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ENERGY EFFICIENCY FINANCING MECHANISMS

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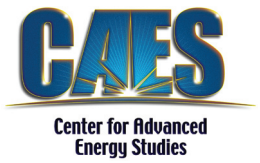

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ABSTRACT

Energy efficiency is recognized as one of the nation's most valuable untapped energy resources. The *National Action Plan for Energy Efficiency* states, "Improving energy efficiency in our homes, businesses, governments, and industries … is one of the most constructive, cost-effective ways to address the challenges of high energy prices, energy security and independence, air pollution, and global climate change (U.S. Environmental Protection Agency, 2006). According to various sources, the United States could meet 25-40% of energy demand through energy efficiency (Granade, 2009; American Council for an Energy-Efficient Economy, 2010). Idaho has recognized the overall cost-effectiveness of energy efficiency as a resource and made it the number one resource priority in the *2007 Idaho Energy Plan* (Idaho Legislative Council Interim Committee on Energy, Environment and Technology, 2007).

Encouraging small businesses to adopt energy efficiency measures is especially challenging due to the large participation rates necessary to make a meaningful contribution toward meeting demand through efficiency rather than new generation. Given that the primary barrier for small businesses to reach widespread adoption is financing the initial cost, and that the number and variation of circumstances are large, the adoption of a *one-size-fits-all* approach is problematic. The states that are effectively tapping into energy efficiency as a resource use several funding mechanisms that range from rebates and tax credits to 100% upfront financing in order to encourage increased participation.

This report presents several funding options used by other states to encourage small businesses to invest in energy efficiency measures. It characterizes the different mechanisms and funding sources and presents some generalized models as part of the analysis, including advantages and disadvantages of each. These characteristics include: level of funding, timing of funding, type of funding, repayment mechanism, and responsibility for repayment. The report also provides a synopsis of options currently available in Idaho and identifies some of the gaps that the options presented could potentially fill.

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EXECUTIVE SUMMARY

Funding for energy efficiency measures is one of the major challenges to tapping into a vast potential energy resource—energy efficiency and conservation. According to a report by McKinsey and Company, *Unlocking Energy Efficiency in the U.S. Economy*, providing "significant upfront funding" is essential for energy efficiency to reach its potential as a resource goal (Granade et al, 2009). An Idaho task force focused on energy efficiency also identified "the primary barrier and challenge to implementation of energy efficiency is funding – for retrofits, for operation efficiency upgrades and for best practice operations" (Idaho Strategic Energy Alliance Conservation and Energy Efficiency Task Force, 2009).

This report looks at the characteristics of financing, and in particular the impact of these characteristics on funding and promoting energy efficiency measures. Level of funding, timing of funding, the type of funding, the method of repayment and who is responsible for repayment play major roles in the ultimate success of any energy efficiency incentive program. Providing a portfolio of various financing mechanisms with different characteristics is important so that small businesses can choose a program or combination of programs that best suit their individual needs.

Energy efficiency finance mechanisms and programs require a source of capital. These funding sources can come from private companies, the public sector, or public/private partnerships and can be used to capitalize various energy efficiency programs and finance mechanisms.

Several examples of funding sources include:

- Lending institutions
- Government grants
- Qualified Energy Conservation Bonds
- State Treasury Funds
- Public Benefit Funds (System Benefit Charges) or Tariffs
- Government/Taxpayer funds
- State Energy Program Funds
- Special Assessment or Local Improvement Districts
- Property-Assessed Clean Energy (PACE) financing
- Utility general funds
- Renewable Energy Certificates

Four categories of basic financing models currently utilized across the United States include: on-bill financing, traditional consumer loans, revolving loan funds, and reimbursement models. On-bill financing provides an upfront loan paid back on an existing bill. This can be administered by a utility or municipality through a utility or property tax bill or can be administered through a third-party in conjunction with a utility or municipality. Traditional consumer loans are off-bill programs offered by a lending institution and are frequently sponsored by a utility or

municipality. Additionally, revolving loan funds, which are replenished as energy efficiency loans are paid back, can be administered by a state or a third-party administrator. The reimbursement model encompasses utility rebates, state-sponsored rebate programs, and federal and state tax deductions and credits. All programs have their advantages and disadvantages depending on the characteristics of the finance mechanism and the source of funding available.

The State of Idaho currently has numerous reimbursement-type programs available but very few upfront financing opportunities. Local governments are unable to encourage energy efficiency due to state statutes that limit their lending authority for public purposes. Recent legislation has been enacted to help fund renewable energy sources, such as H.B. 189 where renewable energy producers pay a 3% tax on their gross energy earnings in lieu of property tax (Idaho Code §63-3502B), but very little has been done to provide financial help for energy efficiency. According to a 2007 EPI survey, more than 90% of respondents would be willing to invest in energy efficiency measures if they could obtain 100% financing upfront (Energy Policy Institute, 2007).

Providing small businesses an array of financing options, from partial rebates to 100% upfront financing, will allow more of them to invest in energy efficiency measures. Numerous states have aggressively promoted energy efficiency as an energy resource by providing financial incentives to businesses, large and small, and to individual homeowners. State policymakers, utilities, public utility commissions, cities, counties and private organizations have all contributed to the process. By understanding some of the programs offered in other states, Idaho has an opportunity to customize its policies to achieve the energy objectives set forth in the 2007 Energy Plan.

INTRODUCTION

Energy efficiency is recognized as one of the nation's most valuable untapped energy resources. The *National Action Plan for Energy Efficiency* states, "Improving energy efficiency in our homes, businesses, governments, and industries … is one of the most constructive, cost-effective ways to address the challenges of high energy prices, energy security and independence, air pollution, and global climate change" (U.S. Environmental Protection Agency, 2006). According to various sources, the United States could meet 25-40% of energy demand through energy efficiency (Granade et al, 2009; American Council for an Energy-Efficient Economy, 2010).

Small businesses make up over 99% of employee firms in the United States (Brown, 2009a). Many of these businesses have yet to take advantage of energy savings by upgrading their equipment and facilities. According to a study done by the National Small Business Association, "The majority of small businesses indicated that lack of resources and cash flow were the primary obstacle to installing equipment or implementing energy-efficient measures to make their businesses more energy efficient" (Obbagy, 2007). The problem is magnified because each project is relatively small in scope requiring a large number of participants to create a sizeable impact on society. Because of the large variation of financial circumstances experienced by small businesses, a portfolio of flexible funding mechanisms from partial rebates to 100% upfront financing can allow businesses to take advantage of energy saving opportunities.

