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U.S. Building Energy Codes: Potential Program Administrator Roles

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Presented by Allen Lee

Role of Building Energy Codes

- Establish minimum energy-efficiency floor for all buildings
- Linked to market transformation (MT) strategy in 1990's
 - 1994 Nadel & Geller ACEEE paper
 - MT seeks to change market so efficient products/services are norm and need no incentives
 - This is exactly what energy codes do

Advantages of Codes

- Codes (have potential to) affect entire market and minimize “lost opportunities”
- Scale effects decrease costs of energy efficiency
- Relative to DSM programs...
 - Ongoing incentives are not required
 - Effects are persistent

Recent Codes and Standards Activities

- Northwest Energy Efficiency Alliance (NEEA) codes evaluation
- Iowa residential code compliance analysis
- Idaho appliance standards assessment
- California utility C&S program evaluation
- EPA research on DSM program administrator and regulator roles in code enhancement

Key Topics

- Program administrators: Who and why?
- Building code process: Who? How?
 - Development
 - Adoption
 - Implementation
- Program administrator roles in code process
- Beyond code opportunities
- Regulatory treatment and evaluation
- Integrated strategy from DSM to codes

Program Administrators (PA)

- Who are they?
 - Investor-owned utilities (IOUs)
 - Public/municipal utilities
 - 3rd parties
 - Regional consortia: e.g., NEEP, NEEA
- Why should PAs support codes process?
Compared to DSM programs codes
 - Increase efficiency of non-participants
 - Do not impose administration costs on program administrators
 - Have large payoff: <0.5% California utilities' DSM expenditures accounted for about 10% of net savings



What Program Administrators Offer

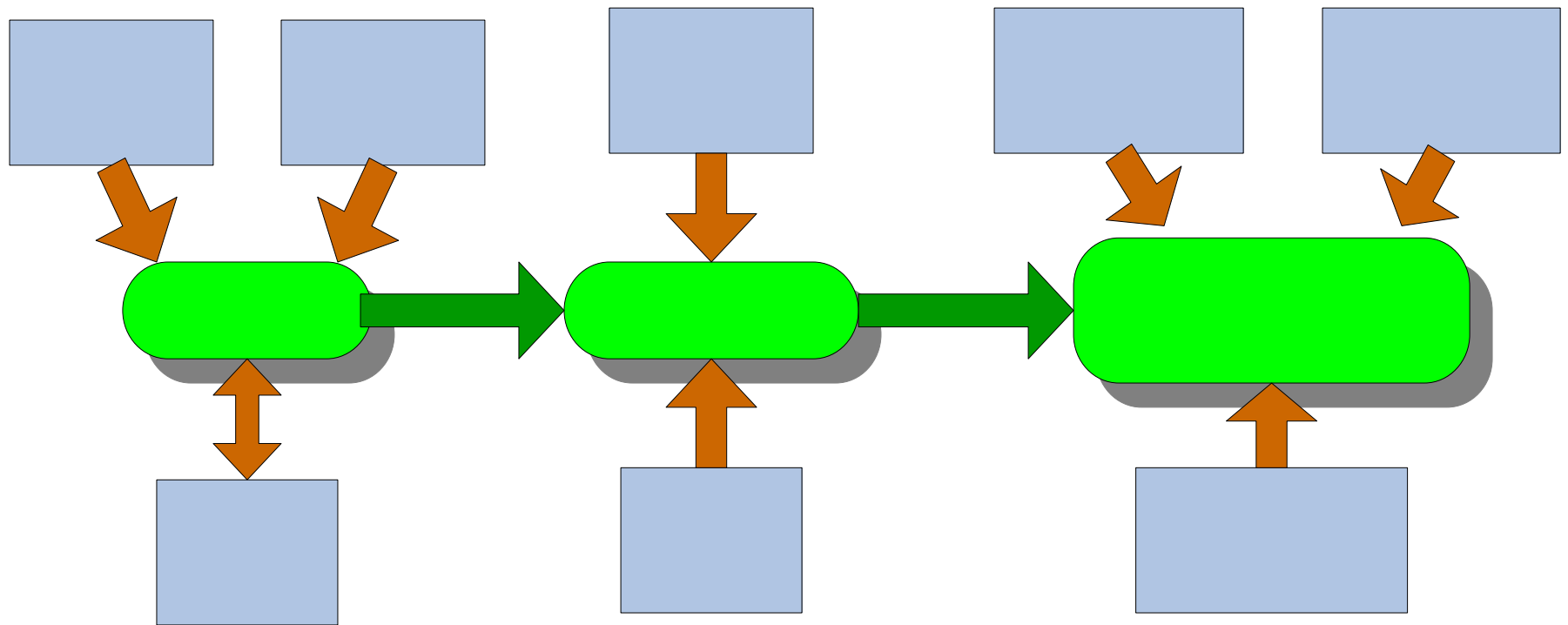
- Data—energy use, savings, costs
- Technically competent staff or contractors
- Staff or contractors experienced in advanced building techniques and systems
- Added credibility—viewed as objective “third-parties”
- Multi-jurisdiction coverage and experience
- Demonstrations and incentivized programs



