

Berkeley's Residential Energy Conservation Ordinance

Mayors Innovation Project Conference

Washington, DC

January 25, 2008

RECO Basics

➤ Purpose

- Improve the efficiency of housing stock at the point of sale and major renovation

➤ Objectives

- Reduce energy use and GHG emissions
- Reduce housing expenses
- Protect consumers
- Increase employment

➤ Origin

- 1980 ordinance to Title 19 of the Municipal Code - Buildings and Construction
 - *The wise and efficient use of energy is essential to the health, safety and public welfare of the people of the City of Berkeley*

RECO and Climate Change

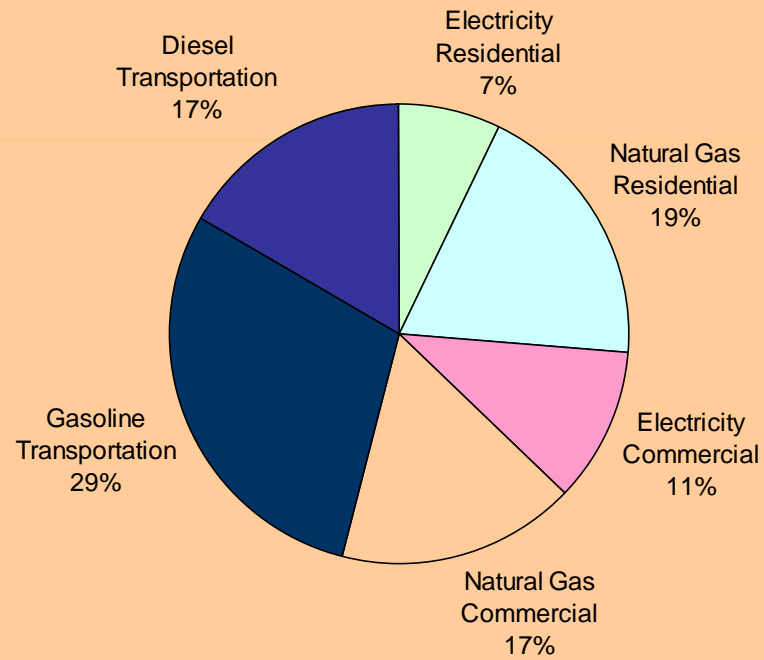
➤ *2008 Ballot Measure*

- *Should the People of the City of Berkeley have a goal of 80% reduction in greenhouse gas emissions by 2050 and advise the Mayor to work with the community to develop a plan ...which sets a ten year emissions reduction target ...?*