Why is financing such a key issue? First, most small businesses operate on very tight margins with little discretionary cash, particularly in the current economic climate. Businesses have many competing demands for funds. They are reluctant to borrow money for projects that will not increase business opportunities, may not immediately reduce expenses, or do not meet return on investment criteria. Because energy costs are usually a fairly small percentage of a small business' total expenses, sizable investments to reduce energy costs may not be a high priority for available funds. Second, the costs of energy efficiency and conservation measures are perceived as more "real" to business owners compared to the promise of future potential savings. Increased debt carries a certain amount of risk and business owners may feel the energy savings will not provide an adequate return on their investment. Third, many small businesses lease space, making them unwilling to invest in energy efficiency measures which are installed on the property. They are concerned they will not realize the benefits of their investment if they relocate. Providing funding that can address these issues along with education, energy audits, and turnkey installation programs would enable businesses to upgrade the energy efficiency of their equipment and buildings, thus reducing the demand for energy.

According to the 2007 Idaho Energy Plan, "…energy conservation provides the greatest economic and environmental benefits for Idaho and should be Idaho's highest-priority resource; however there are many barriers that currently prevent this resource from being utilized to its full potential" (Idaho Legislative Council Interim Committee on Energy, Environment and Technology, 2007, p. 37). Furthermore, the 2007 Idaho Energy Plan notes

that Idaho lags behind neighboring states in acquiring energy efficiency and conservation resources. This report is intended to address this issue by supplying specific information on ways other states are encouraging the implementation of energy efficiency measures through various programs. The states that are effectively tapping into energy efficiency as a resource use an extensive portfolio of financing mechanisms from rebates and tax credits to 100% upfront financing. They have found that businesses, as well as other entities, will invest in energy efficiency if they have funds available to do so.

There are two main objectives of this report. One is to provide a landscape analysis of alternative financing mechanisms, policies, and best practices to promote energy efficiency specifically for small businesses. The second is to understand how some of these options might augment what is currently available in the State of Idaho. Although tailored for policymakers in Idaho, the information contained in the report is of value to all parties interested in promoting energy conservation and efficiency for small businesses and potentially for other customer classes in the United States.

METHODOLOGY AND REPORT STRUCTURE

To accomplish the objectives of this report, a thorough review of different funding mechanisms and programs in use by different states was conducted (See Appendix A for a summary of select programs). This was done by casting a wide net, yielding a variety of programs that feature upfront financing as well as refund mechanisms such as credits and rebates. Through an analysis of these mechanisms, five characteristics were identified which are useful for analysis and identification of advantages and disadvantages. Characteristics include: level of funding, timing of funding, type of funding, repayment mechanism, and responsibility for repayment. These are described in the section labeled *Characteristics*.

Options for sources of funding were identified. This is important because identification of a pool of funds is critical when developing an incentive or loan program. Different sources of funding include: lending institutions, public benefit funds or service charges, federal government programs, state funds, city and county funds, utility general funds, and green tags. An analysis of different funding sources and the advantages and disadvantages of each is provided in the section labeled *Funding Sources.*

To describe the different combinations of financing mechanisms and funding sources more aptly, several examples of generalized models were developed that represent the archetypes most prevalent in the United States. A model represents the financial and information flow paths that occur between the various parties involved. A detailed explanation is given for each model along with examples of specific case studies currently in operation. These are illustrated in the *Financing Models* section of the report.

Programs that provide funding for the implementation of Energy Efficiency measures for small businesses do not necessarily ensure program success. A well designed program must also address other issues for program outcomes to be realized. During the process of reviewing the

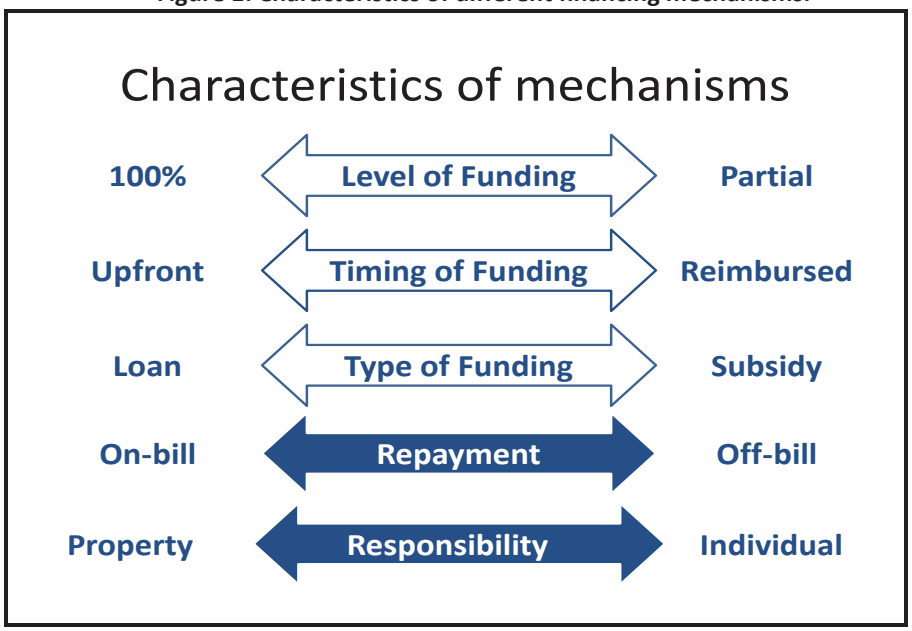
different funding mechanisms and programs available in the U.S., several best practices were identified and listed in the *Best Practices* section of the report.

An assessment of policies, incentives, and mechanisms available in Idaho is provided in the *Energy Efficiency Financing in Idaho* section. It is followed by section which identifies some of the gaps and barriers that may be preventing Idaho from reaching the state's maximum energy efficiency potential. Included are results of a non-scientific survey targeting Idaho energy stakeholders to measure their perceptions on the State's commitment to energy efficiency and of various financing mechanisms for small businesses (See Appendix B).

CHARACTERISTICS OF FINANCING MECHANISMS

Financing mechanisms have a variety of characteristics which are important to define when looking at energy efficiency programs. Five characteristics are identified and illustrated in Figure 1: level of funding, timing of funding, type of funding, repayment, and responsibility. Policymakers and the general populace are intuitively aware of these differences but the characteristics make a major impact on how a program is funded and administered, how funds are disbursed and paid back, and who will take advantage of the program's offerings. The goal of energy efficiency financing is to entice businesses and other entities to invest in energy saving measures. Consequently, the characteristics of the different financing mechanisms are critical to a program's success. By identifying the variables that differentiate financing mechanisms, policymakers can better understand the advantages and disadvantages of each, identify the potential funding sources and population being targeted, and customize policy to meet energy efficiency objectives.

Figure 1: Characteristics of different financing mechanisms.



Source: EPI

Level of Funding

The level of funding can be 100% of capital needed or a fraction of the total amount. The latter requires the consumer to provide a portion of the capital needs. The level of funding impacts the participation rate. If the percentage of costs covered is too low, businesses do not have the cash to invest in energy efficiency measures even if they have the desire to do so. On the other hand, funding can be distributed to more projects if only partial funding is supplied. Offering programs with different funding levels has proven to be effective in other states because it allows businesses to invest in energy efficiency measures based on their ability to pay and their future energy savings potential. In a survey done by the Energy Policy Institute in 2007, 90% of Idaho respondents stated they would take advantage of financial incentives to reduce energy usage in their home or business. In addition, 95% would be highly likely to invest in energy efficiency measures if provided 100% financing. This drops to 85% if financing covers 80% of the costs (Energy Policy Institute, 2007).

