

Pay While You Save

Utility-bill financing for energy-efficiency improvements

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Utility-bill financing or repayment allows consumers to upgrade their homes and business to be more energy efficient and pay for the work over time through a monthly upgrade fee on their utility bill. Energy savings on gas and electric bills should outweigh the monthly upgrade fee, depending in part on the length of the payment term and which measures are implemented. Essentially, consumers pay for the upgrade while they save from it.

Unlike most financing mechanisms, utility-bill financing programs can help renters as well as homeowners reduce their energy bills. Renters often live in inefficient properties, and receive large energy bills because of a “split incentive” between the landlord and tenant. Landlords have little incentive to invest in the property to reduce utility bills if the tenant is the one who pays them. In the case of utility-bill financing, however, the person who pays the utility bill is the same person who pays the upgrade fee, since the upgrade fee is on the utility bill. In this scenario, the renter gets lower utility bills even with the upgrade fee and the landlords gets an energy upgrade to the property. The community wins too, with new jobs, less pollution, and lower carbon emissions.

Key findings

- There are numerous barriers to the energy efficiency market.
- On-bill financing programs, via the electric and/or gas utility bill, address some of the barriers and help make efficiency easy.
- Savings from efficiency measures offset the costs of improvements, so consumers pay while they save.
- Customers targeted include small businesses, local governments, homeowners, and landlords/renters.

Two utility-bill efficiency approaches¹

On-bill financing. The utility covers upfront costs of efficiency measures and recovers that cost through a monthly fee on the consumer’s bill. The fee is “tied to the meter” – if the original owner or tenant moves out of the property the new owner or tenant assumes responsibility for the upgrade fee. This financing approach allows for longer repayment periods than traditional financing mechanisms, which in turn decreases the size of the monthly fee. The fee-based system also tackles the split incentive problem by creating a joint benefit for both landlords and renters for participating in on-bill financing programs: landlords get an upgrade to their property, renters receive lower energy bills (energy savings from efficiency measures should be greater than the upgrade fee). Fee payment follows the meter regardless of transfer in ownership of the property, or change in tenancy, since the energy savings provided remain with the property. This is true for owner-occupied properties as well as rental properties. In some cases, however, utility disconnection can occur for non-payment.²

¹ Mathew Brown, Alliance to Save Energy, *Paying for Energy Upgrades Through Utility Bills* (2009).

² New Hampshire, Hawaii, and Kansas fee-based systems. Michigan legislation may lead to on-bill fee program.

Other benefits of this approach include that fact that this sort of efficiency financing does not appear on consumer credit reports since it is not a loan. And consumers with solid bill-payment history can qualify for the service regardless of their credit score.

Local governments and small businesses can also benefit by using this approach for financing energy upgrades. For municipal buildings retrofits, this form of financing does not count against municipal government debt limitations. That is because this form of financing is not a loan, but an efficiency service provided by the utility company. Similarly, small businesses can benefit from this “off-balance sheet” service since it does not increase their debt load (while it does serve to reduce operating costs).

On-bill repayment involves a more conventional loan from a third-party financial entity, the proceeds from which are used to install recommended efficiency measures. The loan is repaid on a utility bill. The utility company simply collects loan payments, via the utility bill, and turns them over to the financial entity servicing the loan. As with conventional loans, the responsibility for repaying the loan remains with the original property owner, unless legally transferred on sale of property. On-bill loan programs, as opposed to fee-based systems, may not require utility commission approval. However, on-bill loans targeting residential customers may be subject to state consumer finance laws, regulations, and fees.³

One part of a comprehensive energy upgrade program

There is some evidence suggesting utility-bill financing increases the proportion of efficiency measures actually implemented from the recommendation stage.⁴ However, large-scale efficiency programs require motivated customers in order to be effective. As energy efficiency expert Merrian Fuller put it, “before people sign up for financing, they must want to make efficiency improvements.”⁵ On-bill financing and repayment can help make efficiency easy, especially if an energy advocate is available to assist customers through the process and if there is an online application.⁶ But well-informed contractors and incentives such as rebates will help encourage greater participation. Requiring energy performance disclosures on all property transfers (lease and ownership), at the point of transfer, can help transform the efficiency market by motivating sellers and landlords to retrofit buildings with high-energy use.⁷ For more information on energy disclosure policies see [Demanding Better Energy Information](#).

