


Existing Buildings Policy Research

Financing & Incentives

Ann Grodnik, Seattle Northwest Securities
Christine Grant, Cascadia Consulting Group


October 7, 2008





Financing and Incentives


- **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
- **Innovative Repayment Mechanisms**
 - Add on to Utility Bill (On-bill Financing)
 - Add on to Property Taxes



Financing Program Elements


Source of Capital	Financing Mechanism	Collection Mechanism	Enhancements	Underwriting Criteria
<ul style="list-style-type: none"> • Banks • Municipal General Funds • Municipal Bonds • Utility General Funds • Public Benefit Charge 	<ul style="list-style-type: none"> • Personal Loan • Mortgage <ul style="list-style-type: none"> • Special Municipal Tax • Tariffed Installation Program 	<ul style="list-style-type: none"> • Amortized Payment Bill • On Utility Bill • On Property Tax 	<ul style="list-style-type: none"> • Reduced Interest Rates • Stretched Underwriting Criteria • Rebates • Environmental/Carbon Credits • Subsidized Transaction Costs • Aggregation 	<ul style="list-style-type: none"> • Debt to Income Ratio • Utility Bill Payment History • Property Tax Payment History • FICO score


Adapted from Efficiency Vermont



Funding Sources


Assessment Results






Policy Objectives


- To provide low-cost, up-front capital for energy efficiency upgrades in existing buildings
- To simplify loan repayment and attach repayment to property, not property owner






Funding Mechanisms Researched


- Low-interest Loans
- Private Financing Pool
- Energy Efficiency Mortgages
- Public Financing Pool (Energy Efficiency Local Improvement Districts)
- Public Financing Pool (Revenue Bond or General Obligation Bond Issue)






Low-Interest Loans


- Tacoma Power, Snohomish PUD, Midwest Energy
 - 150+ low-interest loan programs offered by utilities throughout the country
- City of Chicago
 - Chicago administers a commercial loan program to a specific industry each year.






Private Financing Pool


- Clinton Climate Initiative & Cambridge Energy Alliance
 - Currently looking for committed investors and lenders
- Energy Efficiency Partnership of Greater Washington D.C.
 - Successful partnership between Hannon Armstrong, Virginia Tech University, & Pepco Energy Services






Energy Efficiency Mortgages

- EEMs are sponsored by federally insured mortgage programs (FHA and VA) and the conventional secondary mortgage market (Fannie Mae and Freddie Mac).
- Countrywide Home Loans
 - Countrywide is one of several lenders that offers an EEM product




Energy Efficiency Local Improvement Districts

- Berkeley, CA
 - Sustainable Energy Financing District pilot project with 40-60 homes
- Boulder County, CO
 - *Clean Energy Options Local Improvement District*. Going to a vote this fall.
- Oregon
 - Drafting legislation




Revenue or General Obligation Bond Issue


- City of Tacoma
 - Issued revenue bonds in 1994 and 2003 for the Conservation Project Fund / Weatherization Loan Program



Policy Assessments


	Energy Efficiency Potential	Economic Benefit	Cost of Policy Implementation	Admin. Feasibility
Low-Interest Loans	★★	★★	★★	★★★★
Private Financing Pool	★★	★★	★★★	★★
EE Local Improvement District	★★	★★	★★★	★★
Bond Issue	★★	★★	★★★	★★★
Energy Efficiency Mortgages	★★★	★★★	★★★★	★★






Innovative Repayment Mechanisms


Assessment Results






Policy Objectives—Repayment Mechanisms


- o To simplify loan repayment
- o To distribute the cost of upgrades over time to future owners/beneficiaries of those upgrades





Repayment Mechanisms Researched

- o Add on to Utility Bill (On-bill Financing)
- o Add on to Property Taxes



Add on to Utility Bill (On-bill Financing)

- Established On-bill systems
 - PAYS® America (Pay As You Save)
 - Midwest Energy
 - Milwaukee Energy Efficiency
- Attempted On-bill systems
 - NSTAR (the utility serving Eastern Massachusetts)
 - Sacramento Municipal Utility District




Electric Meter # 12345678 Rate E100 NON HEATING			
Electric Service Charges	1000 kWh at a cost of \$148.29		
Average Daily Cost for Electric \$2.4715			
Amount of Electricity Used			
07/30/2007	Present Reading (act.)	19886	Reduced usage
06/30/2007	Previous Reading (act.)	18686	
Electricity Used (kWh)			
Cost for Electricity Used (for 2.0 months)			
ENERGY DELIVERY CHARGES:			
Basic Service Charge		30.00	30.00
Delivery Svc Chg	1000 kWh @ 0.03544	35.44	35.44
MFC Admin Chg	1000 kWh @ 0.00145	1.45	1.45
Transition Adj	750 kWh @ 0.00001	.01	.01
BSORPS	1000 kWh @ 0.00091	.91	.91
Purch. Power Adj	1000 kWh @ -0.00276	-2.76	-2.76
Misc. Charges	1000 kWh @ 0.00064	.64	.64
Total Delivery Chrgs	1000 kWh @ 0.06569	66.77	66.77
ENERGY SUPPLY CHARGES:			
MFC Supply Chg	1000 kWh @ 0.00175	1.75	1.75
Market Price	750 kWh @ 0.07562	56.72	56.72
Market Price Adj	1000 kWh @ -0.00043	-.43	-.43
Total Supply Chrgs	1000 kWh @ 0.07518	57.72	57.72
NYS & Local Taxes & Surcharge		4.24	4.24
TOTAL ELECTRICITY COST			
		124.23	\$124.23
ENERGY EFFICIENCY UPGRADE CHARGE:			5.50
TOTAL ELECTRICITY COST:			\$124.23

Add on to Property Taxes

- **Berkeley, California**
 - This option is part of their proposed Sustainable Energy Financing District





Policy Assessments

	Energy Efficiency Potential	Economic Benefit	Cost of Policy Implementation	Admin. Feasibility
Add-on to Property Taxes	***	**	****	****
On-bill Financing	**	**	*	**