Timing of Funding

Funding can be in the form of a reimbursement or upfront financing. A reimbursement is when the participant must pay the initial cost and is paid back partially or in full at a later date. Tax credits, tax deductions, and rebates are reimbursements that are the most common methods for subsidizing the costs of installing energy efficiency measures. On the positive side, reimbursement programs are relatively easy to manage and the administrator does not have to assess the creditworthiness of the participant. Some reimbursement programs cover only a portion of the cost of the energy efficiency measure, so a limited pool of funds can be distributed to a larger number of participants. The program funds accrue interest up until the reimbursement is paid to the participant.

There are some disadvantages to reimbursements. Funds used for reimbursements are never recovered from the participant, so the pool has to constantly be replenished from another source if the program is ongoing. Additionally, the participant has to have enough cash to pay for the efficiency measure initially and then wait for reimbursement. One of the most commonly cited barriers to the installation of energy efficiency measures is lack of capital (Fuller, M. C., Kunkel, C. & Kamman, D. M., 2009). Rebates, tax credits, and tax deductions partially alleviate this barrier.

In contrast, upfront financing provides some or all of the costs of the energy efficiency measure when the cost is incurred. One of the objectives of 100% upfront financing is to provide the participant with an initial outlay of cash. With upfront financing the energy efficient measure can be installed, energy savings are realized immediately, and the participant pays for the measure over time. The business is better able to pay for the measure because the owner is saving real dollars due to reduced energy consumption. Upfront financing addresses the cash barrier that is most frequently cited as the reason businesses do not install energy efficiency measures. Substantial energy savings can be realized if upfront financing was readily available to the majority of small businesses (Brown, 2009a).

Type of Funding

Regarding energy efficiency funding, loans and subsidies have some significant differences. (Table 1). First, a loan requires the borrower to pay back the lender over a specified period of time. In contrast, a subsidy offsets a portion or all of the capital costs. Second, repayment of loans allows the funding source to be replenished. Subsidies use up the allocated funds and constantly require replenishing. Third, loans are allocated on an as-needed basis and usually cover the majority of the cost of the measure, requiring a larger funding pool. Subsidies can have a dollar limit and in many cases are issued first come, first served. Fourth, loans are always upfront, whereas subsidies can be either upfront or in the form of a reimbursement. Fifth, loans have risk involved, consequently, many require establishing credit qualifications which can create barriers to program participation. Historically, loans that finance energy efficiency projects have very low default rates. Pennsylvania's Home Energy Loan Program has a default rate of 0.49% (Lubber, 2010). Other programs in Kansas, New York, and Oregon also report very low default rates (Brown, 2009b).

Table 1: Differences between Loans and Subsidies

	LOAN	SUBSIDY
Borrower pays funds back	Yes	No
Loan funds replenished	Yes	No
Dollar amount limited	Yes	Yes
Allocation of funds	As needed basis	First come, first served
Borrower must qualify for funds	Yes	No
Timing of funding	Upfront	Upfront or reimbursed
Credit qualification requirement	Yes	No
Amount of measure funded	Usually 100%	Specified dollar amount or percentage < 100%

Source: EPI

Repayment mechanism

The two types of payment methods when financing is provided through a loan are on-bill and off-bill. On-bill allows the business to pay the loan back on an existing bill such as an electricity or gas bill, municipal utility bill, or property tax bill. The advantage of on-bill financing, especially in the case of payment made on a utility bill, is the participant's payment is partially or wholly offset by the savings from the installed efficiency measure. Most programs are designed so the participant's bill is net neutral or less than the bill before the measure was installed. This is beneficial in two main ways. First, the customer is better able to repay the

loan for the energy efficiency measure because cash flow has actually improved. Second, the energy savings due to the retrofit and the monthly cost of the measure are transparent.

There is an important caveat to on-bill programs that are designed to be at least net neutral on the billing cycle—the energy savings through efficiency measures must be significant. On-bill programs of this type can require an energy audit that identifies a minimum percentage of potential energy saved and specific efficiency measures to qualify for the program. Other energy efficiency programs used in combination with on-bill financing, such as rebates or tax deductions, can help offset this hurdle for qualification.

Off-bill financing can be offered by any lending institution, state agency, or entity created for the purpose of encouraging energy efficiency. Off-bill payments are an additional bill to pay each month and the benefit received from the energy efficiency measure may not be as apparent.

Responsibility for Repayment

The responsibility for repayment of the loan can be assigned in two ways: to the property or to the person. If the responsibility is tied to the property then the repayment obligation changes hands based on who is receiving the benefit of the energy-efficient measure. If the responsibility is tied to the person, then the repayment obligation stays with the original obligor regardless of whether this individual is still receiving the benefit. Many businesses and individuals are concerned that if they install an energy efficiency measure and then move, they will not see the financial savings from reducing their energy consumption. By assigning the obligation for repayment to the property that has received the benefit of the energy efficiency measure, this barrier is removed.

POTENTIAL FUNDING SOURCES

To make energy efficiency financing mechanisms successful, there must be capital funds available. There are numerous sources of funds but there are also challenges facing new and existing programs. These include:

- Obtaining the funds at zero or minimal interest rates in order to entice borrowers and minimize payback periods;
- Allocating enough funds to meet the demand once energy efficiency programs are initiated;
- Eliminating state statutes that limit local governments and utilities ability to lend;
- Minimizing administrative cost of extending a large number of relatively small loans;
- Dealing with concern over default rates;
- And addressing the ability of municipalities to issue bonds for energy efficiency measures.

Lending Institutions

Banks and other financial institutions can provide funding through traditional consumer or business loans. In some programs, banks partner with a utility, state, or third-party energy

entity. The bank provides the funding as well as the administrative aspects of the program. The bank can be the sole provider of funds or the bank provides a portion of the funding and the state, utility, or third-party provides the remainder.

Another option is that state and/or local governments or other entities deposit funds with a lending institution. These funds earn interest and act as collateral for the lending institution who then administers the loans. The bank and the depositor can negotiate rates which are beneficial to all parties. One such program is offered by Oklahoma Gas & Electric (see Appendix A). It is specifically for heat pumps, is available to both residential and commercial customers, and is offered in conjunction with a local credit union (Oklahoma Gas & Electric, 2010).

Public Benefit Funds (System Benefit Charges) or Tariffs

Ratepayers fund energy efficiency programs through a surcharge on consumption. System Benefit Charges (SBC) or Public Benefit Funds (PBF) must be approved by the state regulatory agency or authorized through legislation. State statutes define the public purpose for the funds, how the funds can be used, and whether or not they can be appropriated for other purposes. A utility-initiated tariff is approved by the state regulatory agency and the utility must dedicate the funds to an approved program. The state Public Utilities Commission (PUC) or regulatory agency has oversight regarding the use of the funds. An SBC can be collected by the utility but used by any approved entity (local or state government, utility, or third-party administrator) for funding energy efficiency programs.