Utility-bill programs vary considerably

Existing utility-bill efficiency programs vary considerably as to who runs the program, where the upfront funds come from, who administers the loans, whether the programs take a conventional loan or fee-based approach, what incentives are offered, which customers the programs target, and what marketing and outreach strategies are employed. In Portland, for instance, the utility company’s only involvement in the efficiency program is as a contractual entity collecting payments for the loan which they then turn over to the financial entity servicing the loan. On the other end of the spectrum is Midwest Energy, a customer-owned utility company in Kansas that operates and finances a fee-

³ Mathew Brown, Alliance to Save Energy, *Paying for Energy Upgrades Through Utility Bills* (2009).

⁴ Mark Jewell, Technology Publications, *The Growing Popularity of on-bill financing incentives, zero interest can increase affordability* (September 2009)(citing report from National Grid).

⁵ Merrian Fuller, Energy & Resources Group, U.C. Berkeley, for Efficiency Vermont, *Enabling Investments in Energy Efficiency* (May 2009).

⁶ *Id.*

⁷ *Id.*

based system where the utility covers efficiency installation costs and customers receive a charge on their utility bills for on-going efficiency service. Most programs are in-house at utility companies, but some are public-private partnerships. Upfront funds come largely from utility companies via service charges, universal surcharges for public benefit purposes, and/or utility operating revenues. However, some programs draw on federal or state funds for clean energy purposes, and occasionally receive private matching funds. Several programs offer discounted energy audits and generous rebates to offset initial costs and finance the remaining balance. See below for greater details of several programs.

Partners to involve⁸

- **Electric utility and financial entities.** Utilities need to be involved as the entity to collect payments, and also may be providers of capital or loan and program administrators.
- **Retailers and contractors.** Well-informed contractor networks and community energy action groups are engaging some communities to increase participation rates in efficiency programs.
- **Community Energy Action Teams.**
- **Local government.** Municipalities can lead by example by retrofitting local government buildings or by paying for efficiency service on their utility bill.
- Representatives of residential, industrial, and commercial energy consumers (on-bill financing is popular among small businesses).
- Representatives of homeowners, renters, and landlords.

Program financing considerations

Initial pool of funds. There is no rule here or best practice yet. In the case of on-bill financing, the utility partner historically provides the upfront capital costs (via tariffs or service charges, public benefit surcharges, or utility operating revenues for capital expenditures). There is a question about whether the use of utility operating revenues for these purposes is appropriate, however, since the consumer and not the utility company owns the technology. Creating an independent public benefits fund via a universal surcharge to all utility customers, with the proceeds used for public purposes such as energy efficiency programs and clean energy projects, alleviates this concern.

In the case of on-bill repayment with third-party financing, outside resources clearly play a larger role. Sources include federal stimulus dollars and state energy office funds, local bonding, financial institutions and other private capital, and philanthropy. How it all gets put together depends, in part, on municipal appetite for bonding and debt load and the level of utility involvement. This option depends on how much debt the city can take on and still keep good credit rating, as well as the political climate. “Better Building” grants from federal stimulus funds have been used for pilot programs. These grants can cover one-sixth of large-scale residential energy efficiency projects, but cities have to figure out how to raise the rest in matching funds, which requires consideration of a variety of sources including banks, credit unions, and municipal bonding. Qualified Energy Conservation Bonds might be an option, but interested communities need to secure an allocation in order to use this option.

Financial Administrator. Utility companies often handle the financial management of on-bill financing themselves – such as running credit checks or evaluating bill payment history, approving loan agreements, or handling collections. Some utility companies have indicated discomfort with

⁸ JUCCE, Mayor’s Training Program Case Study, ‘On-bill Financing’ for Energy Efficiency: New Haven, Connecticut.

playing the role of lender, however, which is outside their traditional area of expertise.⁹ While not yet widespread, experts believe third-party financing is a viable option.¹⁰ The city of Portland, working with Shore Bank Enterprises and community development groups, piloted a successful on-bill loan program, contracting with the utility company to serve only as the entity collecting bill payments. Seattle is replicating Portland's program.

