



ENERGY EFFICIENCY

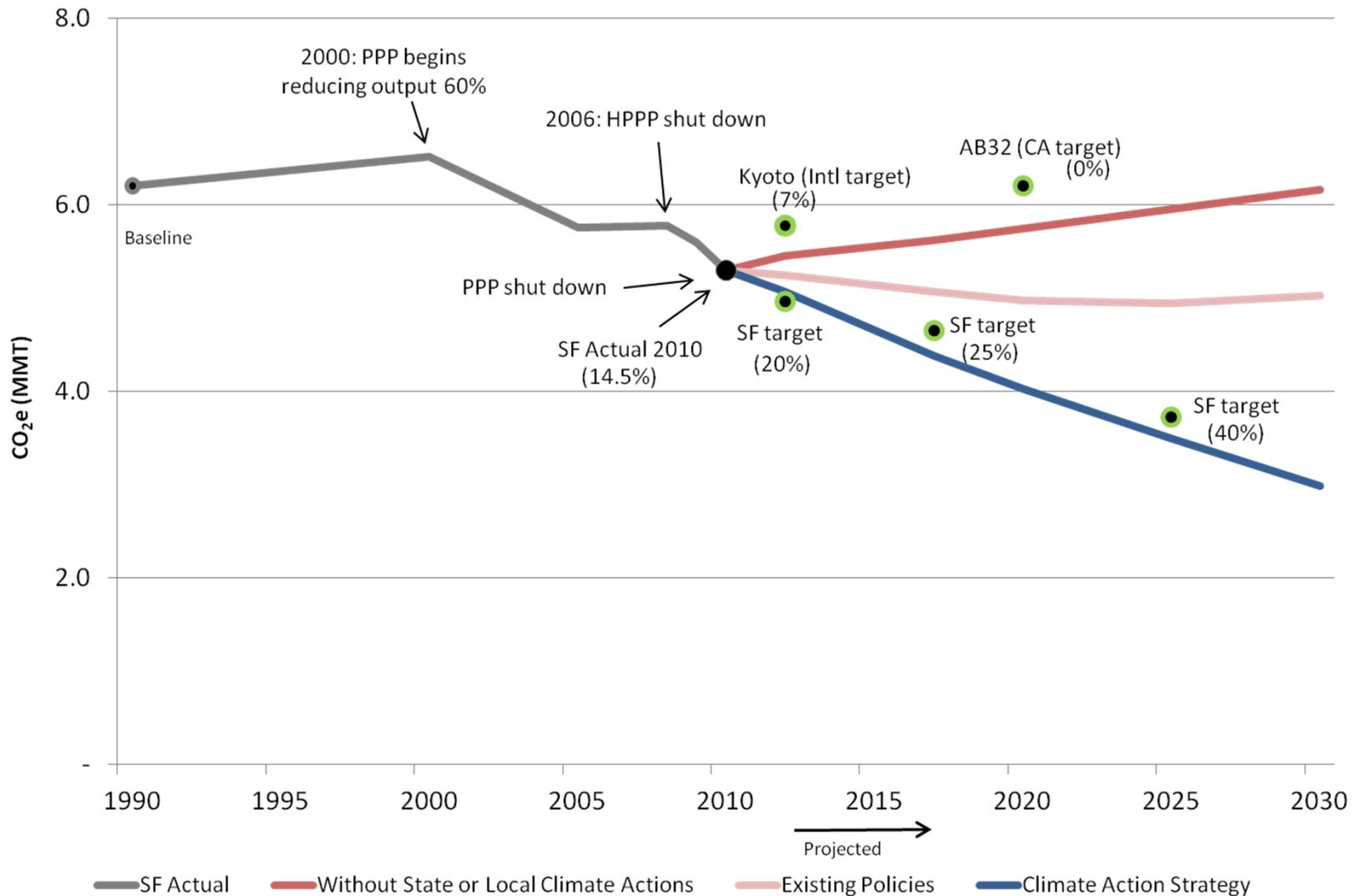


Cal Broomhead

Climate and Energy
Programs Manager

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San Francisco 2010 Greenhouse Gas Emissions Meet & Exceed International and State Targets