The advantages of both utility imposed tariffs or surcharges and SBCs are that all users of energy are assessed a minimal charge to fund energy-saving programs. They also provide a steady stream of capital so programs are ongoing and are not suspended due to lack of funding. For example, Vermont collects more than $24 million annually in a state with a population of approximately 600,000 (Brown, 2008). This money goes directly to energy efficiency programs and does not have to be returned to the funding source.

One of the challenges associated with PBFs is that many people and legislators view them as an additional tax. Another disadvantage is that PBFs are sometimes a part of the state's revenue pool and can be re-appropriated for purposes other than energy efficiency in the regular appropriations process (Environmental Protection Agency, 2006).

PBFs have been approved in 22 states (DSIRE: Database of State Incentives for Renewables & Efficiency, 2010). In five other states, the PUC has authorized utilities to charge tariffs for energy efficiency and renewable energy programs (American Council for an Energy-Efficient Economy, 2007).

Government/Taxpayer Funds

The federal government and a number of states are encouraging businesses and individuals to adopt energy efficiency measures through tax credits and deductions. Furthermore, many subsidies are available to encourage research and development, as well as the manufacturing of energy efficiency and renewable energy technologies. On a larger scale, taxpayer funds are being used to finance numerous incentives for energy efficiency. The federal government is

actively promoting energy efficiency through the 2008 Energy Improvement and Extension Act and the American Recovery and Reinvestment Act of 2009 (ARRA), which is the source of what is commonly known as Stimulus funds.

State Energy Program Funds

The State Energy Program (SEP), which was authorized under the Energy Improvement and Extension Act of 1975, established programs to encourage energy conservation. Over the years additional legislation has expanded the use of SEP funds (U.S. Department of Energy, 2010). The ARRA authorized states to use SEP funds for energy efficiency financing programs. SEP funds can provide the capital for state revolving loan funds. The Department of Energy's February 3, 2010 State Energy Program Notice identifies the importance of financing mechanisms: "Financing mechanisms that support the deployment of energy efficiency and renewable energy projects can provide a catalyst that enables homeowners, schools, communities and businesses to proceed with energy efficiency and renewable energy projects" (Johnson, 2010) (Johnson, 2010). Approximately $17 billion dollars were allocated for renewable and energy efficiency projects. As of April 2010, 91.7% of these funds had been awarded to state programs (U.S. Department of Energy, 2010a), which demonstrates the demand for flexible funds which can be leveraged to provide substantial support for energy efficiency programs. According to the SEP Fact Sheet published by the Department of Energy, "In a typical year state energy office projects that are partially supported through SEP save more than $300 million in energy costs (U.S. Department of Energy Efficiency and Renewable Energy, 2009).

Grants

The Energy Efficiency and Conservation Block Grant Program (EECBG) is another form of funding authorized by the ARRA. EECBG funds can be used for "financial incentive programs for energy efficiency such as energy savings performance contracting, on-bill financing, and revolving loan funds" (U.S. Department of Energy, 2010). If grant funds are used as seed capital for on-bill financing or revolving loan programs, all grant funds must be loaned out within three-years of receipt. Energy efficiency programs will need to find additional sources of capital to supplement EECBG money. The additional capital can come from either public or private sources. Programs are administered by government agencies, third-party administrators, or private entities.

Qualified Energy Conservation Bonds

Qualified Energy Conservation Bonds (QECBs) were first authorized under the Energy Improvement and Extension Act of 2008. The ARRA expanded the program by $3.2 billion to be allocated to states or large local governments for the purpose of financing investments in energy efficiency projects. The amount of bonds allocated to each state is based on state population (IRS Notice 2009-29). The bonds are to be used for a "qualified conservation purpose," which includes a capital expenditure enabling "green community programs" including the use of loans, grants or funding mechanisms for program implementation (American Recovery and Investment Act of 2009). Some states and localities have taken

advantage of QECBs through the creation of special improvement or local improvement districts, which is discussed in a subsequent section.

State Treasury Funds

State treasury funds can be used to capitalize energy efficiency loans as long as they receive a nominal return. State treasurers have numerous options when making investment decisions, and they have a fiduciary responsibility to maximize returns. Energy efficiency lending is considered a long-term investment, historically has a low default rate, and can generate reasonable rates of return (The Pennsylvania Treasury Department; Brown, 2009b; Hinkle, 2009).

Treasury funds can provide indirect support for energy efficiency loan programs. They can supply the capital for a loan fund at a financial institution. The financial institution is responsible for the day-to-day administration of the program and the state receives a return on their investment both in interest and energy savings. The state supplies money for energy efficiency loans by depositing state funds at a lending institution with an agreement that the funds will capitalize energy efficiency loans (Brown, 2008). Interest rates can be set at market rates or the rate can be bought down in order to encourage participation. State statutes dictate the criteria a treasurer must follow when investing state dollars. This system can increase the accessibility of state dollars for energy efficiency financing.

An example of a treasury-funded program is Pennsylvania's Keystone Home Energy Loan Program (HELP) (see Appendix A) to help homeowners make energy efficiency improvements. The program was created by the Pennsylvania Treasury Department and is administered through AFC First Financial (The Pennsylvania Treasury Department, 2009). Initiated in 2006, HELP was capitalized over a three-year period with $20 million from the Pennsylvania Treasurer's Office (Brown, 2009b).

City/County Funds

Cities and counties have had to be creative when allocating funds to energy efficiency projects because of their inability to access long-term, low interest financing. The majority of states have statutes limiting local government entities from lending public dollars for private purposes (The New Rules Project, 2009). However, 15 states have recognized this as a barrier and in the past 12 months, have enacted legislation which allows local governments to issue bonds to finance energy efficiency retrofits on private property (DSIRE: Database of State Incentives for Renewables & Efficiency, 2010). Some cities have been able to fund energy efficiency programs through their municipal utility while others have tapped into existing revenue sources and dedicated some of the funds to energy efficiency programs.

One example of using existing funds for energy efficiency loans is the Long Island Green Homes program (see Appendix A) in the Town of Babylon, New York. The Town developed this unique program specifically to finance energy efficiency retrofits without lending municipal funds. The local government expanded the definition of "solid waste" to include "energy waste" due to its carbon content. This expanded definition allows the Town to use its solid waste fund for

homeowner energy efficiency projects through a "benefit assessment" on homeowners who take advantage of the program (Town of Babylon, 2009).

Special Assessment or Local Improvement Districts

As mentioned earlier, Congress' expansion of QECBs is encouraging states to adopt additional energy efficiency financing measures. Recently, a number of states have passed enabling legislation which specifically permits local governments to provide funding for energy efficiency. This form of legislation allows cities and counties to create special assessment districts and issue bonds to raise capital for energy efficiency programs.