In one "off-bill" program, Efficiency Vermont works with several lenders who handle the underwriting, origination, and servicing of the loans, paying them a lump sum to cover the cost of the net present value of the loan (this produces relatively low overhead costs of \$250 per loan).¹¹ It is important to note, however, that when utility companies run the loan programs themselves, they can use customer payment histories instead of credit checks, increasing the chances of approval for those who pay their utility bills on time but may have lower credit scores.¹²

Cost of Capital and Interest Rates. The cost to consumers includes the principle and financing charge to cover administration costs and risk, all of which can be reduced with a government or utility subsidy.¹³ With subsidies, a number of programs are able to offer no-interest financing. In any case, the rate offered to customers must be competitive meaning that programs must find a way to contain cost of capital and keep interest rates low. Since rates now are already at historic lows, it is more difficult for programs to be competitive; with on-bill financing so easy to use, customers may be willing to pay a little more.

One example is the city of Madison, which has AAA credit rating and went out to bond, getting very low rates (1-2 percent). In order to run the program, however, they must add interest or fees to cover program administration, which increases the rate customers receive by a percentage point or two. At that rate, Madison is still competitive for people with good credit, but not all cities have such a good credit rating. Costs run between \$300 and \$1,500 per loan to cover administrative expenses (including audits, recruitment, marketing, loan qualification assessment, working with contractors, loan servicing, and other costs).

Loan defaults, risk of disconnection, and loan loss reserve funds. Programs must have a plan for handling defaults. Many report less than 1 percent default rates, but a utility may fear being liable.¹⁴ Most loans are secured by an asset; home loans, for example, are secured by a lien on mortgage, a car loan is secured by car. This is harder to do in the case of efficiency. In tariff or fee-based systems, a number of programs put customers at risk of utility disconnection and late payment interest charges. This lowers the financing costs because it lowers the risk of default. Alternatively, some on-bill loan programs are using public funds to create loan loss reserve funds in the event of a default. By doing so, the financial entity knows it will get 80 to 90 percent back and becomes more willing to lend in riskier situations.¹⁵ This also allows for lower rates and greater access by more people to the loans.¹⁶

⁹ *Id.*

¹⁰ Mathew Brown, Alliance to Save Energy, *Paying for Energy Upgrades Through Utility Bills* (2009)

¹¹ Merrian Fuller, *Enabling Investments in Energy efficiency* (May 2009)

¹² Mathew Brown, Alliance to Save Energy, *Paying for Energy Upgrades Through Utility Bills* (2009).

¹³ *Id.*

¹⁴ Mathew Brown, Alliance to Save Energy, *Paying for Energy Upgrades Through Utility Bills* (2009)(citing United Illuminating)

¹⁵ *Id.*

¹⁶ Merrian Fuller, Energy & Resources Group, U.C. Berkeley, for Efficiency Vermont, *Enabling Investments in Energy Efficiency* (May 2009).

Historic default rates of utility customers can impact the cost of loans. Some consumer advocates have taken issue with the idea of disconnection as a result of non-payment.

Aggregating projects. By aggregating projects, and purchasing products and services in bulk, programs can achieve economies of scale and get better prices on products and services.¹⁷

Program administration considerations

Program administrator. Consumer, public, and investor-owned utilities are typically running these programs. In a couple of states, legislation has passed requiring utilities to adopt or investigate on-bill financing programs. Other programs are run by a partnership between municipalities and private enterprises with shared responsibilities.

Customers Targeted. Many of the programs target commercial, industrial, and government customers (see related section below). If the program is fee-based for efficiency service, rather than a conventional loan to be repaid, governments are more likely to take advantage of the program to reduce utility bills for public buildings, since they will be paying for a service and not undertaking a loan that will affect their debt limits.¹⁸ This “off-balance sheet” approach can be an advantage for non-profits and businesses, as well as residential consumers concerned about their credit.