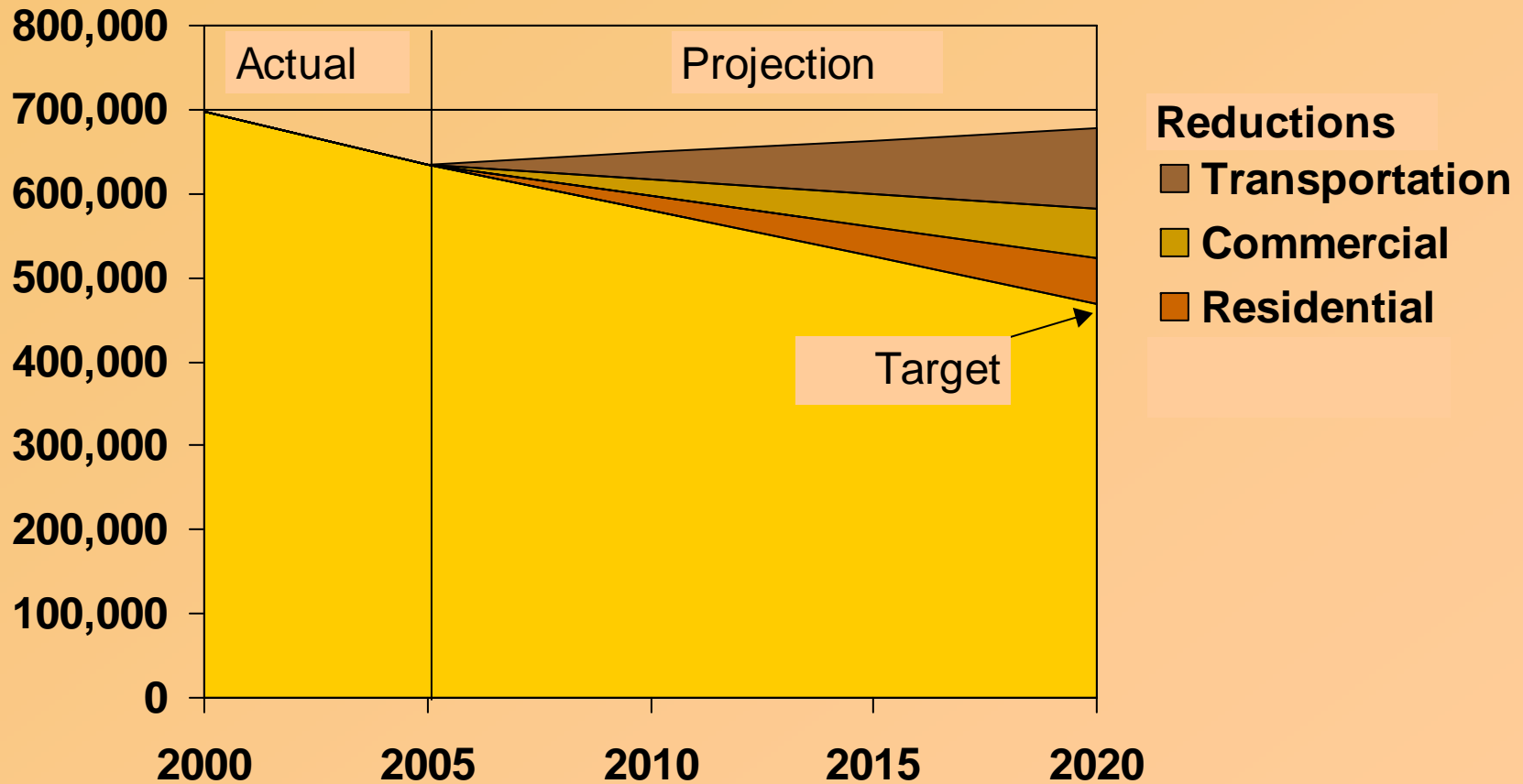
Passed with 81% of the vote

2005 GHG Emissions

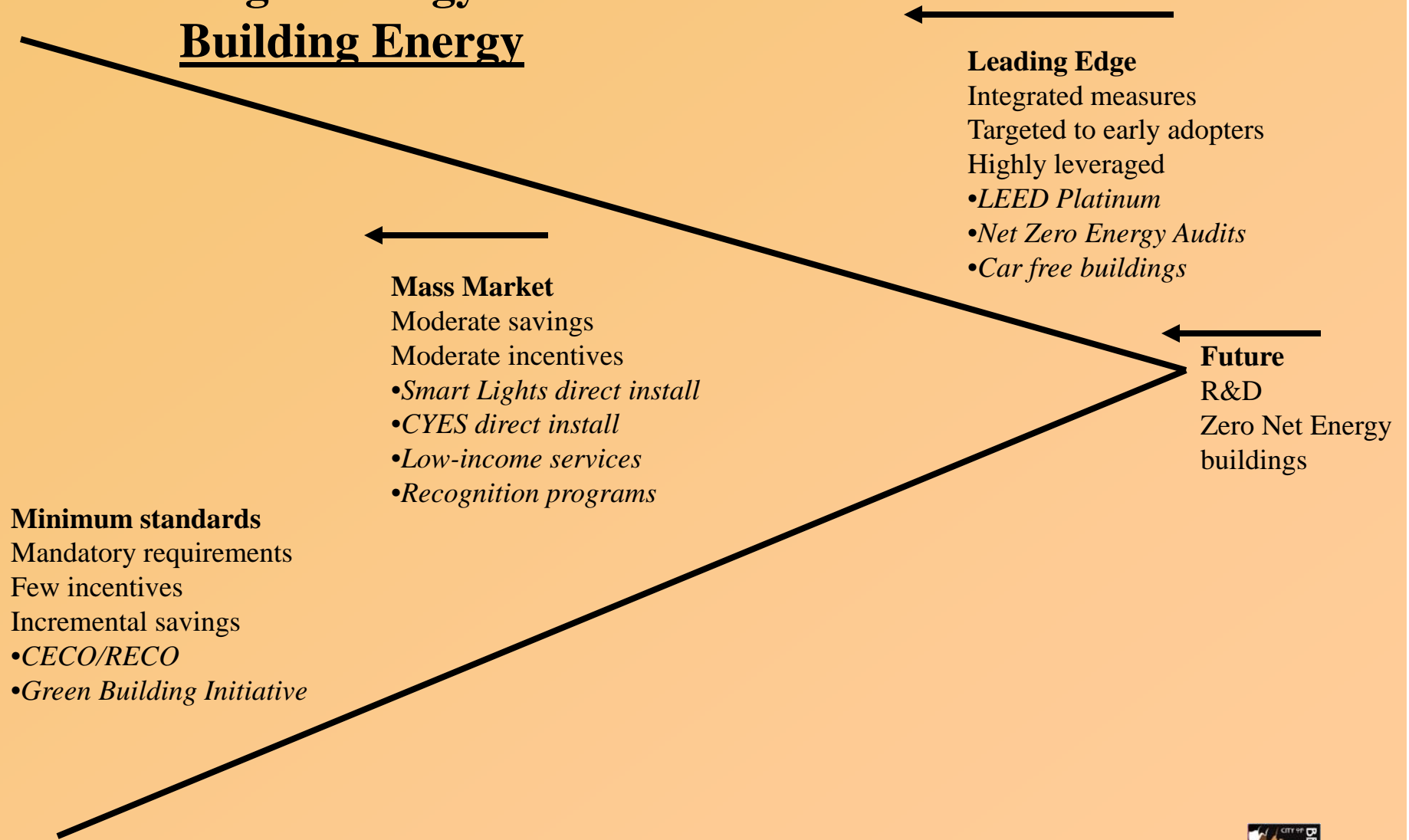
634,798 tons CO₂e



GHG Trend and Targets



Wedge Strategy for Building Energy



RECO Context

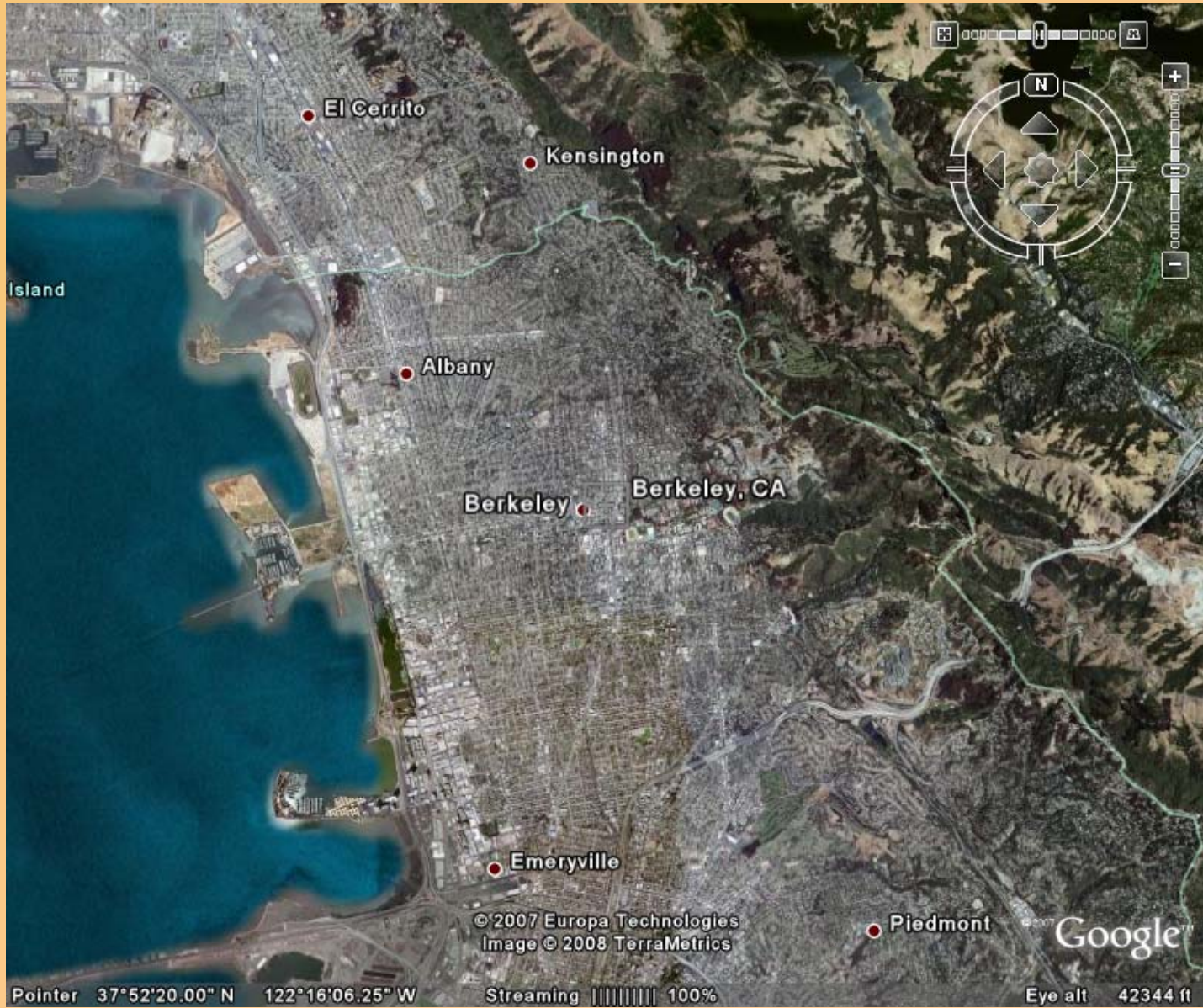
- **State Energy Code (1978)**
- **Residential Energy Conservation Ordinance (1980)**
- **Low-income weatherization (1985)**
- **California Energy Crises (2000 – 2001)**
- **Smart Lights (2002)**
- **Green building program (2003)**
- **California Youth Energy Services (2004)**
- **Statewide programs and services (ongoing)**
