ZNE Policy Analysis

Summary of ZNE Policy Research conducted for Bay Area jurisdictions

BAY AREA Regional Energy Network

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San Mateo County BayREN Scope of Work

Task 1. Leverage RICAPS meetings to explore city needs

Task 2. Compile relevant ZNE policy and ordinance examples

Task 3. Prioritize and develop targeted ZNE resources for San Mateo

Task 4. Form working group to guide ZNE template development

Task 5. Refine and compile ZNE policy resources

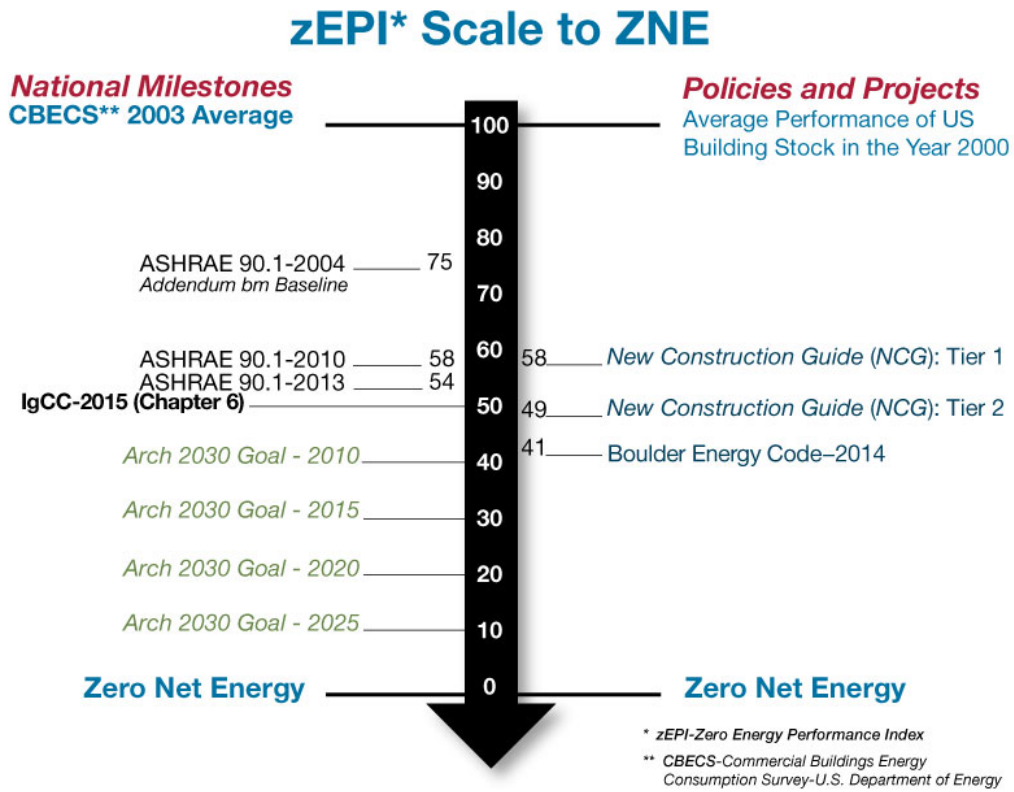
Overview of research findings

- Building codes (including stretch codes) and ordinances (6)
- Energy or Community Plans (4)
- Policies (13)
- RFP language (2)
- Lease language (3)
- Incentive programs (financial and alternative) (3)
- Other industry-developed tools or recommendations

Industry tools: zEPI Scale

Absolute scale used to benchmark buildings as opposed to the percent-better-than-code baselines with ZNE as the end goal

- The scale runs from 0-100, with 100 representing the average energy consumption based on CBECS data.
- Who's using it?
  - Earth Advantage
  - New Buildings Institute
  - International Green Construction Code 2012 (51)
- Barriers to inclusion



Policy Focus - Mandatory Solar Ordinances

- **Culver City**
  - 1KW of solar per 10K sf for applicable projects
    - New construction, additions, or major renovations over 10K sf
    - Does not apply to 1-2 family structures, garages, or parking structures
- **Lancaster**
  - 0.5 kW to 1.5 kW depending on type
- **San Francisco**
  - New construction <10 floors must install solar panels or solar water heaters on top of new buildings, both residential and commercial.
- **City of San Mateo**
  - Minimum size system for all new (1 kW to 5 kW depending on type) or alternative solar hot water system
  - Mandatory cool roofs for low-sloped commercial and multifamily of >0.70

Policy Focus - Mandatory Solar Ordinances

Sebastopol

1) Either install 2 watts per square foot of conditioned building area including existing, remodeled and new conditioned space **OR**

2) Use modeling software to demonstrate that the system installed will meet 75% of the building's annual electricity load.