HPPP = Hunter's Point Power Plant PPP = Potrero Power Plant

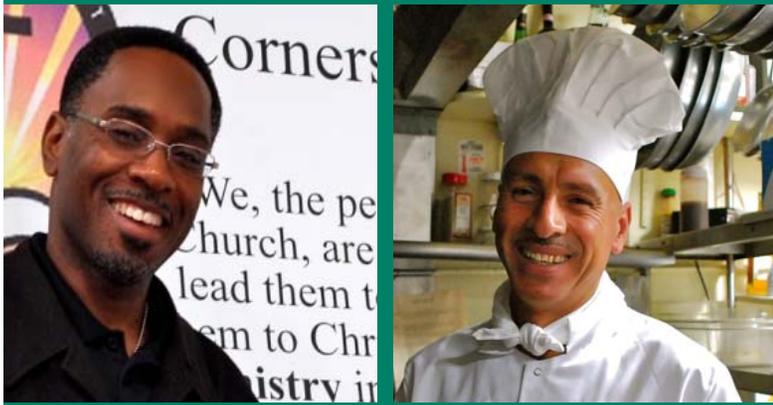
Why efficiency?



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Efficiency investment by City-run program:



- Installed **10,500** energy efficiency projects in commercial establishments
- **\$3,287** on average annual savings
- Paid over **\$37 million** in incentives
- Reduced **91,000 tons** of carbon emissions

Equivalent to:

- Powering **44,090** San Francisco homes for a year



The Feds



The State



CALIFORNIA
ENERGY COMMISSION



California
Public Utilities
Commission







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Your Bill & Account Save Money Rates **Services**

- Building & Renovation Services
- Property Managers & Owners
- Maintenance & Repair
- Brochures and Forms
- SmartMeter
- Workshops & Training
 - Solar Education Opportunities
 - Energy Training Center - Stockton
 - Pacific Energy Center
 - PG&E Energy Efficiency Classes
 - Architecture Resources
 - Lighting Resources
 - HVAC Resources
 - Tool Lending Library (TLL)
 - Resource Center (PEC Library)
 - Event Planning at the PEC
 - PEC How to Reach Us
 - PEC - Pacific Energy Center Staff
 - Food Service Technology Center
 - San Ramon Valley Conference Center
 - PG&E Academy
 - Non-PG&E Energy
 - First Responders

Welcome to the Pacific Energy Center



The Pacific Energy Center (address and directions) offers educational programs (PEC calendar), design tools, advice, and support to create energy efficient buildings and comfortable indoor environments. Most of our efforts are focused around commercial buildings, however, other departments offer advice and information for residential buildings.

Our services include assistance in:

- Daylighting and shading analysis of physical building models to optimize envelope design
- Advice on site orientation, glazing, shading, daylighting, and electric lighting systems
- Electric lighting system demonstrations and discussion of the pros and cons of different approaches to electric lighting in particular buildings and building types
- Identifying applicable incentive programs for energy-related measures, including the Savings By Design program
- Performance measurement tools for existing building systems evaluation and efficiency enhancements supported by protocols for tool use.

Please use the skills of the Energy Center staff, and our resources, to create a higher quality, energy-efficient built environment.