A special assessment or local improvement district is created when a city or county decides to provide improvements such as sidewalks to a specific geographic area. The city or county assesses the property owners for some or all of the costs of the improvement and then bills the owner on their property tax bill. A number of states have enacted legislation which allows cities and counties to create energy efficiency districts similar to the special assessment model. One of the key aspects of an energy efficiency district is that property owners opt into the district rather than being forced to participate based on geographic location. An energy efficiency district allows property owners to pay back their energy efficiency retrofits over time on their property tax bill (Fuller, M. C., Kunkel, C. & Kamman, D. M., 2009). Funds are frequently raised through bonds issued by the city or county and then paid back by property owners. Interest earned on municipal bonds is federally tax-exempt, making them more attractive to investors than a privately issued bond. A downside of energy efficiency districts is that renters cannot participate because they do not own property.

The ClimateSmart Loan Program (see Appendix A) in Colorado uses tax-exempt bonds to fund energy efficiency measures. It is the first county-wide program in the country with the participation of ten municipalities. The program was developed over a five-year period. The initial step was to develop a commitment to creating a long term carbon-neutral goal for their community. A Sustainable Energy Plan followed, along with State legislation, which allowed communities to use bonds to fund energy efficiency and conservation programs. In the fall of 2009, the voters of Boulder County supported a ballot measure which approved $40 million in bonds to fund the ClimateSmart program (ClimateSmart, 2010).

PACE Financing

Property-Assessed Clean Energy (PACE) financing is a recent addition to funding sources available for energy efficiency projects. PACE bonds are modeled after traditional municipal financing secured by property. PACE bonds allow government funds to be spent on energy retrofits, including both energy efficiency measures and small scale renewable projects on private property. PACE funding is usually raised by issuing bonds, financing through a local lending institution, or tapping into a city's existing funds (Interstate Renewable Energy Council, 2009).

The loan for the energy efficient measure is secured with a lien on the property and paid back over time on the property tax bill. Theoretically, there is a very low risk of default with PACE bonds because the property tax liens are senior to mortgage debt, and the property owner's

cash flow should have improved due to energy savings. If the property changes hands, the new owner takes over the payment and the ownership of the measure (PACENow - Property Assessed Bonds, 2009).

The first PACE type program was a pilot program for solar panel installation in Berkeley, California in 2009 (City of Berkeley, 2009). There are now 20 states which have passed legislation to allow PACE financed programs (DSIRE: Database of State Incentives for Renewables & Efficiency, 2010).

Utility General Funds

Utilities may allocate a portion of the payments received from customers to fund energy efficiency programs. The funds are generated or recovered from an energy surcharge or through the base rate paid by customers. Either source of funds must be approved by a state's regulatory agency.

There are a number of challenges facing utility-financed programs. The first is effective communication with customers regarding the benefits of energy efficiency programs. Utilities must communicate how an energy surcharge and increased rates for energy efficiency programs will benefit all customers in the long run through avoided generation costs. Next, there is a time lag between the current costs of a program (providing the funding upfront for energy-efficient measures) and the benefits. Specifically, the energy savings accrue over an extended period of time while the costs that enable the savings flow out immediately.

Another concern for investor-owned utilities is that shareholders do not want to invest in energy efficiency programs if it reduces their return on investment. In order to address this issue, utilities need to treat the investment as they would a traditional energy source (e.g. power plants), or be able to include their investment in energy efficiency in their rate-base (the total value of a utility's assets). If the utility can include investments in energy efficiency as part of their rate-base, they can receive authorization for a specified rate of return on the investment.

Traditionally, utilities' earnings are based on the amount of energy they sell. Encouraging customers to use less energy is contrary to this long-established business model. Although some utilities include energy efficiency as part of their portfolio, many do not. In order to encourage energy efficiency programs, state regulators can work with publicly-owned utilities to remove disincentives in their ratemaking structure. The National Action Plan for Energy Efficiency provides two suggestions. The first is to decouple sales from profits by tying revenues to the number of customers served rather than energy sales. The second option is to decouple sales from profits by using fixed costs as the basis for rate determinations (U.S. Environmental Protection Agency, 2006). Both methods require oversight by regulators to ensure the quality of service is not impacted, energy savings are being realized, and whether cost-recovery by the utility is sufficient. Additional considerations include: annual adjustments that reflect the difference between actual and forecasted results, ensuring consumers pay high enough variable rates for energy consumption to encourage energy efficiency on their part,

properly allocating risk and adjustment time periods so that unpredictable cost factors (e.g. weather, the economy, market prices) do not distort the process (U.S. Environmental Protection Agency, 2006), and concerns that ratepayers do not carry risk that should be borne by the utility's shareholders (Cooley, 1994).

Renewable Energy Certificates or Green Tags

A renewable energy certificate (REC) or "green tag" is a tradable commodity that represents the claim of benefits from the generation of one megawatt-hour of electricity from a renewable source. Utilities that must comply with Renewable Portfolio Standards (RPS) in states that mandate a specific percentage of their generation come from qualified "renewable" sources are required to possess the requisite number of RECs as proof of their compliance (Rader & Hempling, 2001). RECs can also be obtained in voluntary markets by consumers who wish to claim the environmental benefits of the renewable energy that were originally associated with it. Because RECs have value in both mandatory markets for RPS compliance and in voluntary markets for entities that are committed to environmental goals, they can be traded and sold as a form of currency.

At this time, green tags are not widely used to fund energy efficiency projects. New Jersey is one state that uses RECs to help finance its energy efficiency programs (State of New Jersey website, n.d.). In 2006, Energy Trust of Oregon did co-fund a project using carbon credits. Their 2007-2012 Strategic Plan "request[ed] the Policy Committee to explore whether a policy regarding trading in environmental attributes of energy efficiency would be appropriate" (Energy Trust of Oregon, Inc., 2006). Energy Trust of Oregon does take title to a share of the green tags generated by the renewable energy projects it helps finance.

