



RICAPS August 2016

RICAPS Agenda, August 23

1. Introductions 1:00 – 1:10 PM
2. San Mateo County Zero Net Energy Strategic Plan 1:10 – 1:25 PM
Jacki Falconio, County of San Mateo
3. Overview of BayREN Zero Net Energy Initiatives and Template Policy Language Development 1:25 – 2:05 PM
Andrea Chow, County of San Mateo, Betty Seto, DNV GL *[Interactive Activity]*
4. PG&E Support for Reach Code Cost-effectiveness Studies 2:05 – 2:40 PM
Marshall Hunt, PG&E, Misti Bruceri, on behalf of PG&E *[Interactive Activity]*
5. California Energy Commission Peninsula Advanced Energy Communities (PAEC) Grant 2:40 – 2:50 PM
Kim Springer, County of San Mateo
6. Wrap-up and Next Steps 2:50 – 3:00 PM

San Mateo County Zero Net Energy Strategic Plan:

And how we're building a ZNE Toolkit

JACKI FALCONIO

8/23/2016

RICAPS

SMCEW ZNE Framework

- ❖ Goal: This framework aims to support ZNE policy development and implementation
 - ❖ Assist the County and Cities in development of a ZNE Plan
 - ❖ Develop materials cities ask for
 - ❖ Work towards market transformation
- ❖ December 2015 In Person RICAPS Meeting you voted for:
 - ❖ Template Language
 - ❖ RFP Language
 - ❖ Ordinances



BayREN –SMCEW Partnership

- ❖ Leverage the results of RICAPS ZNE survey and develop templates that are easily replicable
- ❖ BayREN Codes and Standards Funding for ZNE
- ❖ Gap Analysis
- ❖ Template Language
 - ❖ RFP Language
 - ❖ Building Incentive Program





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CPUC ZNE Workbook Pilot

- ❖ CPUC contracted with NBI to pilot workbook with local jurisdictions
 - ❖ Workbook used in ZNE Workshop in Portola Valley May 2015
- ❖ Goal: Host Charrette with County Department Heads to enhance templates and create a pathway for ZNE initiatives
- ❖ Deliverables
 - ❖ Finished Workbook
 - ❖ Strategic Plan

nbi new buildings
institute



ZNE Workbook Charrette- September 8th

- **GOAL:** Get buy in and input from county staff in order to develop a ZNE Plan for County Facilities that is easy to implement
- Departments attending:
 - Office of Sustainability
 - Public Works
 - Capital Projects
 - Energy Manager
 - Operations
 - Finance
 - Planning and Building





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COUNTY OF SAN MATEO

Deliverables

- ❖ Finished Workbook
- ❖ Written Strategic Plan
 - ❖ County Facilities
 - ❖ Community Facilitation
- ❖ Presentation at BayREN forum in November 2016

San Mateo County Energy Watch ZNE Framework

Energy
Watch



1. Support municipalities to develop ZE action plans and policy templates

2. Nurture early adopters and influence projects

3. Train professionals about Zero Energy Buildings

4. Provide training and information materials

County Facility ZNE Strategic Plan

Charrette

ZNE Policy for New Construction and Renovations

CPUC Pilot Project

Templates

RFP Template: ZNE Language

Sample Building Incentive Program

ZNE Lease Language

BayREN
CEC-
PAEC

Educational Materials

Workshop Materials

Videos

Webinars

Energy Watch

ZNE Resource Toolkit

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ZNE Reach Code Policy Projects



StopWaste

- To provide **engineering and cost analysis** on municipal buildings
- To support Bay Area local governments in bringing ZNE reach code ordinances through public process for adoption

San Francisco

- To review, test, and improve the **zEPI** target-setting method on municipal and commercial buildings to support an outcome based policy option

San Mateo County

- To develop a **ZNE policy resource toolkit** for local governments to use in advancing municipal and commercial ZNE building