- **Berkeley Association of Realtors collaborative (under development)**
- **Mayor's Sustainable Energy Financing District (under development)**

Current RECO

- Berkeley and San Francisco
- Triggers
 - Point of sale
 - Major renovation (>\$50,000)
- Requirements
 - Prescriptive measures
 - Agent, escrow company and seller responsible; may be (and often is) transferred to buyer
- Expenditure cap
 - .75% of sales price (rarely applied)
- Compliant until ordinance is modified

MEASURES

Item	Requirement
Toilets	1.6 gal./flush toilet, or flow reduction devices
Showerheads	3.0 gal./min. flow rate
Faucets	2.75 gal./min. flow rate for kitchen and bathrooms
Water Heaters	Insulation wrap of R-12 value
Hot & Cold Water Piping	Insulate first two feet from water heater to R-3 value
Hot Water Piping in Pumped, Recirculating Heating Systems	Insulate all piping to R-3 value
Exterior Door Weather-Stripping	Permanently affixed weather-stripping, and door sweeps or door shoes
Furnace Duct Work	Seal duct joints, add insulation wrap to R-3 value
Fireplace Chimneys	Dampers, doors, or closures
Ceiling Insulation	Insulate to R-30 value
Common Area Lighting (multi-unit buildings only)	Replace incandescent with compact fluorescent lamps (CFL) of at least 25 lumens per watt