FINANCING MODELS

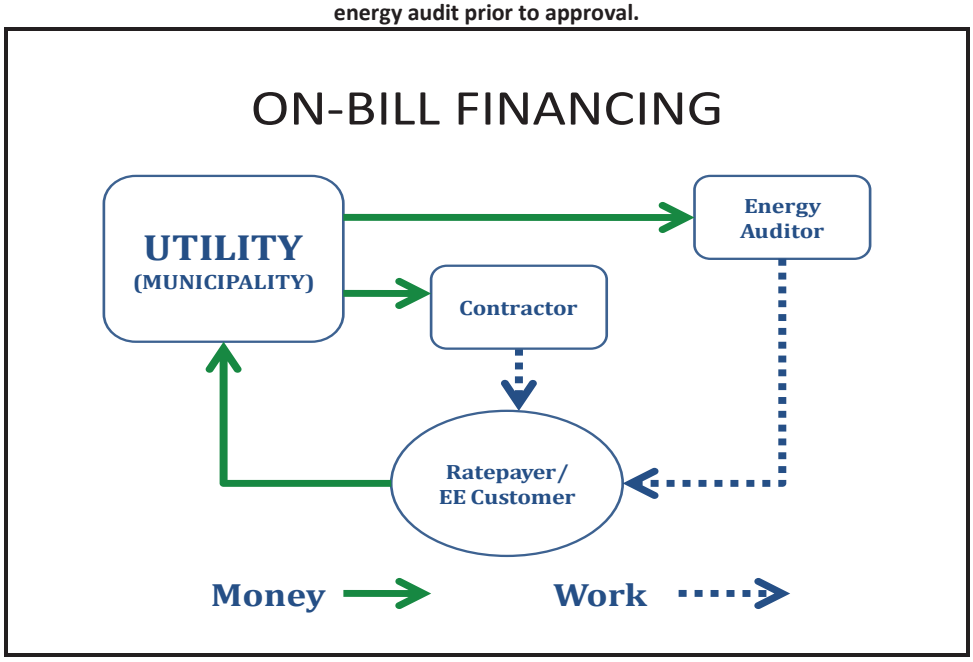
How does all of this work in practice? Four models are presented that are typical of what is currently in operation in many states. Included in the discussion and in some of the models themselves are several best practices utilized by other states (see *Best Practices* section for a comprehensive list). Each of these examples is differentiated by the flow of funds and information. It is important to remember that these models can be customized according to the different characteristics (level of funding, timing of funding, type of funding, etc.) and different funding sources (private lending institutions, public benefit funds, taxpayer funds, etc.), depending on a state's or individual community's goals for energy efficiency, economic circumstances, socio-political culture, and a variety of other factors. Most are equally applicable to small businesses as well as other customer classes.

On-Bill Financing

On-bill financing can be offered through a utility or municipality. The payback for on-bill financing is on an existing bill, such as electric, sewer or property tax, which makes the repayment process easier for the borrower. Depending on the program, the responsibility for repayment can stay with the obligor or can be tied to the measure installed.

The utility or municipality finances the upfront costs, including installation and often an energy audit, of the energy efficiency measure. The repayment for the energy efficiency measure is included on the business' monthly utility bill. Programs are generally designed so the business has minimal or no upfront costs, the interest rate is zero or very low, the small business realizes savings immediately, and their monthly utility bill goes down.

Figure 2: Flow of funds in a best practices on-bill financing program which requires an energy audit prior to approval.



Source: EPI

On-bill financing through a utility or municipality has numerous advantages. First, the utility and the customer have a previously established relationship. The utility knows the business' payment history and can evaluate their creditworthiness. Second, the utility can disconnect service for non-payment. Third, the customer trusts the utility to guide them in the right direction in order to save energy. Finally, there is an immediate cause and effect relationship in a well-designed program. The energy savings is reflected in a lower monthly energy bill even though the customer pays off the retrofit or new energy-efficient appliance.

There are two types of on-bill financing:

- **Tariff-based –** the payback is tied to the energy efficiency measure; it stays with the utility meter or property and is thought of as a service charge rather than a loan.
- **Loan-based –** the payback is assigned to the individual customer.

Tariff-based programs are designed so the benefit of the energy efficiency measure is always paid by the beneficiary of the energy savings. The repayment obligation is tied to the energy efficiency measure. It is attractive to tenants because they can install an energy efficient measure and know if they relocate, the new tenant will take over the payments (as well as reap

the benefits). Tariff-based programs work well for government entities because the repayment is treated as part of the monthly utility expense rather than as an additional debt obligation.

Loan-based programs are tied to the individual. They are operated very similarly to a regular consumer loan with one major difference—the loan can be established without going through the normal credit check process and does not appear as a separate loan on the business' credit report. It is an additional obligation to the utility or municipality, not a new debt obligation.

On-bill programs are limited to a utility's current customers or a municipality's residents. This can limit the number of participants. Many times each utility or municipality has unique program requirements which can cause confusion. Utilities express concerns about implementing on-bill programs because financing is not part of their core business. State statutes can also prohibit utilities from entering into consumer lending contracts. Other utility concerns include the cost of updating billing systems to include line-item charges, default rates on the loans, and shareholder concerns regarding return on their investment. In addition, investor-owned utilities are profit-motivated businesses. Efficiency programs can reduce a utility's profits unless their avoided costs are greater than the cost of implementing and administering the program. PUCs and state incentives can encourage utilities to fund energy efficiency programs by allowing rate adjustments or public benefit charges.

A good example of on-bill financing comes from Connecticut. United Illuminating Company started using on-bill financing to help their customers install energy efficiency measures in 2000 (see Appendix A). Their Small Business Energy Advantage Program provides zero-percent financing to qualified utility customers – both property owners and tenants. The program is combined with a rebate program which reduces the amount financed. A free no-obligation energy audit is the first step for participation. Recommended energy efficiency measures must result in a 20-30% reduction in the customer's utility bill (Small Business Energy Advantage - How It Works, 2010).

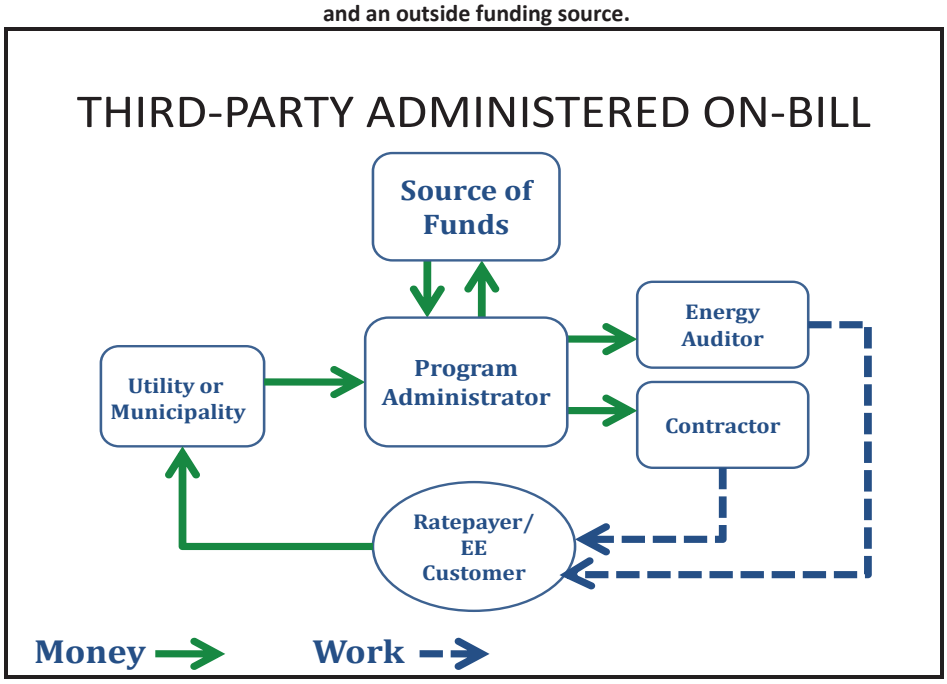
Municipalities that provide sewer, water, garbage, or other services can offer on-bill financing to their residents. The city provides funding upfront for energy efficiency measures and is paid back over time on the municipal services bill. Municipalities can be limited from offering on-bill financing for energy efficiency because many state statutes prohibit local government entities from using public funds for a private benefit (The New Rules Project, 2009). Even so, on-bill financing by cities and counties are becoming more common as enabling legislation is being passed in many states (DSIRE: Database of State Incentives for Renewables & Efficiency, 2010).