ENERGY

ZNE Policy Analysis

Summary of ZNE Policy Research conducted for
San Mateo County jurisdictions

August 23, 2016

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

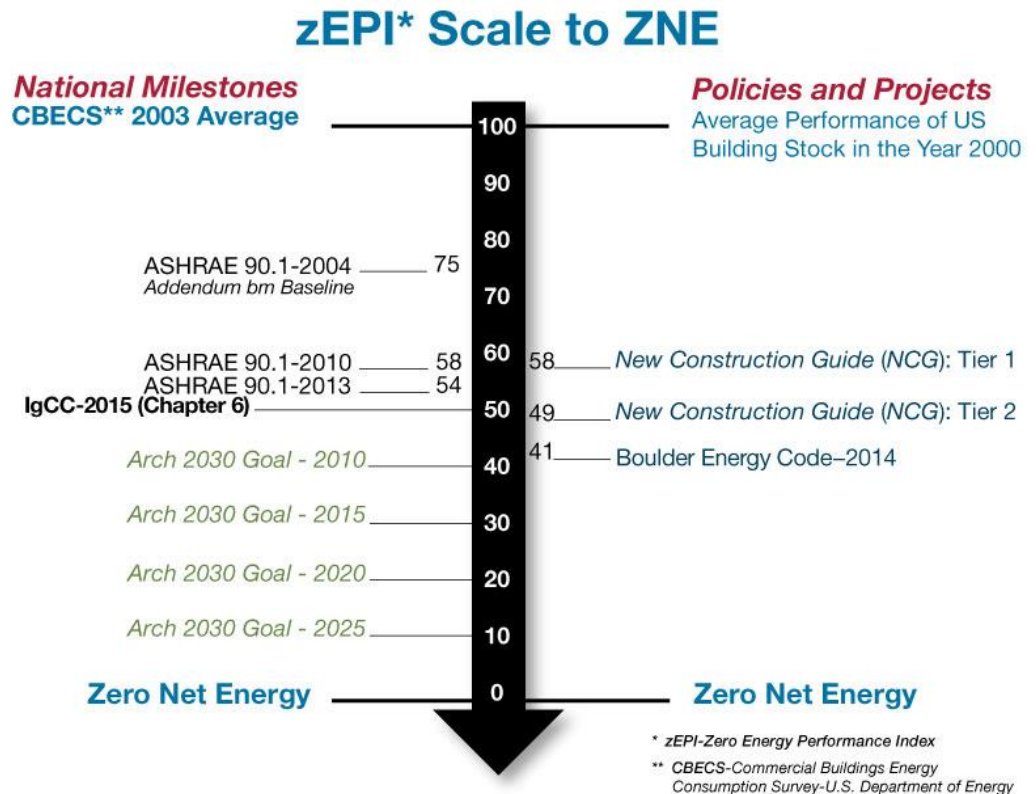
Task 5. Refine and compile ZNE policy resources

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.

- **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

- Either install 2 watts per square foot of conditioned building area including existing, remodeled and new conditioned space OR
- Use modeling software to demonstrate that the system installed will meet 75% of the building's annual electricity load.



Incentives (financial or alternative)

■ 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.
 - San Mateo County SunShares

Incentives (financial or alternative)

- **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

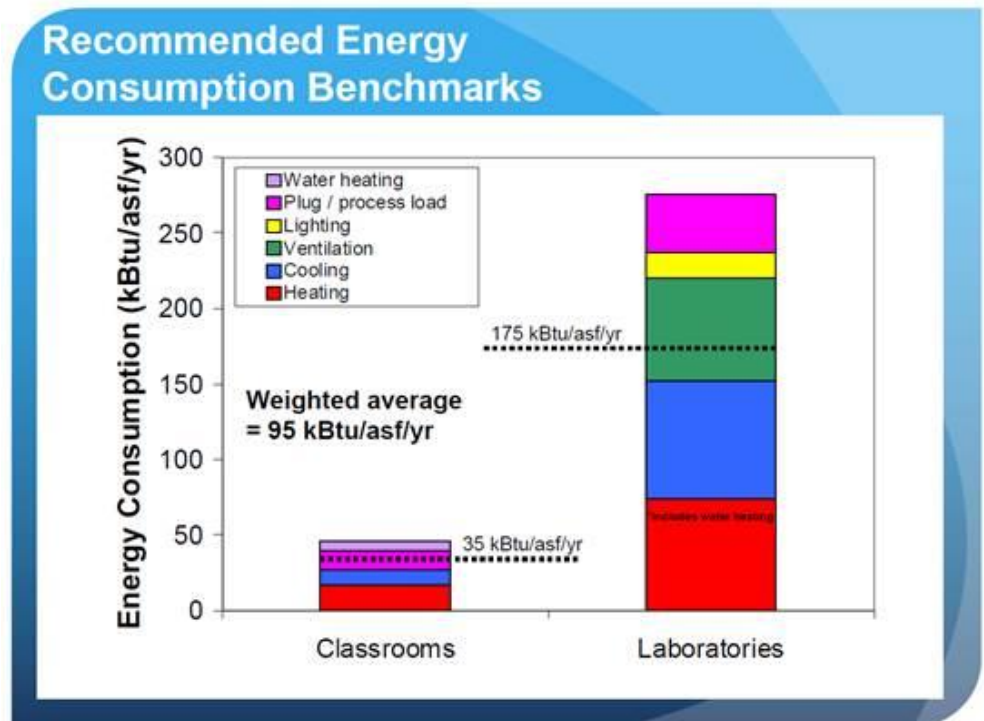
- “This project shall be built in a manner that maximizes all possible sustainable attributes including, but not limited to, state-of-the-art building design, mechanical design, and material selection, and building integrated renewable energy generation systems to achieve zero-energy consumption and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

- Energy benchmarking



■ 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

- Energy Use Intensity (EUI) targets
- Lifetime cost (not just upfront capital)
- San Mateo County climate zone

ZNE Incentive Programs

- Expedited permitting
- Expedited inspections
- Based on the EUI targets

ZNE Incentive Programs

- New city climate fee
- Refunds for ZNE or ZNE-ready buildings
- Based on the EUI targets

INTERACTIVE ACTIVITY #1

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