



# Regulating Home Improvement: Time of Sale Energy Evaluations

David Weitz

Director, Applied Building Science Division  
Conservation Services Group

ACI Home Performance Conference  
Pittsburgh, April 3, 2008



Conservation Services Group



# Concept

- Require energy evaluation when a residential property is being sold
- May be tied to mandatory improvements
- Logical moment for making significant efficiency investments
  - take advantage of large transaction
  - capture lost opportunity





# Legislation vs Regulation

- Legislation sets broad framework and empowers regulators
- Regulation establishes details and specific references
  - e.g., HPA, HERS rating, contractor certification?





## Model Legislative Elements

- Empowers appropriate regulators to:
  - set standard for evaluating energy consumption
  - set reporting system (e.g., rating, scorecard)
- Seller must obtain evaluation
- Seller or agent must make report available to prospective buyers
- Exceptions (existing report  $\leq$  3 yrs old; other)

CSG



## Model Legislative Elements (cont'd)

- Evaluation must be complete before agent can represent property
- If there are energy improvement programs available, agent must notify prospective buyers
- Agent education requirements:
  - Understanding evaluation/reporting requirements
  - Knowledge of available energy mortgages





# Options

- Assessment only
- Assessment and Improvement
  - Prescriptive
  - Performance
  - Cost Effectiveness





# Examples

- Berkeley, CA
- CA statewide (incremental plan)
- NV statewide (voluntary)
- Pending
  - MA, NJ





## Berkeley, CA - RECO

- Residential Energy Conservation Ordinance
- All homes being transferred or renovations >\$50k
- Prescriptive checklist
- Buyers have 1 year to comply
- "Maximum Expenditure Allowance"





# RECO Checklist

- Toilets - 1.6 gal/flush, or flow reduction devices
- Showerheads - 3.0 gal./minute flow rate
- Faucet aerators - 2.75 gal./minute flow rate for kitchens/baths
- Water heater blankets - R-12 insulation wrap
- Hot & Cold Water Piping - R-3 for first two feet from heater
- Re-Circ Hot Water Piping - All pipes to R-3 value
- Exterior Door Weatherstripping
- Furnace duct work - Seal duct joints; R-3 insulation wrap
- Fireplace chimneys - Dampers, doors or closures
- Ceiling insulation - R-30 or greater
- Common Area Lighting (multi-unit buildings) - CFLs





# California

- 2007 Integrated Energy Policy Report recommends that CEC should:

*Pursue legislation that would require energy audits and a cost-effective level of efficiency improvements at the time of sale of a building.*

- Since 2006 CEC has required realty agents to distribute energy brochures to encourage ratings and improvements





## Nevada

- Passed in watered down version
- Would have required Office of Energy to establish a program for evaluating and rating energy consumption of residential property, and required that it be conducted upon sale
- Final bill requires evaluation only, is self-regulated, and without Realtors involved

CSG



## Massachusetts (pending)

- Would empower regulators to develop "home energy scoring program" for TOS in residential up to 5 units
- Could require sellers to disclose prior year's energy bills
- Provisions for training, licensure and conduct of home energy scoring personnel





## **New Jersey** (pending)

- Would require licensed Home Inspectors to conduct "energy rating"
- Utilizes existing licensing and education regulations and agencies
- Buyers agent – more likely to report deficiencies, but cost paid multiple times





# Codes on the Horizon

- Pending 2009 IECC
- Possible demand for HP skills





## EC64 – House infiltration

- Requires blower door testing (7 ACH50) or specific visual inspection – comprehensive checklist
- Allows AHJ to require visual to be performed by independent 3rd party





# EC71 – HVAC system leakage

- Post-construction test
  - Leakage to outdoors  $\leq 8$  CFM/100ft<sup>2</sup> conditioned floor area, OR total leakage  $\leq 12$  CFM/100ft<sup>2</sup> conditioned floor area. Tested at 25 Pa across whole system, with register boots sealed.
- Rough-in test
  - Total leakage  $\leq 6$  CFM/100ft<sup>2</sup> conditioned floor area. Tested at 25 Pa across rough-in system, with register boots sealed. If no air handler installed,  $\leq 4$  CFM.
- Location Exception
  - Testing not required if all ducts and air handler are located within conditioned space.





# QUESTIONS



Conservation Services Group