Sincerely,
Robert A. Marcial
PEC Director

Additional Info

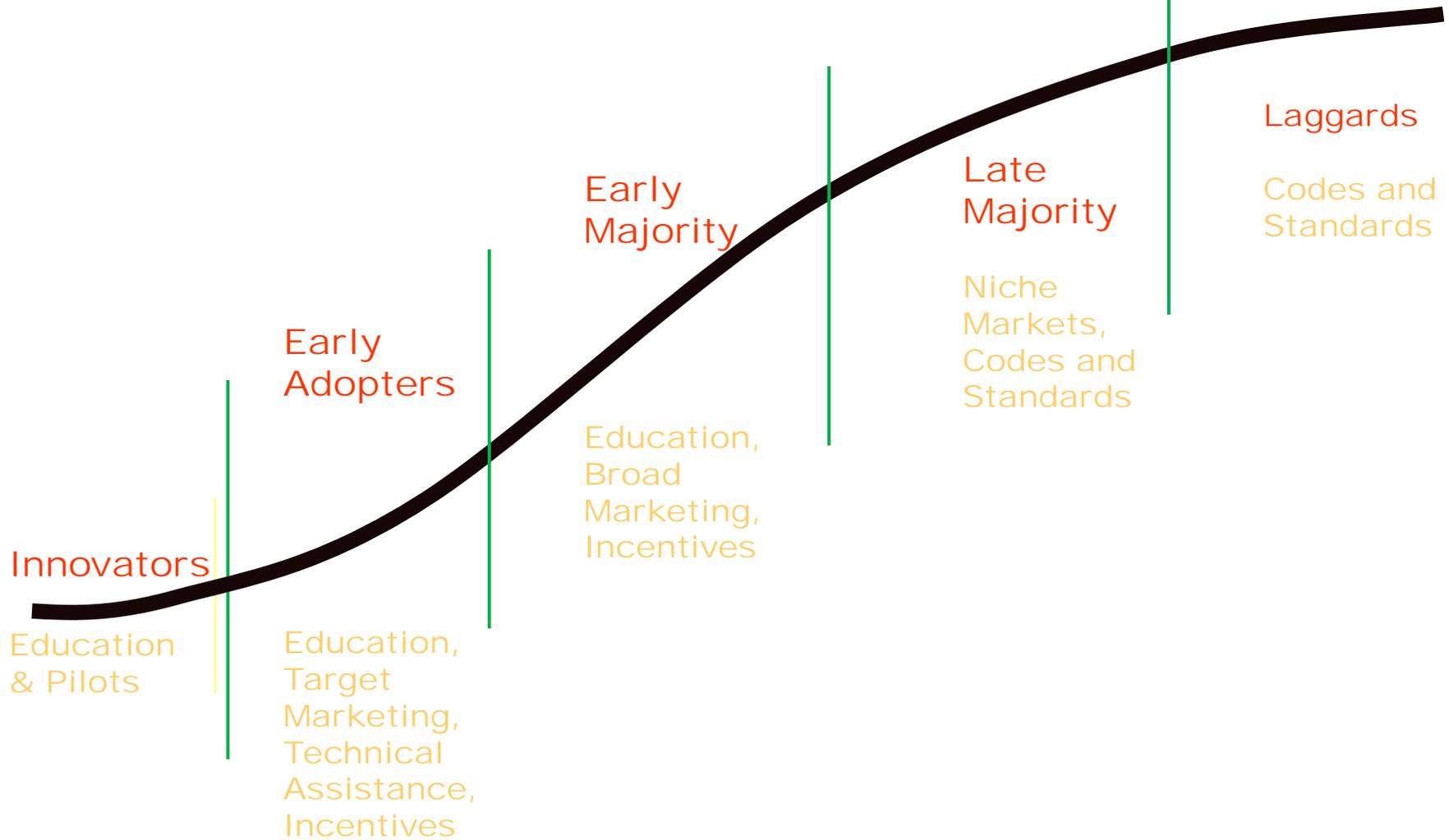
- PEC Compost Program

Regulations & Standards

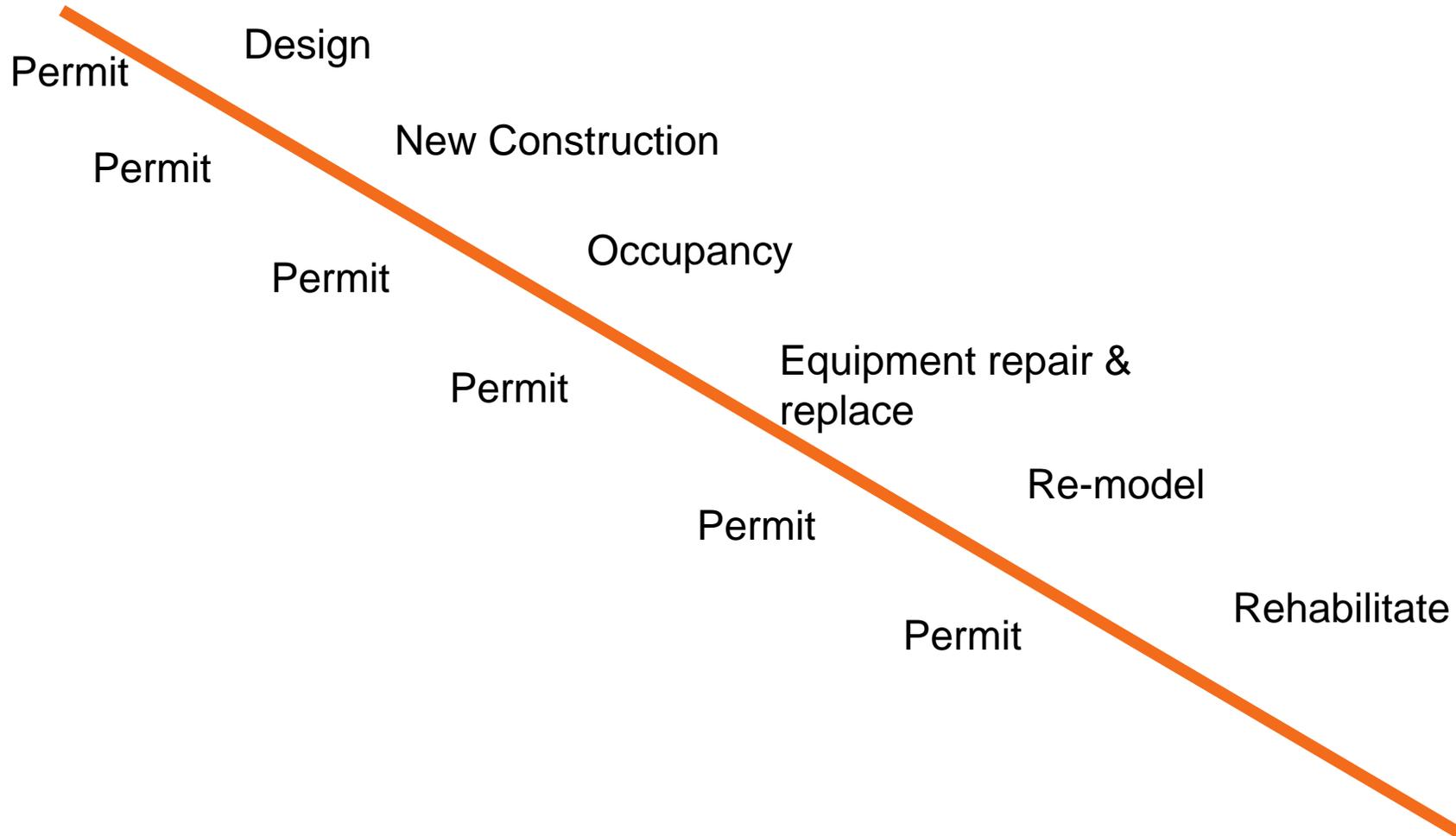


- Title 24: building efficiency standards
- CALGreen
- Title 20: appliance standards
- Home Energy Rating System
- ASHRAE
- Energy STAR
- US Green Building Council-LEED
- Building Performance Institute
- GreenPoint Rated