Typical Codes Process

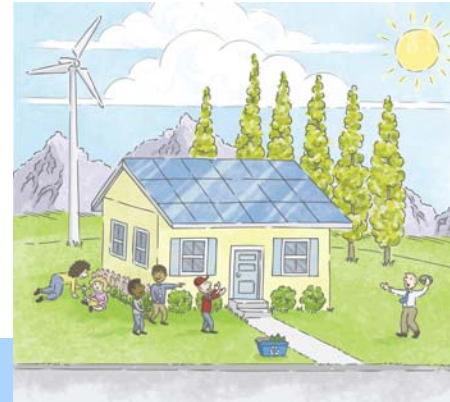
- Development—national level
 - ASHRAE for nonresidential
 - International Code Council (ICC) for residential
- Adoption—state or local level
 - With some exceptions (e.g., California) most jurisdictions adopt national model codes
 - Legislative or administrative process
 - Requires sound technical and cost data, feasibility, compliance/enforcement approach
- Implementation—local level
 - Involves compliance and enforcement
 - Usually given lower priority than life/safety codes

Roles for DSM Program Administrators



Beyond-Code Opportunities

- Energy-efficiency opportunities
 - Implement externally developed programs, e.g., Energy Star
 - Promote measures to advance codes
 - Incorporate in climate change responses
- Green/sustainable buildings
 - Reduce direct/indirect environmental impacts
 - Expand beyond energy efficiency



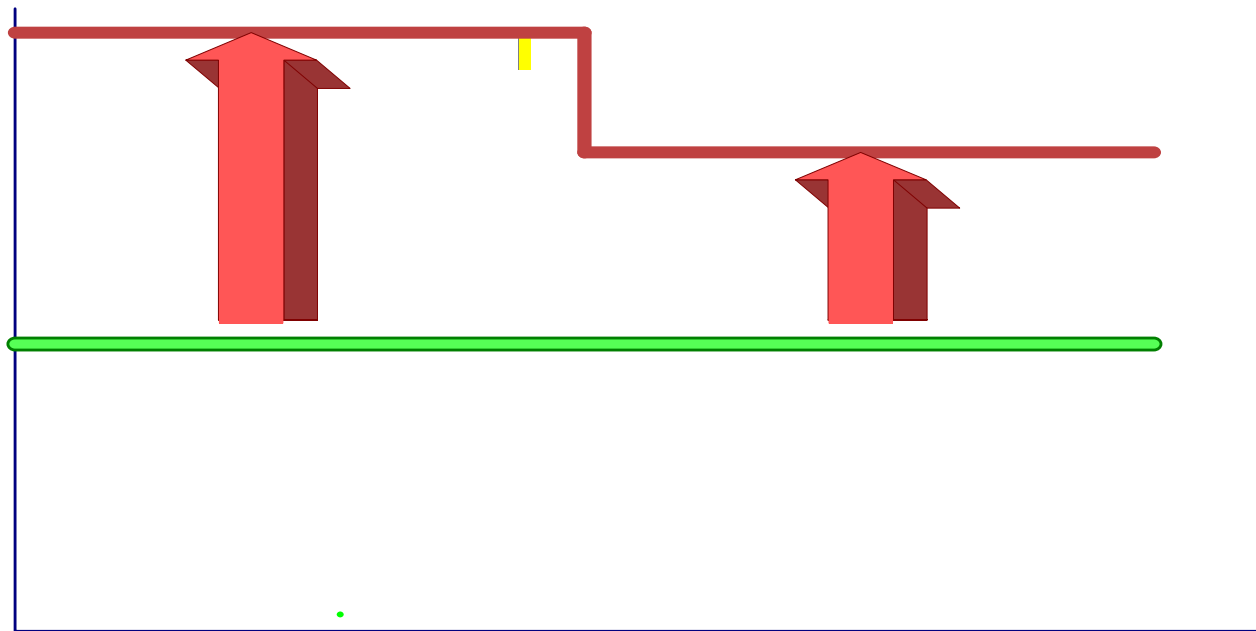
Regulatory and Policy Issues

- Energy-efficiency requirements
 - For IOUs: regulators define
 - Integrated resource planning
 - Savings goals and financial incentives
 - For public PAs: view can be broader
 - Overlap of stakeholders and shareholders
 - Non-energy benefits
- Treatment of code efforts
 - Equivalence and interaction with DSM
 - Quantification and attribution