Financial Incentives

- PACE financing
- Solar rebates and incentives
  - City-funded (SF, Marin)
  - Utility-funded (LA, Pasadena, Plumas-Sierra)
- ZNE-specific
  - NYC: $2-8K per unit under three performance tiers, the highest being for ZNE homes
  - City of Watsonville: New Climate Impact Fee enacted, fully refunded for ZNE
- PV Buydown Programs
  - Anaheim, Truckee, Ukiah, etc.
  - Bay Area SunShares

Non-financial Incentives

- **City of Irvine:** No-fee solar permits
- **Culver City:** Plan check and permit fees (not to exceed $5K) waived for energy efficiency improvements in specific areas
- **San Diego:** Expedited permits

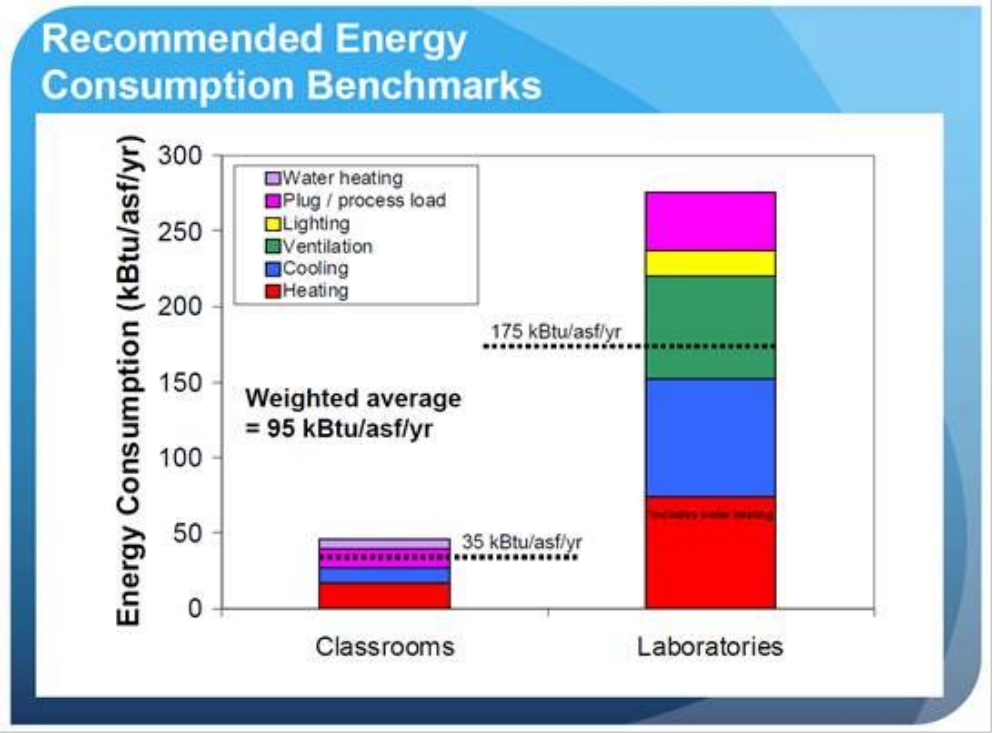
RFP and Lease Language

Community College in LA

"This project shall be built in a manner that maximizes all possible sustainable attributes including, but not limited to, state-of-the-art building design, mechanical design, and material selection, and building integrated renewable energy generation systems to achieve zero-energy consumption and a carbon-neutral profile upon completion."

Utility RFP

- Prepare a list of proposed design measures for the building to achieve a very low energy footprint in the range of at least 16-22 kBtu/sf, or less, along with supporting documentation and analysis.



Recommendations for Targeted ZNE Policy Resources

RFP Template Language	ZNE Incentive Programs	ZNE Incentive Programs
• Energy Use Intensity (EUI) targets • Lifetime cost (not just upfront capital) • San Mateo County climate zone	• Expedited permitting • Expedited inspections • Based on the EUI targets	• New city climate fee • Refunds for ZNE or ZNE-ready buildings • Based on the EUI targets

INTERACTIVE ACTIVITY

1. Pro's and con's of each approach (write on post-it notes)
2. Vote on preferred Incentive Program Approach (sticky dots)

RFP Template Language	Expedited permit/ inspections	Climate Fee