Market Adoption



Building: hardware life



Building Software



Operations and Maintenance

Occupant Behavior

Lease

Sale of shares

Sale of ownership

Recording of Deed

Education



Training



Technical Assistance

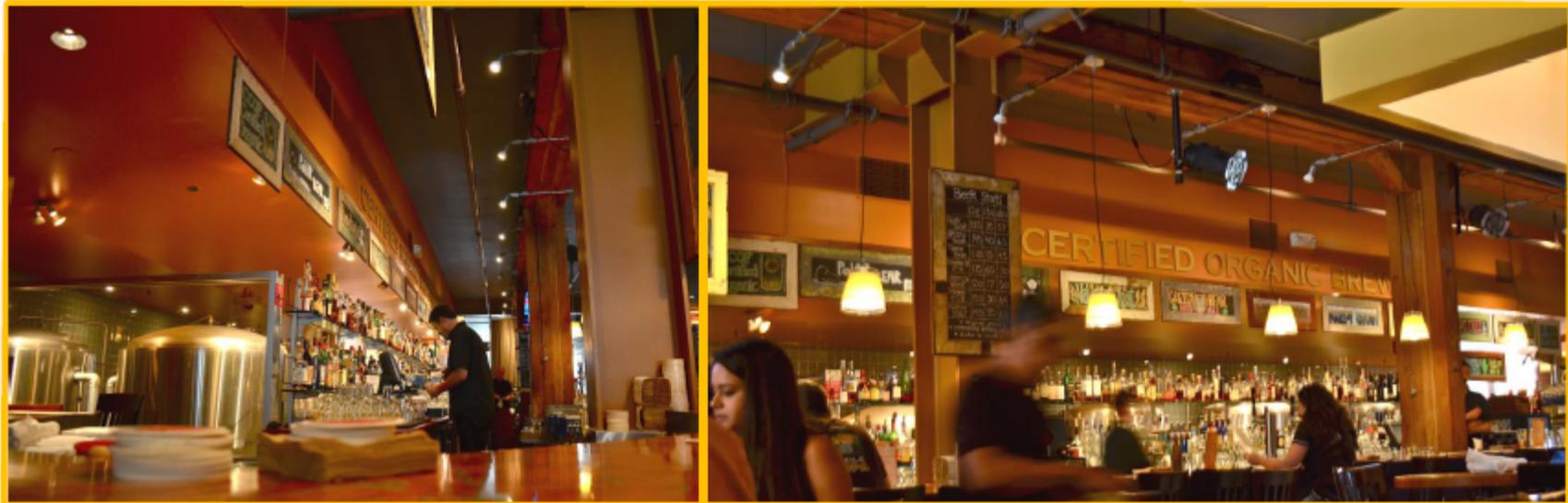


Incentives



