

On-Bill Repayment

A Model for Large Scale Implementation
in Residential Properties

Blueprint for Efficiency

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Yale Center for Business & the Environment

On-Bill Finance: How it Works Today

- Loan for qualifying energy efficiency or renewables project is made by or through utility
 - Repayment made through monthly utility bill
 - Threat of shutoff improves credit quality
 - Liability travels with the meter – no acceleration
 - Current programs tend to be utility funded and underwritten
 - Limited size and eligibility
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On-Bill Repayment: EDF's Proposal

- Combines key elements of NY and Oregon programs
 - Broader range of lenders/investors/buildings/structures
 - Currently under consideration in California
- Investments for qualifying energy upgrades are repaid through the utility bill
 - Payments become part of the legally authorized tariff for the building/meter
 - Survive changes in ownership and occupancy
- No change to procedures or consumer protections in bill collection
- Funded with third party capital
- Projects required to provide estimates of bill neutrality or better for customer
- Can be integrated with existing utility EE programs
 - Low-cost capital should improve effectiveness of programs

Key Program Features and Objectives

- Program must be flexible enough to accommodate variety of contractor and financial business models
 - Scale and standardization can reduce costs
 - Recommend consistent statewide program
 - Utilities should be adequately compensated for services provided
 - Fees from lenders/investors
 - Credit for energy savings
 - Statewide documentation and payment processing agent may be able to reduce utility burden
 - Subsidies can be considered to cover underserved markets
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On-Bill Repayment Example – Step by Step

The Key Players

- Jane Homeowner – Suburban homeowner with \$350 monthly average utility bill (gas plus electric)
- Utility – Jane's utility for gas and electric
- SolarCity – A leading project developer of residential solar and energy efficiency projects
- Bank – A global financial institution

Jane, Utility, SolarCity and Bank are being used in this example as representatives of potential participants. Neither Jane nor any of these firms has committed to actually participating in this program nor have they opined that these terms are reasonable.

On-Bill Repayment Example – Step by Step (continued)

Step 1: Design

- SolarCity visits Jane's home to conduct energy audit and discuss options
- SolarCity designs program for Jane that will reduce monthly utility bill by \$225 to \$125 per month
 - Solar panels
 - Envelope
 - HVAC

On-Bill Repayment Example – Step by Step (continued)

Step 2: Apply for Credit

- SolarCity helps Jane prepare a credit application for the \$20,000 cost of project
- Credit application is submitted to Bank and approved
 - 15-year term at 6.25%
 - Monthly payment of \$170

Step 3 Install and Inspect

- SolarCity installs project
- 3rd party inspector confirms that project is properly installed and that savings will meet or exceed estimates

On-Bill Repayment Example – Step by Step (continued)

Step 4: Disbursement

- Bank pays \$20,000 to SolarCity

Step 5: Ongoing Payments

- Jane's new PG&E bill is for \$125 of energy costs and \$170 of debt service or \$295 per month
 - \$55 of monthly savings
 - The \$170 portion of bill is not subject to increases and will terminate in 15 years
- PG&E processes \$295 payment and remits \$170 to Bank less a processing fee to cover costs

Significant Program Flexibility

- Variety of buildings
 - Single family
 - Multi family
 - Commercial
 - Public
 - Variety of transaction types
 - Loans
 - Leases
 - Energy Service Agreements (ESAs)
 - Power Purchase Agreements (PPAs)
 - Variety of projects
 - Retrofits
 - Renewables/CHP
 - Energy Star Appliances
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Program Must Meet Needs of Key Constituents

- Building Owners
 - Project Developers and Contractors/Workforce
 - Lenders and Investors
 - Utilities
 - Consumer Advocates
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Benefits

- No direct costs to taxpayers or ratepayers
- Creates jobs
- Reduced carbon emissions
- Beneficial to ratepayers through avoided cost of new generation capacity and reduced use of higher cost generation
- Beneficial to utility shareholders through payment processing fees and/or improved performance of utility EE programs

EDF estimates that a statewide OBR program in California could generate annual investment of \$2.7B in residential EE and renewable projects, create 20,000 installation jobs, and after 5 years, reduce annual CO2 emissions by 7 million tons, assuming a 1% annual participation rate.

Contact Information

Brad Copithorne

bcopithorne@edf.org

<http://www.edf.org/energy/obr>

