The Role of Energy Saving Targets & Regulatory Measures in Renovation Policy Packages

A California Perspective

Consulting • Teaching • Speaking • Writing • Advocacy
- Zero net energy + high performance design
- Green building
- Integrated project delivery / charrette facilitation
- Capacity building
Background

- Statewide focus on efficiency since 1978
- 55% of housing predates 1978 (~7M units)
- Buildings 2\textsuperscript{nd} largest contributor of greenhouse gasses in CA @ ~25%
- Improving existing building efficiency is the largest opportunity to reduce emissions
- In 2007, CA Energy Commission recommended 100% achievement of cost-effective energy efficiency
California’s residential retrofitting targets

- **Assembly Bill 32, 2006: Global Warming Solutions Act**
  - 2020 greenhouse gas emissions capped at 1990 levels
- **Assembly Bill 758, 2009: Comprehensive Energy Efficiency Program for Existing Buildings**
  - Energy assessments
  - Building benchmarking
  - Energy rating
  - Cost-effective energy efficiency improvements
  - Public & private sector energy efficiency financing
  - Public outreach & education
  - Green workforce training

TARGETS DRIVE implementation:
- Policies
- Regulations
- Programs
Outcomes

- Utility programs refocus:
  - Whole-house approaches
- Home sales requirements:
  - Point-of-sale energy rating & disclosure (HERS II)
- $20M workforce development program
- Property-assessed clean energy (PACE) financing pilots
- Residential retrofits must:
  - replace noncompliant plumbing fixtures with water-conserving plumbing fixtures

CA 2013 energy code (effective 1 July 2014)
Example: “Towards ZNE” Training

- Four-day class series:
  - Part 2: Retrofitting the Building Enclosure
  - Part 3: Retrofitting Mechanical Systems
  - Part 4: People & Plug Loads

- Delivered in service territories across CA:
  - San Francisco Bay Area, San Diego, Sacramento, Central Valley
Stakeholders

- CA Energy Commission & Public Utilities Commission required to consult with:
  - Department of Real Estate
  - Department of Housing & Urban Development
  - Utilities
  - Local governments
  - Real estate licensees, appraisers
  - Builders
  - Financial institutions
  - Environmental & environmental justice groups
  - Commercial property owners
  - Small businesses
  - Consumer groups
Building Sector Impacts

- **Short-term effects:**
  - New market opportunities
  - New training needed to take advantage

- **Longer-term needs:**
  - Get serious about energy efficiency
  - Focus on building capacity, not just compliance
  - Understand time-dependent valuation (TDV)
  - Learn new tools
  - Reexamine the toolkit
Lessons Learned

- Energy Upgrade CA being retooled based on 1st round
  - Not enough money to induce retrofits based on incentives alone
  - Need to find ways to target “opportunistic remodeling”
- Educating the workforce is great ...
  - But there needs to be work for them to do!
- Create demand ahead of supply
  - Balance push/pull
- PACE and HERS II: too soon to say ...

If at first you don’t succeed ...
Thank you!

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