Third-party Administered On-bill Financing

Third-party on-bill financing requires a close relationship between the third-party administrator and the utility or municipality. The third-party administrator has access to a source of funds designated for energy efficiency measures. Third-parties can be nonprofit entities specifically focused on increasing energy efficiency and conservation or they can be lending institutions working in conjunction with a utility or municipality. The administrator handles all aspects of the program except billing and collecting repayment from the business. They design and

market the program. They also work with the energy auditors and contractors, and with the business implementing the energy-efficient measure.

Figure 3: Flow of funds for on-bill financing using a third-party administrator and an outside funding source.



Source: EPI

Third-party administered programs have a distinct advantage over utility or municipal programs in that they have one purpose: providing funding for energy efficiency measures. There is no conflict of interest as is possible with on-bill financing directly through a utility. They are not limited by a specific customer base and most serve the entire state. Administrative costs are not duplicated and programs tend to be more consistent. Furthermore, an organization focused purely on energy efficiency is able to more quickly adapt programs to the changing market place than either utilities or municipalities.

However, third-party program administrators are not initially familiar with their customer base and have to develop a trusting relationship while creating the market. Initial start-up costs are usually greater than for an established organization. Finally, the crux for success is a cooperative relationship with the billing entity.

Two states, Vermont and Oregon, have established third-party administrations in order to better manage and encourage energy efficiency programs. Vermont's program, *Efficiency Vermont*, was started in 2000 to provide consistent energy efficiency services directly to consumers of energy in the state. This allows electric utilities to focus on providing electrical services. Since inception, Efficiency Vermont has helped over 10% of Vermont electricity ratepayers to install energy efficiency measures (Efficiency Vermont, 2008).

Similar to Efficiency Vermont, the *Energy Trust of Oregon* was established in 2002 as a public-private partnership and is a non-profit organization. Both entities are funded through public

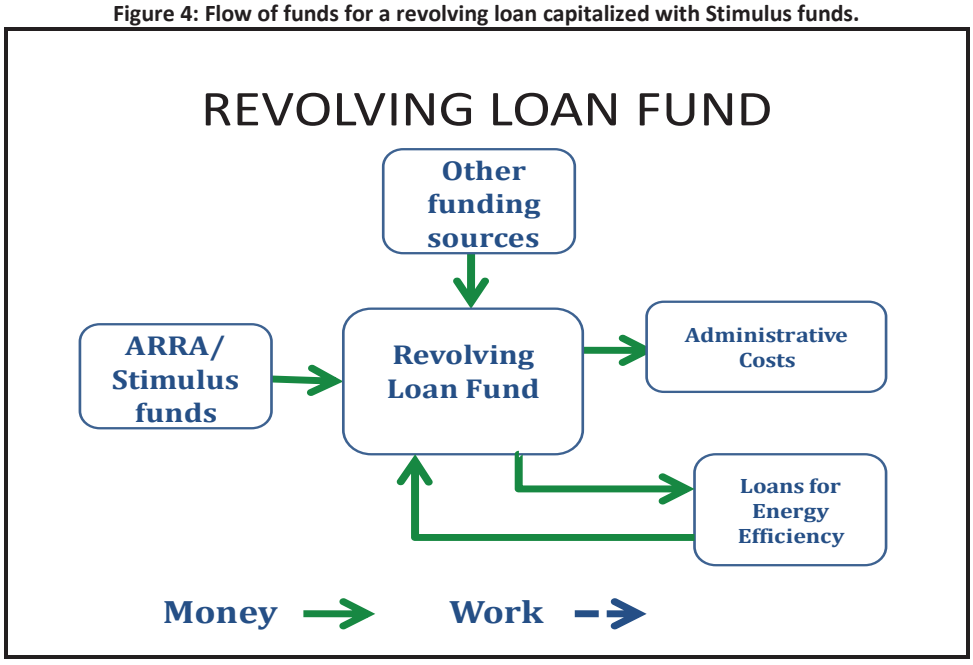
benefit charges collected from all electric ratepayers. The Oregon PUC has oversight over the Energy Trust of Oregon while Efficiency Vermont is reviewed and audited by numerous entities. Both programs offer a multitude of financing options including on-bill financing, rebates, education programs, and other services to their utility customers. Efficiency Vermont's programs are all self-administered. Energy Trust of Oregon works with utility companies throughout Oregon to develop and improve more localized programs (Efficiency Vermont, 2008; Energy Trust of Oregon, 2010).

Finally, a number of electric cooperatives throughout the country have also established programs with third-party lending institutions. The lending institution handles all of the administrative functions but works closely with the utility to ensure an easy application process and reasonable credit terms. For example, Oklahoma Gas & Electric (see Appendix A) partners with a local credit union to help their customers invest in energy efficient heating and cooling systems; the utility markets the program but the credit union administers it (Oklahoma Gas & Electric, 2010).

Revolving Loan Fund

A number of states have developed lending programs to encourage energy efficiency. Most programs provide low-interest or zero-interest loans. Businesses apply for the loans and once approved, pay the state back over a designated time period. State-administered programs are focused on incentivizing the implementation of energy efficiency measures, eliminating conflicts of interest between profiting from the sale of energy and encouraging reduced consumption. The elimination of multiple programs within a state reduces administrative costs and can provide program consistency. Finally, all residents and businesses within the state can take advantage of the program.

Figure 4: Flow of funds for a revolving loan capitalized with Stimulus funds.



