



Enabling Investments in Energy Efficiency: On-Bill, PACE, and Unsecured Financing Programs

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Key Financing Lessons



#1 People have to WANT what you're financing

- Creating a financing option is never enough on its own
- Most EE financing programs reach << 1% of the eligible population each year



EE Financing Report: www.veic.org/ResourceLibrary.aspx

PACE Resources: www1.eere.energy.gov/wip/solutioncenter/financialproducts/PACE.html

Key Financing Lessons



#2 Make it EASY, appropriate to the job, and competitive

- Easy for both participants & contractors
- One product will not work for whole home retrofits AND emergency replacements
- Interest rates need to be reasonable (but not necessarily 0%)



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Key Financing Lessons



#3 Engage contractors in the design & deployment of financing programs

→ The existing programs with a higher volume of projects **ACTIVELY** engage contractors as partners:

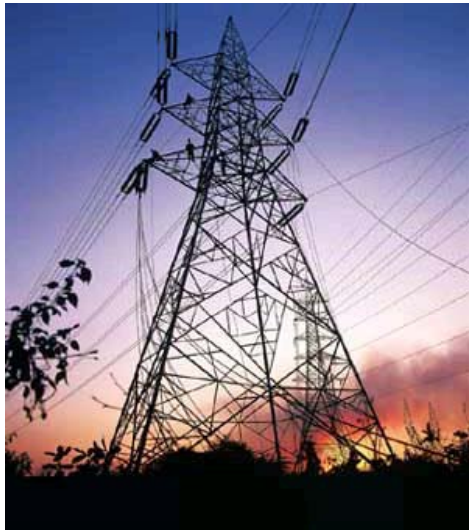
- **NYSERDA**
- **Keystone HELP**
- **SMUD**
- **Manitoba Hydro**



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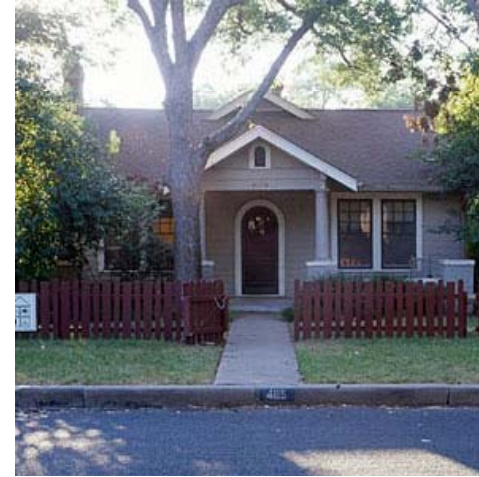
On-Bill Repayment



\$\$ Upfront



\$\$ Repaid
on **utility bill**



- Provides upfront capital (or has a financial partner provide \$\$)
- Adds repayment to existing utility bill

- Identifies work & contractor based on utility criteria
- Repays financing on utility bill
- **Remaining balance must be repaid when the tenant moves**

Residential Examples: Manitoba Hydro, Dixie Electric Coop, Clean Energy Works Portland (new)

On-Bill Tariff



\$\$ Upfront



\$\$ Repaid
on **utility bill**



- Creates approval process and project criteria
- Provides upfront capital
- Attaches repayment obligation to the meter

- Identifies work & contractor based on utility criteria
- Repays financing on utility bill
- **Repayment obligation transfers with tenancy**

Residential Example: **Midwest Energy**

Potential Issues with OBF



- **Changing billing system appears to be difficult for some utilities**
 - **Repayment allocation (i.e., who gets paid first) is an issue when customers partially pay their bills**
 - **Using On-Bill Financing for improvements that save fuels not included on the bill may be confusing (e.g. if bill is electricity-only and the improvements save gas)**
 - **The commitment of the utility to the On-Bill Financing program is critical**
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Property-Assessed Clean Energy (PACE)



\$\$ Upfront



\$\$ Repaid
on **tax bill**



- Creates financing district & approval process
- Provides upfront capital
- Attaches repayment obligation to the building

- Identifies work & chooses contractor
- Repays financing as a line item on the property tax bill
- **Repayment obligation transfers with ownership**

Potential Issues with PACE



- **Limits on Who Can Participate** – PACE is only available to property and tax-exempt entities, with various restrictions and limitations if not properly structured.
- **Cost of Setup** – High initial costs for limited localities, especially for trail blazers doing it first. Costs are easier/cheaper as more jurisdictions participate.
- **Scale** – A city, county, or state may be too small to bring down costs; financing needs may be in the thousands of dollars.
- **Access to Cheap \$** – Need volume and standardization to bring down cost of capital; “on demand” funding important but more expensive.
- **Lender Opposition** – Mortgage holders are concerned about the seniority of PACE liens.

Unsecured Financing



\$\$ Upfront



\$\$ Repaid
on **separate**
bill



- **Creates approval process and project criteria**
- **Public or private entity provides upfront capital**
- **Private lender originates and services personal loans**
- **Identifies work & chooses contractor**
- **Repays financing on a separate bill**
- **Repayment obligation does not transfer with ownership**

Unsecured Financing



- **Keystone Home Energy Loan Program (HELP)**
 - Private lender provides interim financing
 - PA Treasury purchases loans monthly (\$30 million to date)
 - Rate enhancement, loss reserve, & audit subsidy paid for by State Energy Office
 - Average interest rate: 8%
 - Average term: 7 years
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Unsecured Financing



- **A National Unsecured Energy Loan Market**
 - 3 National Lenders
 - \$50 million + initial financing
 - States opt-in by setting up Loan Loss Reserves (10%)
 - Motivated by extremely low loan defaults in Keystone HELP program (~1%)
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Potential Issues with Unsecured



- **Limits on What Can Be Funded** – Limited ability to fund deep home retrofits due to loan term and size constraints
 - **Targets Reactive Customers** – Primarily used by contractors to up-sell emergency replacements into more efficient models and/or limited home efficiency improvements
 - **Secondary Market Demand Uncertain** – While there is significant investor interest, a low-interest unsecured product (subsidized only by a LLR) does not yet exist
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Contact Info



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**Please contact me to request info, links, reports,
or to join the PACE Discussion Group!**

LBNL Areas of Research



- Technical assistance to ARRA\$ recipients, especially around financing and retrofit program design
 - Driving demand for residential retrofits with new messages and messengers (social marketing / community-based outreach)
 - Interactions between ARRA\$ and ratepayer programs
 - Energy efficiency services sector (EESS) workforce size, expected growth, and training/education needs
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