Opportunities and Limitations

➤ Opportunities

- Built environment
- Older housing stock
- High value market
- Leverages capital available during financing
- Leverages real estate industry as a change agent
- Addresses landlord/tenant split incentives

➤ Limitations

- Seller improvements undone by buyer
- Doesn't affect unsold/unimproved properties (e.g., trusts)
- Potential opposition from real estate industry
- Enforcement
- Effectiveness vs. simplicity
- Quality vendors and suppliers

Market and Activity

➤ Market

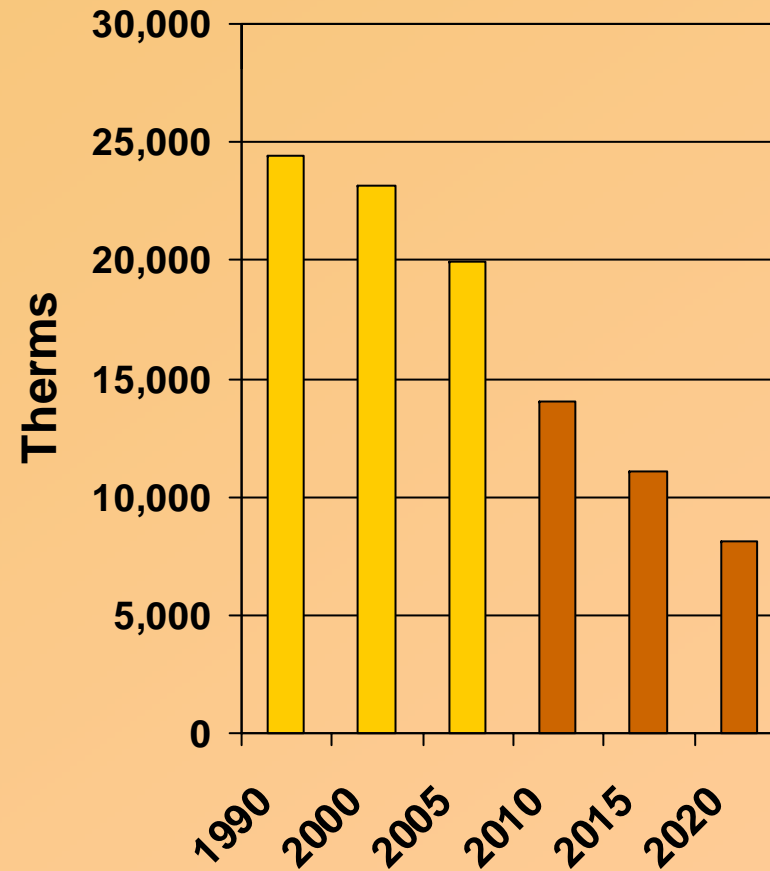
- 102,743 population
- 44,000 occupied units
- 28,000 rental units
- 20% of single family units turned over since 1996