Codes and DSM Programs

- Codes increase efficiency, but decrease DSM program savings potential



Treatment of PA Code Activities

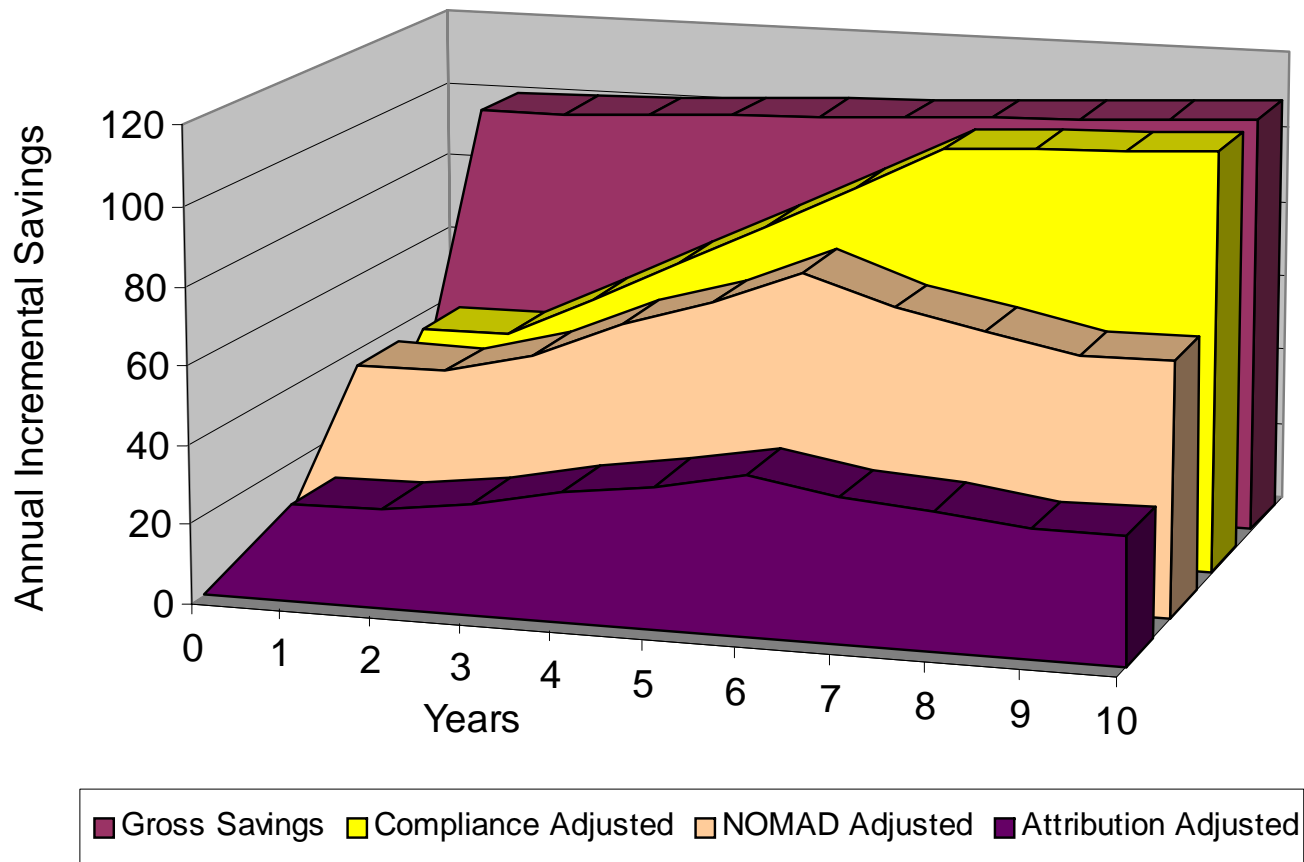
- Equitable treatment needed for PA expenditures on code efforts
 - Cost recovery
 - Incentives
 - Lost revenue
- Evaluation of savings is more complex



Energy Savings Evaluation

- What would have happened without code = naturally occurring market adoption (NOMAD)
- Compliance with code
- Attribution to PA's efforts

Savings Quantification



California Overview

- Energy Commission develops/adopts codes
- Utilities began involvement in mid-1990s
 - Integrated DSM/codes strategy
 - Utilities seek equivalent treatment for codes program

California PUC Regulatory Treatment

- Utilities can receive credit toward 2006-08 savings goals
 - From pre-2006 advocacy activities
 - 50% of *verified* savings credited toward savings goals
- Outcomes of C&S Program efforts after 2005 will be included in future cost/benefit analyses

Conclusions

- Codes have an important role to play
 - Cost effectiveness
 - Market transformation
- Integrated codes/DSM program strategy is needed
- Issues remain
 - Regulatory approach needs to accommodate
 - Evaluation of savings attribution must be addressed

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