ThirstyBear Brewery

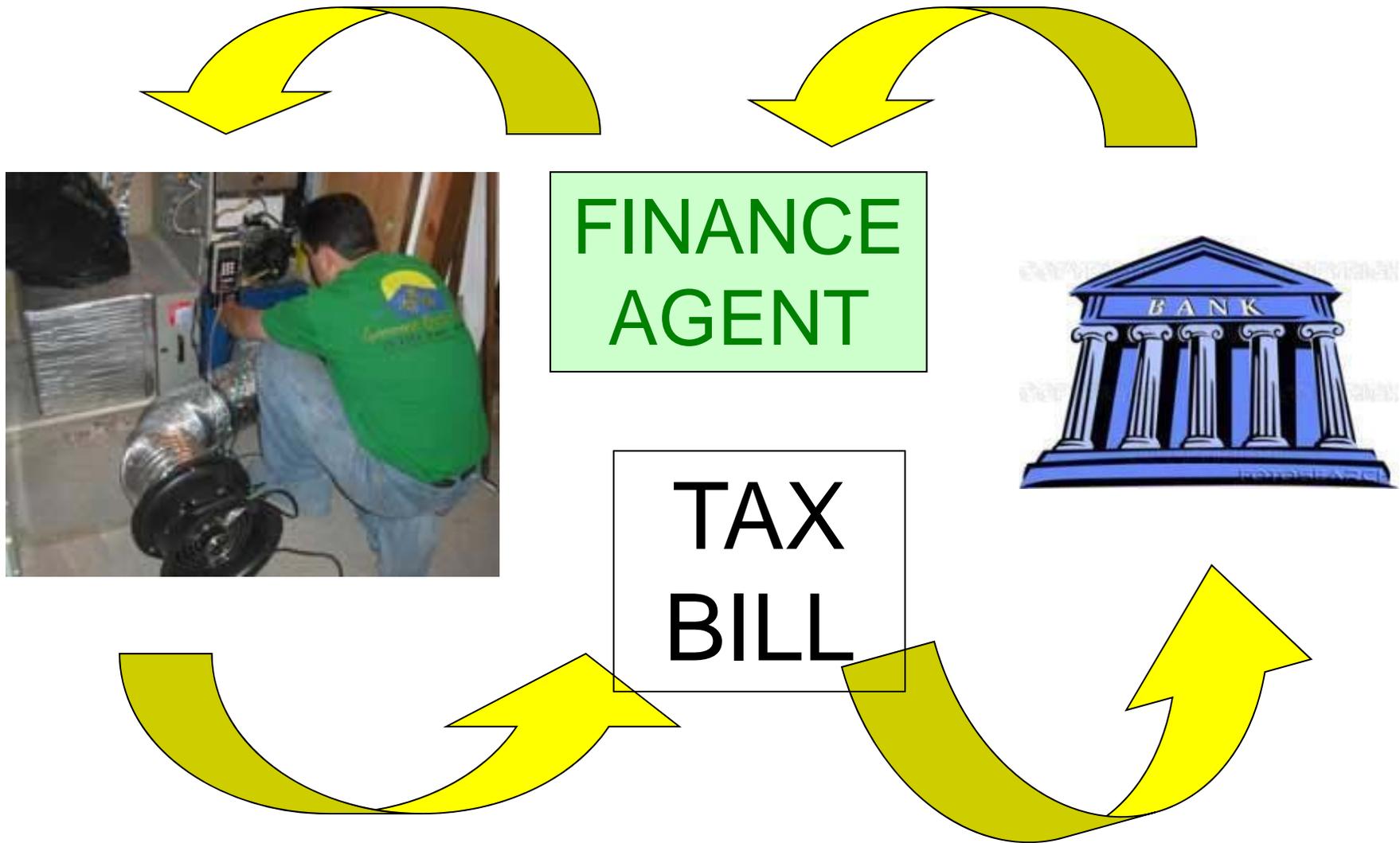
Energy Efficiency Champion: 661 Howard Street
Brewery-Restaurant Case Study



Combined Savings Snapshot

Project Cost	\$21,046
SF Energy Watch Incentive	\$10,252
Customer Co-Pay	\$10,794
Annual Savings	\$16,123
Payback Time	9 months

