Buildings (ZNEB) in Massachusetts. \$3.0M is being used to support residential and commercial ZNEB projects through feasibility studies, integrated design, and construction funding, and \$500,000 is being used for public awareness, workforce development, efforts to develop and standardize best practices, and DOER resources. - See more at: http://database.aecce.org/state/financial-incentives#sthash.9t45pcw0.dpuf	MA	No - other		http://www.mass.gov/ea/energy-utilities-clean-tech/energy-efficiency/zero-net-energy-bldgs/	

Example	Source	Type	Sector	Building Type	Scope	Location	CA specific	Date issued	Link	Comments
Colorado ENERGY STAR / Energy Saving Mortgage Program	Local jurisdiction	Incentive Program	Residential	Both	The Energy Saving Mortgage Program incentivizes both the purchase of efficient homes and efficiency renovations in refinanced homes. Home buyers can earn a credit of up to \$8,000 on their mortgage for net-zero homes, or a percentage of that credit for homes scoring between a 50 and a zero on the Home Energy Rating System (HERS) Index Scale. Renovations function similarly as home owners can earn up to \$8,000 in incentives for efficiency retrofits to existing homes. - See more at: http://database.aeccee.org/state/financial-incentives#tshash9t4Spco.dpuf	CO	No - other		http://www.fourcore.org/portals/0/documents/Sustainable%20Building/ESM_Description.pdf	
NYSERDA Low-rise Residential New Construction Program	Local jurisdiction	Incentive Program	Residential	New Construction	On June 6, 2014, the New York State Energy Research and Development Authority (NYSERDA) announced the availability of significantly higher incentives under its Low-rise Residential New Construction Program including first incentives for homes designed for net zero energy performance. Builders can avail \$2,000-\$8,000 per unit under three performance tiers, with the highest amount for net zero homes.	NY	No - other	6/6/2014	http://www.nyscrda.ny.gov/funding-opportunities/Current-Funding-Opportunities/PQN-2309-Low-Rise-Residential-New-Construction-Program	Incentives are available to support the achievement of increased levels of energy performance, up to and inclusive of homes or dwelling units which are designed and constructed to achieve net zero energy performance.
City of Irvine No-Fee Solar Permits (per Measure S)	Local jurisdiction	Policy	All	Both	The city of Irvine has waived all permit and plancheck fees for Solar Panels and Solar Hot Water Heating Systems	Irvine, CA	Yes	3/8/2011	https://legacy.cityofirvine.org/cityhall/cd/buildingsafety/solar_installations/default.asp	Includes rooftop solar panels, solar carports, and solar hot water systems.
Culver City Building Safety Division Mandatory Green Building Program	Local jurisdiction	Policy	Commercial	Both	All new construction, new additions, and major renovations in Culver City up to 49,999 square feet of affected area are required to comply with Category 1 requirements, excluding single family and two family structures. All new construction, additions, and major renovations of 50,000 square feet and greater of affected area are required to comply with Category 2 requirements, excluding single family and two family structures.	Culver City, CA	Yes	6/1/2009	http://www.culvercity.org/Home/ShowDocument?Id=902	Subject to approval by the Culver City Community Development Department Director, Culver City plan check and permit fees in an amount not to exceed Five Thousand Dollars (\$5,000) per project may be waived for energy efficiency improvements which are located in the AIP (Area Improvement Plan) Phase I and Phase II areas.
Culver City Building Safety Division Mandatory Solar Photovoltaic Requirement	Local jurisdiction	Policy	Commercial	Both	All new construction in Culver City of 10K sf or greater, additions of 10K sf or greater, and major renovations of 10K sf or greater are required to install 1 KW of solar photovoltaic power per 10K sf or applicable building areas.	Culver City, CA	Yes	Spring 2008	http://www.culvercity.org/Home/ShowDocument?Id=440	
City of Sebastopol - Mandatory Solar Requirement for Residential and Commercial Buildings	Local jurisdiction	Building Code	All	Both	Minimum system size may be calculated by either of two methods, prescriptive or performance. Buildings using the prescriptive method must install 2 watts per square foot of conditioned building area including existing, remodeled and new conditioned space. Buildings using the performance method must use modeling software or other methods approved by the official to demonstrate that the system installed will meet 75% of the building's annual electricity load.	Sebastopol, CA	Yes	7/5/1905	http://energy.gov/savings/city-sebastopol-mandatory-solar-requirement-residential-and-commercial-buildings	
Berkeley Solar PV Permitting and Submittal Requirements	Local jurisdiction	Policy	Residential	Both	The City of Berkeley also offers a streamlined permitting procedure for small solar PV rooftop systems (10kW AC or less) for single family and duplex homes. This streamlined procedure includes the use of standard plans and offers electronic submission of applications.	Berkeley, CA	Yes	9/30/2015	http://www.ci.berkeley.ca.us/solarpermitguidew/	
Berkeley Energy Savings Ordinance (BESO)	Local jurisdiction	Policy	All	Existing	Requires completion of Home Energy Score energy assessment at time-of-sale, although it allows for the buyer to take on the Home Energy Score requirement	Berkeley, CA	Yes	2015/2016	http://www.ci.berkeley.ca.us/EnergyOrdinance/update/	
San Francisco Mandatory PV	Local jurisdiction	Policy	All	New Construction	New construction shorter than 10 floors to install solar panels or solar water heaters on top of new buildings, both residential and commercial.	San Francisco, CA	Yes	Effective 1/11	http://www.pv-tech.org/news/paving-the-way-san-francisco-first-big-us-city-require-rooftop-solar	
Santa Ana Streamlined Residential Solar Plan Check and Permitting	Local jurisdiction	Policy	Residential	Both	Streamlined residential roof top solar plan check and permitting process for qualifying projects	Santa Ana, CA	Yes	9/30/2015	http://www.ci.santa-ana.ca.us/pba/buildingsafety/ResidentialSolar.asp	