Some newer programs cover the harder-to-serve residential sector, including both owner-occupied homes and rental units. Tariff or fee-based systems are showing greater promise in the rental market. These programs appeal to landlords because they improve building value while tenants take on the expense of repayment (via a service charge on their utility bill). They simultaneously appeal to renters since the efficiency measures significantly reduce utility bills, even with the additional efficiency service fee.

Homeowners versus renters. Rental units are often less efficient than equivalent owner-occupied homes because there is a “split incentive” between landlords who own a property and renters who pay the energy bills, which means a lack of incentive for either the landlord or tenant to take on efficiency measures. On-bill financing is one potential way to address this split incentive because the landlord gets land improvement value from efficiency measures, while the payment (and savings) is assigned to a utility bill paid by the tenant. Also, lower-income people – less likely to own their home and more likely to pay a higher proportion of their income to cover energy costs – may be able to take advantage of utility-financing and payment programs, while traditional loan programs often don’t serve them well.¹⁹ The Kansas on-bill financing program has targeted renters now for a couple years. The landlord must sign off on participation, but the efficiency agreement is between the utility and the utility customer. Landlords who grant permission must disclose the efficiency upgrade fee to new renters. Thus far, the Kansas co-op hasn’t had any trouble with inclusion of renters. In fact, they have suggested that it is the landlords, not the renters, who are excited about the program and are undertaking measures in between leases.²⁰

Energy agent or advocate. The most successful programs have an energy agent or energy advocate who walks customers through the audit, recommendations, incentives, contracting, and financing process.

¹⁷ *Id.*

¹⁸ Mark Jewell, Technology Publications, *The Growing Popularity of on-bill financing incentives, zero interest can increase affordability* (September 2009).

¹⁹ Merrian Fuller, Energy & Resources Group, U.C. Berkeley, for Efficiency Vermont, *Enabling Investments in Energy Efficiency* (May 2009).

²⁰ *Id.*

Energy audits are the first step in the process for consumers. A number of programs offer free energy audits, or subsidize the cost considerably. Some do this work in-house using city or utility staff, others use independent contractors.

Rebates and incentives. Many programs couple rebates and incentives with financing options. Programs across the county are fine-tuning the appropriate balance between rebates and financing. Existing incentives from utilities, public benefits funds and tax credits are typically assembled and then used reduce the amount that may need to be financed.

Streamlined application process. Transaction costs – time, effort and knowledge required – are a major barrier to efficiency investments, so efficiency programs must be easy to use. Some programs process their applications online, do approval over the phone, assign contractors for the customers, and deposit funds directly into contractor’s accounts, among other things. Where payments follow the meter, rather than the individual, programs are more accessible to renters and people with lower credit scores.²¹

Loan amounts. Depending on customers targeted, loan amounts range from \$2,500 to \$250,000.

Equipment covered. When customers undergo energy audits, they typically get a list of measures that will pay back in a set number of years. It is recommended that programs prioritize financing and incentives based on typical payback periods, using the following order: 1) air sealing; 2) insulation; 3) light bulbs, shower head, and other small items; and 4) furnace, windows. Following the audit, the auditor goes through the list of available incentives that will reduce the cost. The customer signs over the rights to those incentives as they are subtracted from the total amount needed for financing so that they can borrow less to begin with. The final loan amount is then spread over nine to 10 years. In the case of similar programs for renewable energy, payback may be spread over 15 to 20 years.

Many programs limit technologies covered, identifying technologies that are likely to be used often and that are hard-wired or not easily removed.²² Among efficiency options are lighting, refrigeration, insulation, sealing, space heating and cooling, and street lighting. The Hawaii program covers solar water heaters. In general, any products installed should be certified as appropriate, high quality, and likely to generate savings that exceed equipment cost. The PAYS® program has a cost-effectiveness test: The efficiency measure must cost less than 75 percent of the estimated annual savings for most of the life of the measure.²³

Repayment periods range from two to twenty years. Longer repayment terms allow for lower monthly payments. One program found that extending the payback period doubled the number of participants by increasing savings early in the payback period.²⁴ Others suggest, at least with respect to the residential market, that if an eight-year payback for the technology is expected, a 10-year repayment structure should be offered, allowing customers to see a little more saved from early on. For the residential sector, one expert suggests that the average loan term of five to seven years is too

²¹ Id.