Property Assessed Financing



Law

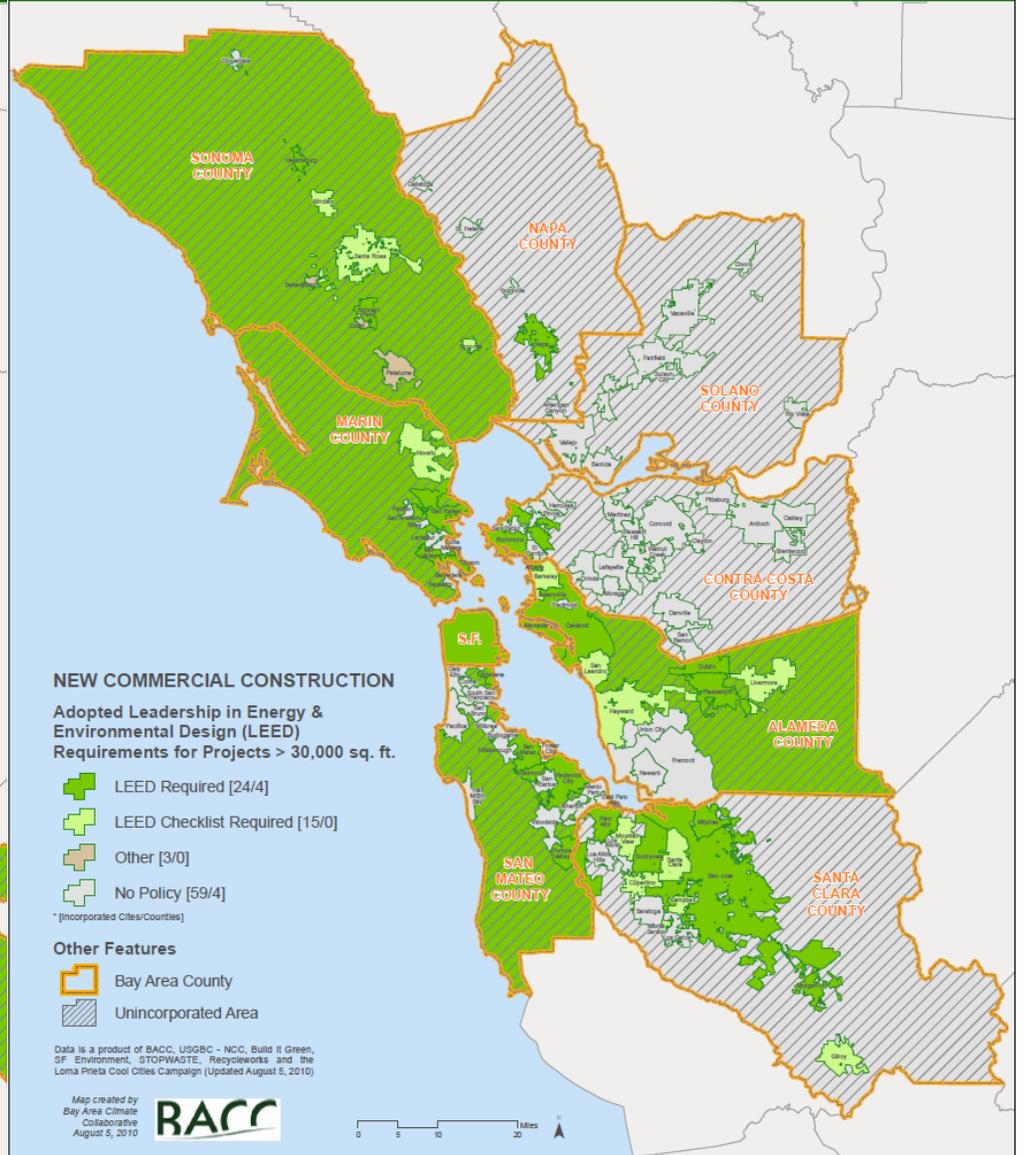


List of ordinances: <http://www.energy.ca.gov/title24/2008standards/ordinances/>

Green Building Requirements for New Residential Construction -- Bay Area Cities --

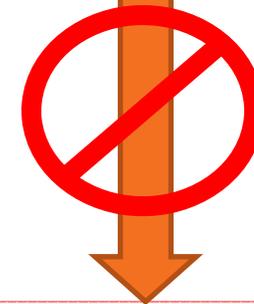


Green Building Requirements for New Commercial Construction -- Bay Area Cities --



Questions or Comments





- Technology & Standards
- Installer Recruitment
- Training
- Marketing
- Tracking (data)
- Audits
- Finance
- Quality Control
- Evaluation (EM&V)

- Sales
- Installation
- Incentive Payments