



Existing Buildings Policy Research

Upgrade Incentives & Mandates

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Review – September 23rd meeting


- **Discussed Disclosure Mandates**
 - Historical energy use
 - Energy performance checklist
 - Energy performance rating/label
- All three share objective of increasing information available to building owners, creating a mechanism for market differentiation, and encouraging voluntary upgrades






Review – October 7th meeting

- **Discussed Funding Sources**
 - Low-interest Loans
 - Private Financing Pool
 - Energy Efficiency Mortgages
 - Public Financing Pool
 - Energy Efficiency Local Improvement Districts
 - Revenue or General Obligation Bond Issue
- **Discussed Innovative Repayment Mechanisms**
 - Add on to Utility Bill (On-bill Financing)
 - Add on to Property Taxes




Today's Meeting

- **Upgrade Incentives**
 - Energy efficiency fee-bate
 - Energy efficiency tax credit
- **Upgrade Requirements**
 - Performance-based
 - Prescriptive




How Do The Policies Fit Together?

- Many possible combinations
- Funding could be linked with any of the other groups of policies
- Upgrade mandates and incentives would likely rely on performance or prescriptive-based disclosure
 - Because need some means of measuring where a building is now versus where it could be
- Following graphic helps depict how the policies could relate to each other





	Performance Upgrades	Prescriptive Upgrades	
MEASURE	•Historical Energy Use •Rating or Label	•Checklist	Meeting 9/23
FUND	•Public Financing •Private Financing •Low-Interest Loans •Energy Efficiency Mortgages		10/7
FACILITATE	•Add-on to Property Taxes •On-Bill Financing		10/7
INCENT	•Energy Efficiency Fee-bate •Energy Efficiency Tax Credit		10/21
REQUIRE	•Performance Mandates	•Prescriptive Mandates	10/21



Upgrade Incentives


Assessment Results






Policy Objective


- To provide a tangible and significant financial incentive for energy efficiency improvements





Energy Efficiency Fee-bate


- Charge a fee on all existing buildings
- Waive fee for properties meeting minimum energy efficiency requirement
 - E.g., checklist or rating
- Incentive payments for properties exceeding requirements



Fee-bate – Portland Example

Portland, OR: Green Building Fee-bate proposed for 2010

- **Fee** for all new construction based on square footage and energy intensity
- **Waiver** for meeting certain green building standards.
- **Reward** for high performance buildings, increasing according to building performance
 - Commercial reward: \$1.73 - \$3.46 / sf
 - Residential reward: \$1,285 - \$5,140




Fee-bate – Other Examples

British Columbia: Revenue-neutral carbon tax

- \$10 tax per ton of carbon (effective July 2008), will increase to \$30 per ton by 2012. Income taxes will be lower.
- Not a true fee-bate


California: Clean Car Discount

- \$2,500 "fee" or "bate" for very high or low emitting vehicles.
- France and the UK are now considering vehicle fee-bates.




Energy Efficiency Tax Credit

- Offer tax credit to building owners completing some designated level of energy efficiency
- Potential taxes to credit
 - Property tax
 - B & O tax
 - Real estate excise tax




EE Tax Credit - Examples

- **Oregon** offers commercial (BETC) and residential (RETC) tax credit programs for energy efficiency improvements.
- **Maryland** and New Mexico now offer substantial tax credits for LEED-EB certified buildings.
- **Virginia** amended their tax code so that buildings exceeding statewide energy efficiency standards by 30 percent must be taxed at a lower rate.




Policy Assessments


	Energy Efficiency Potential	Economic Benefit	Cost of Policy Implementation	Admin. Feasibility
Energy Efficiency Tax Credit	★★★	★★★★	★★	★★
Energy Efficiency Fee-Bate	★★★★	★★★★	★★★	★★



Discussion – Financial Incentives


- Which tax would be the best to target for rebates (e.g., property tax, B&O tax, real estate excise tax)?
- What level of incentive payment would be sufficient to motivate building owners to pursue upgrades? What level of fee could be reasonably assessed and where should it be collected (e.g., property tax bill, utility bill)?
- How should each tier of either the tax incentive or feebate be triggered (e.g. would a prescriptive or performance approach be more appropriate)?






Upgrade Requirements


Assessment Results






Policy Objective


- To establish an absolute level of energy efficiency in all targeted building stock by mandating upgrades






Performance-Based Upgrade Requirement


- Building owners required to meet minimum level of energy performance, e.g.:
 - 20% better than baseline
 - ENERGY STAR or Portfolio Manager score
 - Environmental Performance Score (EPS) or similar for residences






Performance Requirement - Examples


- Portland considering:
 - Requiring upgrades of commercial and multifamily buildings with Portfolio Manager score <30
 - Giving buildings 3 years to improve score to 30 or demonstrate a 15% improvement in energy use intensity
- Austin:
 - Voluntary commercial upgrade program (Portfolio Manager score of 50) will become mandatory if targets are not being met after two years
- Berkeley:
 - Considering moving to a performance-based Residential Energy Conservation Ordinance (RECO).






Prescriptive Upgrade Requirement


- Building owners required to complete certain energy-efficiency upgrades
- Assumes use of a energy measure checklist
- Requirements established to achieve a minimum level of cost-effective energy efficiency (comparable to a 20% efficiency target)






Prescriptive Requirement - Examples

- **Several, long-standing residential programs (RECOs)**
 - Berkeley, San Francisco, Burlington, Wisconsin.
- **Fewer successful commercial programs**
 - Berkeley, San Francisco CECOs
- **New approaches in development:**
 - New York considering requiring all commercial upgrades with a 5-year payback period
 - Austin, TX considering requiring upgrades as a backstop if voluntary targets not met, but with some required upgrades for "energy hog" multi-family buildings




Policy Assessments

	Energy Efficiency Potential	Economic Benefit	Cost of Policy Implementation	Admin. Feasibility
Prescriptive Requirements	★★★★	★★★★	★★★	★★
Performance Requirements	★★★★★	★★★★★	★★★	★★



Discussion – Upgrade Requirements

- For each sector, would a performance- or checklist-based upgrade approach be more appropriate?
- What are the appropriate thresholds for individual owner investment in upgrades? Should there be exemptions for particular sectors or classes of owners (and if so, what should those be)?
- What are the most appropriate triggers for policy application (e.g., point of sale, point of lease, date certain, etc.)? Who should bear the responsibility for upgrades (e.g., buyer v. seller)?



Discussion – Continuous Monitoring

- What performance metric makes the most sense to track (e.g. Energy Use Index, Portfolio Manager Score, Energy Performance Score (EPS))?
- How often should internal monitoring be conducted relative to the chosen metric (and how would this be incented or enforced)?
- How often should reporting or disclosure be required for validation or compliance with a particular disclosure mandate?
- Is there value in comparing performance metrics across a given sector (real time monitoring and reporting)? Would this type of comparison be sufficient to induce behavioral changes?