²² Hyams, Michael, “‘On-bill financing’ for Energy Efficiency in New Haven, CT” (May 2010).

²³ <http://www.pge.com/includes/docs/pdfs/about/rates/rebateprogrameval/advisorygroup/dtepres.pdf>

²⁴ Mathew Brown, Alliance to Save Energy, *Paying for Energy Upgrades Through Utility Bills* (2009)(citing United Illuminating company).

short, leaving inadequate positive cash flow and suggests payback periods of between 10 and 20 years.²⁵

Typically, the financing term offered by utility companies is equal to the life of the measure.²⁶ For instance, the expected life of a furnace may be 20 years, so the repayment term is 20 years. By setting it up this way, the expected annual savings from the furnace should be significantly larger than the annual repayment charge for the furnace (generating positive cash flow annually). More conventional loan programs with third party financiers, however, tend to have shorter repayment terms.

Billing system. For on-bill repayment the billing system must be expandable to incorporate new loan charges in the structure. On-bill financing, however, could require an overhaul of the billing system.

Contractor arrangements and workforce development. Does the homeowner find his or her own contractor, or does the city/utility or some other entity work directly with contractors, or have a list of approved contractors? The city of Portland staffs energy agents to walk customers through the entire process, and the city picks contractors (homeowners fill out paperwork, city handles the rest, someone shows up at your house). Several programs work directly with a pool of contractors. For instance, United Illuminating in Connecticut works with a pool of contractors that must abide by strict guidelines on materials, prices, labor, licensing, and waste disposal. Sempra requires selected contractors to participate in an education process to reduce the number of jobs done poorly.²⁷ A pool of contractors can help identify training needs and provide on-the-job training opportunities.

Contractor Networks and Community Energy Outreach Teams. Programs that have created contractor networks and educated them on financing tools available to customers have achieved higher participation rates. Contractors become a solid ally in promoting the program. United Illuminating found the use of a limited pool of well-informed contractors reduced the need for mass marketing of the program.²⁸ Similarly, some communities have enlisted community energy action groups to help with outreach via block walks and letters to homeowners from trusted leaders.²⁹

Data collection helps demonstrate efficacy of the program, showing that utility bills are lower on average than similar apartments. A program management system that allows for project tracking, and allows contractors to access it for updates is encouraged.³⁰ Energy meters are recommended for accounts participating in the program.³¹

²⁵ Merrian Fuller, Energy & Resources Group, U.C. Berkeley, for Efficiency Vermont, *Enabling Investments in Energy Efficiency* (May 2009).

²⁶ Mathew Brown, Alliance to Save Energy, *Paying for Energy Upgrades Through Utility Bills* (2009).

²⁷ *Id.*

²⁸ *Id.*

²⁹ Merrian Fuller, UC Berkely, *Enabling Investments in Energy Efficiency* (May 2009).

³⁰ *Id.*

³¹ *Id.*

The following pages contain examples of utility-bill financing and repayment programs across the states, including: public-private partnerships, residential programs, programs targeting small businesses and local governments, one that includes access to renewable energy in addition to efficiency services, a program where repayment occurs on the municipal utility bill in lieu of the electric and/or gas bill, and a few states that have passed legislation supporting creation of these programs in their state.

Public-private partnership example

Shorebank Enterprise Cascadia, a non-profit community development financial institution, has partnered with the city of Portland to offer an on-bill loan repayment program. Portland is the program manager, Enterprise is the financial manager, and both entities contribute to the upfront financing of the program (with the city dedicating a portion of its federal stimulus dollars to the program). The city secured the loans with a loan-loss reserve fund to reduce risk and lower the cost of loans. Efficiency program administrators contract with the utility to be the billing agent. As a result, the utility serves as the medium for bill payment through an agreement with utilities that the efficiency upgrade charge is on bill, but utilities are not involved financially or otherwise. The efficiency loan is not tied to property or meter, so the loan follows the individual and not the meter. On sale of the property, the loan becomes part of the real estate transaction, and requires payoff or transfer to the new owner. Program administrators also put together a pool of approved contractors, to make it easy for consumers to find responsible, qualified contractors to do the work. Seattle is replicating the Portland model.