➤ Current Annual Activity

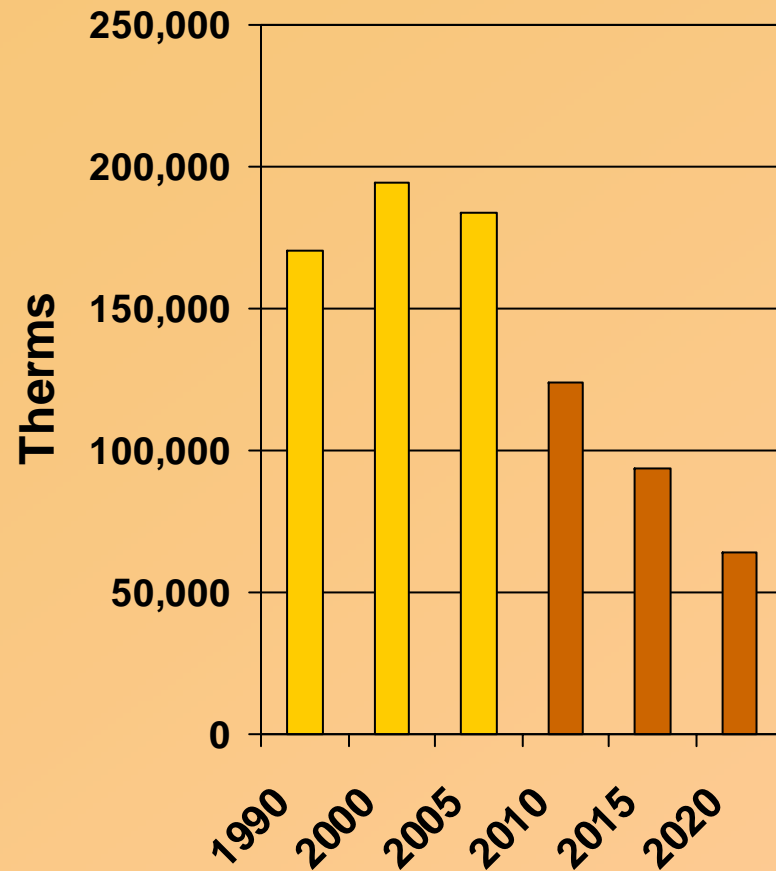
- 288 buildings
- 468 units (1%)

Natural Gas Results

18% reduction since 1990



Electricity Challenges



- **Electricity is not adequately addressed by RECO**
- **Gadgets driving growth**
- **Will impacts of energy crisis last?**

Possible Amendment

- Disclosure - home energy/green building rating
- Comprehensive performance audit
- Choice of performance or prescriptive compliance path
- Shift to measure compliance to buyer
- Include appliances
- Multifamily self-audit/disclosure
- Separate renovation ordinance

Objectives of Amendment

- **Regional standard**
- **More flexibility**
 - Credits for solar, hydronic heat and other measures
 - Credits for recent expenditures
- **More effective**
 - Option for specific performance-based measures for each property
 - Shift major compliance items to buyer
- **Integrate with seismic tax credit and sewer lateral ordinance**
- **Energy rating provides value**
 - Distinguishes efficient properties
 - To be phased in as mandatory seller responsibility
- **Spin off renovation requirements to local version of 2008 CA Building Code Energy Standards**

Tiers of Measures

➤ Tier 1

- Complete all applicable measures before counting Tier 2 measures towards expenditure cap
- E.G., insulation, duct repair, low-flow faucets

➤ Tier 2

- May be applied toward expenditure cap once Tier 1 measures are completed
- E.G., appliances, chimney dampers, clotheslines

➤ Tier 3

- Credit toward Tier 1 or Tier 2
- E.G., solar (PV and thermal), hydronic heat, low-E windows

Challenges of Amendment

- **Standards**
- **Service providers**
- **Qualified service providers**
 - **Raters**
 - **Auditors**
 - **Installers**
- **Complexity and time**
- **Costs**

Sustainable Energy Financing District

- Finance large energy improvements through special tax on individual properties
 - Solar
 - Efficiency
- Modeled after undergrounding districts
 - City creates district, owners opt in
- Cost of improvements amortized over 20 years on tax bill
- Debt service stays with property upon sale
- Anticipate low interest rate on very secure debt
- Pilot in in 2008

RECO Considerations

- State standards
- Housing stock and market
- Climate and measures
- Triggers: point of sale, remodels, date certain
- Disclosure (i.e., rating), installation or both
- Performance or prescriptive
- Expenditure cap and exemptions
- Seller vs. buyer responsibilities
- Multifamily component
- Infrastructure
 - Real estate industry
 - Services
 - Inspections
 - Administration and enforcement

Contact Information

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