


Existing Buildings Policy Research

Financing & Incentives

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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
06/30/2007	Previous Reading (act.)			18686
Electricity Used (kWh)		790		
Cost for Electricity Used (for 2.0 months)		1986		
ENERGY DELIVERY CHARGES:				
Basic Service Charge				
		30.00		30.00
Delivery Svc Chg	1000 kWh @ 0.03544	20.58		35.44
MFC Admin Chg	1000 kWh @ 0.00145	1.09		1.45
Transition Adj	750 kWh @ 0.00001	.01		.01
BSORPS	1000 kWh @ 0.00091	.68		.91
Purch. Power Ad	1000 kWh @ -0.00276	-2.07		-2.76
Misc. Charges	1000 kWh @ 0.00064	.48		.64
Total Delivery Chrgs	1000 kWh @ 0.06569	56.77		55.99
ENERGY SUPPLY CHARGES:				
MFC Supply Chg				
		1.32		1.76
Market Price	750 kWh @ 0.07562	56.72		75.82
Market Price Adj	1000 kWh @ -0.00043	-.32		-.43
Total Supply Chrgs	1000 kWh @ 0.07518	57.72		76.95
NYS & Local Taxes & Surcharge		4.24		5.58
TOTAL ELECTRICITY COST				\$146.29
For this billing period, the average cost of energy which we purchased for delivery to you was \$0.07695 per kWh (excluding taxes). You can use this number to compare our price to other suppliers' prices.				
ENERGY EFFICIENCY UPGRADE CHARGE:		New charge during retirement period only		5.50
TOTAL ELECTRICITY COST:		Outgoing lower kWh		\$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	**	**	*	**