Residential program available to renters and landlords

The Kansas rural electric/gas co-op (Midwest Energy How\$mart®)³² program is owned, operated, and financed by the customer-owned utility company and is available to both residential and commercial customers, including renters/leasees with owner's permission. The utility employs energy auditors and provides the service to customers free of charge if they enroll in the How\$mart program. Customers are required to be current on energy bills – no credit check is required. The auditor makes recommendations, the customer then chooses a contractor, and the utility pays contractor when work complete.³³ The bill follows the meter and not individuals. Full disclosure of the surcharge to subsequent customers is required. Building owners must agree to make repairs.³⁴ Repayment occurs over an extended period of time to encourage bigger projects, 15 years for residential customers and 10 years for commercial customers, all at low interest rates. The utility company runs the program in-house, does its own marketing, financing, and billing, and puts up utility funds as capital. With little marketing, this program has been successful. The program is now partnering with Efficiency Kansas to lower interest rates using stimulus funds. See Midwest Energy's How\$mart program at <http://www.mwenergy.com/howsmart.aspx>.

Several on-bill programs target small businesses, local governments

New Hampshire Electric Coop has offered on-bill, fee-based financing programs for municipalities and small businesses since 2002, following approval from the state utility commission.³⁵ In 2004, the

³² Id.

³³ Merrian Fuller, *Enabling Investments in Energy efficiency* (May 2009)

³⁴ Mathew Brown, Alliance to Save Energy, *Paying for Energy Upgrades Through Utility Bills* (2009).

³⁵ <http://bit.ly/STCBuP>.

public utilities commission deemed the program a success and ordered utilities to continue.³⁶ In 2009, they developed a pilot program to expand the option to the residential sector using Regional Greenhouse Gas Initiative (RGGI) grant funds in the form of a \$200,000 revolving loan fund. The utility operates the program and provides interest-free loans up to \$7,500, on-bill payback from two-to-seven year terms, and a contract that follows the customer and not the meter, with the balance of the loan to be paid off if the customer relocates. They are now exploring tying the loan to the meter rather than the customer and incorporating private financing. Program evaluations suggest that many of the customers would not have undertaken efficiency measures were it not for the financing option (but customers also used rebates).³⁷ Lighting retailers surveyed indicated an increase in business as a result of the program. New Hampshire hit its target level of participation even with a large reduction in rebates offered.

Alliant Energy in Minnesota and Wisconsin offers shared savings programs.³⁸ Energy experts from the utility company help business customers identify savings opportunities, make recommendations, pay initial costs for upgrades, work with contractors and suppliers to coordinate installation, and allow repayment on utility bill over a five-year period.

Southern California Edison, Southern California Gas Company, and San Diego Gas and Electric have on-bill financing programs that target business and government consumers. The programs access state public benefits funds to buy down interest rates and offer both zero-percent financing and up to 10 percent in rebates. Sempra Energy offers five-year terms for its business customers, and 10-year terms for government customers.³⁹

United Illuminating (UI) Company in Connecticut,⁴⁰ an investor-owned utility operating in New Haven and the southern portion of Connecticut, combines incentives and an on-bill loan program for small business customers that either own or lease their space (since 1993, expanded in 2000).⁴¹ UI pays the energy auditor who makes recommendations based on an audit, with a goal of lowering energy costs by 20-30 percent. Eligibility is based on the customer's bill payment history and the program works directly with a pre-qualified contractor. UI has a contractor pool, and participating contractors must agree to abide by strict guidelines on materials, prices, labor, licensing, and waste disposal. Efficiency project costs range from \$1,000 to \$60,000, with rebates covering 30 to 40 percent of the costs, drawing on the state's public benefits fund. The remaining balance is financed over an average of two to three years with zero-interest loans.⁴² UI only finances projects where monthly savings will exceed the repayment fee, and the loans are secured by the state's public benefits fund (Connecticut Energy Efficiency Fund).⁴³

Western Massachusetts Electric offers an on-bill loan program with zero-percent financing in its Small Business Energy Advantage program.

National Grid, an investor-owned utility operating in Massachusetts, Rhode Island, and New Hampshire, offers on-bill financing to small business customers, and on a more limited basis to

³⁶ Mathew Brown, Alliance to Save Energy, *Paying for Energy Upgrades Through Utility Bills* (2009).

³⁷ Id.

³⁸ <http://www.alliantenergy.com/SaveEnergyAndMoney/AdditionalWaysSave/FinancingOptions/029922>

³⁹ Mathew Brown, Alliance to Save Energy, *Paying for Energy Upgrades Through Utility Bills* (2009).

⁴⁰ Local Clean Energy Alliance, state on-bill financing and PAYS programs, at <http://bit.ly/QEKqZc>.

⁴¹ Mathew Brown, Alliance to Save Energy, *Paying for Energy Upgrades Through Utility Bills* (2009).

⁴² Hyams, Michael, " 'On-bill financing' for Energy Efficiency in New Haven, CT" (May 2010)

⁴³ Mathew Brown, Alliance to Save Energy, *Paying for Energy Upgrades Through Utility Bills* (2009).

medium-sized commercial and industrial businesses and to municipal entities in Massachusetts.⁴⁴ National Grid provides free energy audits, covers between 40 and 70 percent of project costs, and provides an interest free loan to cover the remaining balance, with a bonus 15 percent discount if the bill is paid off within a month.⁴⁵

Public Service Electric and Gas (PSE&G) in New Jersey⁴⁶ has a small business program available to business customers in Newark and Trenton, with plans to extend the program to other cities. The program uses on-bill financing among other tools, including free energy audits and detailed recommendations, and obligates consumers for only 20 percent of the project cost.

Hawaii program includes financing for renewable energy equipment⁴⁷

The state of Hawaii passed legislation requiring utility companies to offer Pay-as-You-Save® programs (2006). Three electric companies created PAYS® pilot programs for solar water heaters (SolarSaver). Within six months of the launch of the program, over 100 units were installed, demonstrating the applicability of on-bill financing to renewable energy in addition to energy efficiency. This program is unusual in that it issues a separate bill but puts it in the same envelope as the utility bill.⁴⁸

In Babylon, NY, efficiency load repayment is on municipal service bill

The city of Babylon, New York, has an energy efficiency loan program that is repaid through a municipal service bill, separate from the electric utility bill (similar to bill for trash in some communities). Babylon determined that carbon is a solid waste and is now using a solid waste fee to fund the program.

Some states requiring utilities to offer on-bill financing options

Illinois passed legislation requiring utility companies to provide on-bill financing options to its residential customers (2009). Programs will be open to small business customers also.⁴⁹

Michigan passed legislation requiring its Public Utilities Commission to investigate a tariff-based on-bill financing program for energy efficiency, and the commission has issued a request for proposals for someone to design and operate the program. (Michigan Saves⁵⁰)

New York state requires that large utilities offer on-bill financing programs.⁵¹

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⁴⁴ See https://www.nationalgridus.com/masselectric/business/energyeff/3_small.asp

⁴⁵ Mark Jewell, Technology Publications, *The growing popularity of on-bill financing incentives, zero interest can increase affordability* (September 2009).

⁴⁶ *Id.*

⁴⁷ Local Clean Energy Alliance, state on-bill financing and PAYS programs, at <http://bit.ly/QEKqZc>.

⁴⁸ Merrian Fuller, Energy & Resources Group, U.C. Berkeley, for Efficiency Vermont, *Enabling Investments in Energy Efficiency* (May 2009).

⁴⁹ See note 43

⁵⁰ See Note 43. Public Act 285.

⁵¹ See <http://bit.ly/STnem4>.