Source: EPI

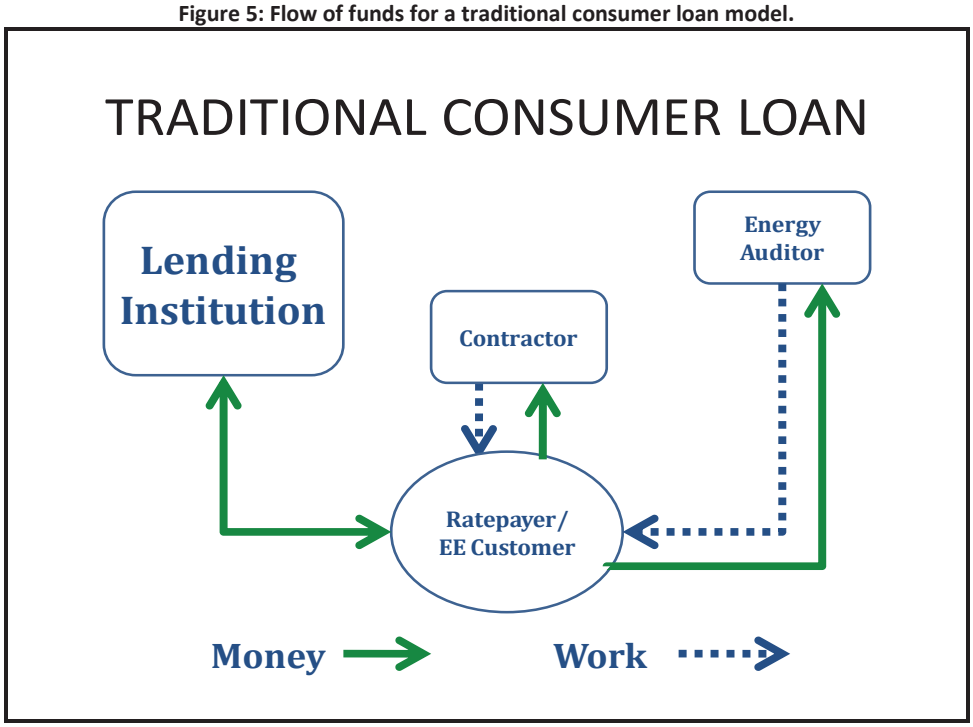
There are several disadvantages to this approach. First, as with any off-bill program, energy savings are not directly associated with the implementation of the energy efficiency measure and a new payment is created for the customer. If the revolving loan fund is administered by the State, program marketing and the ability to adapt to market changes are frequently limited. Additionally, there is no third party oversight of the energy efficiency program's use of funds and outcomes when compared to programs implemented through a regulated utility. Furthermore, state legislators can re-appropriate funds at any time.

Traditional Consumer Loan

A lending institution provides off-bill financing for the energy efficiency measure. These programs are operated like a regular consumer loan but are frequently sponsored by a utility or municipality and have zero or low-interest rates. Customers apply for a loan and once approved, receive a separate bill for repayment. Payoff periods vary as with any program. Customers are less likely to see the direct cause-and-effect relationship between energy cost savings when using a traditional consumer loan.

Many contractors also offer financing when installing energy efficiency appliances and advertise tax credits and incentive programs to help offset or recoup some of the costs. This is an effective marketing tool for the contractor. The contractor works with a lending institution or provides the capital themselves. Any interest has already been added to the price of the efficiency measure.

Figure 5: Flow of funds for a traditional consumer loan model.

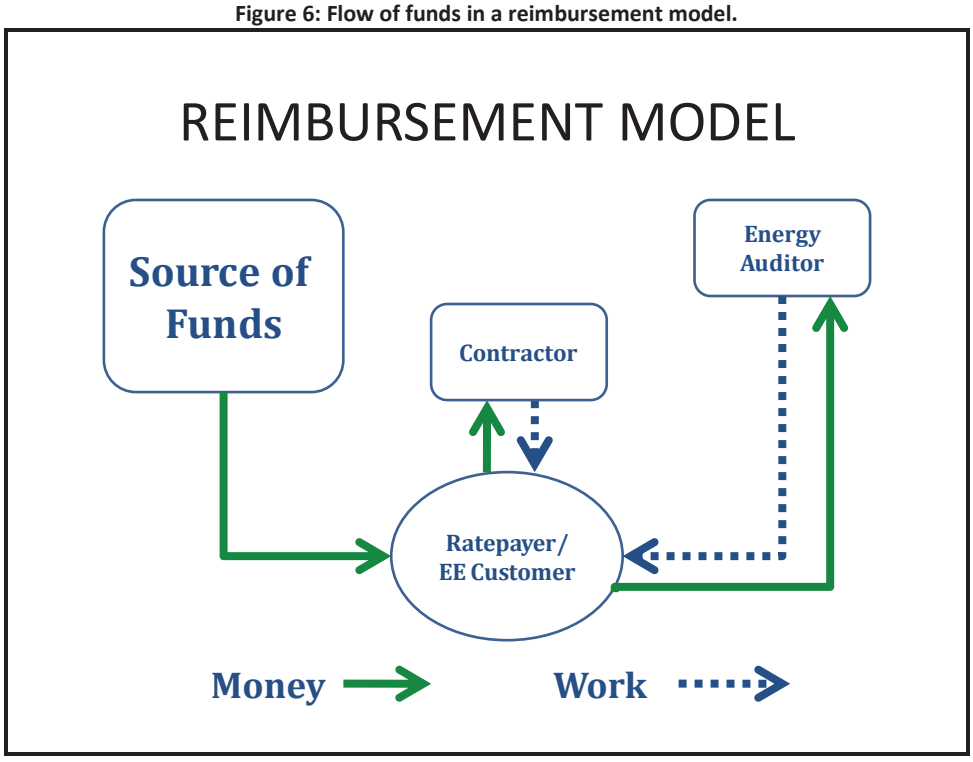


Source: EPI

Reimbursement Model

The most common form of energy efficiency incentive program is the reimbursement model. Retailers and manufacturers often give rebates for the purchase of specific appliances. Many utilities offer rebates for a variety of energy efficiency measures from insulation to heat pumps to energy efficient windows. In most of these instances, the small business or purchaser pays for the measure upfront and then receives a check at a later date. In the case of a tax deduction or credit, the business or individual must wait until they file their income taxes before they can receive the reimbursed amount. Tax credits are frequently "non-refundable," which means if the credit is greater than the tax liability (the amount of tax owed) the amount of credit above the amount of tax owed will not be reimbursed. Some of the available tax credits such as the Business Energy Tax Credit in the State of Oregon (Econorthwest, 2009), can be carried forward to future years as long as the program is still in place.

Figure 6: Flow of funds in a reimbursement model.



Source: EPI

BEST PRACTICES

Providing funding for energy efficiency does not necessarily mean that a program will be successful. The most effective programs have implemented well-rounded solutions tailored toward the needs of the participant and that ensure the measures installed are cost effective. Below are several best practices, related to energy efficiency financing, which were identified while gathering information about the various programs currently in operation.

Ease of participation - Businesses see the implementation of energy efficiency measures as a distraction from their core-business. The best designed programs "connect-the-dots" for

program participants, from application through installation and payment. Most successful programs not only post all the steps and requirements, but allow the participant to perform each step through a single website or point of contact.

Conduct energy audits – Successful programs require energy audits prior to approving funding for an efficiency measure. This ensures that the installed efficiency measures are cost-effective and that the benefits outweigh the cost. Furthermore, an audit relieves business owners from the time-consuming process of determining which energy efficiency measure(s) make economic sense and assure that the program's outcomes are realized.

Credit qualifications - Utility and municipal administered programs use a customer's past payment history and the length of time in business to evaluate credit worthiness. Effective programs keep the qualification requirements simple, and if possible, eliminate the need for an outside credit check. Repayments which are structured as a monthly "fee" rather than a loan payment are desirable because they are not considered an additional debt obligation which makes it easier for businesses and government entities to invest in energy efficiency measures.

Ensure a positive cash flow: A well-designed loan program guarantees that the installation of the energy efficiency measure will ensure a positive cash flow. Payback periods are usually based on energy savings. A number of successful programs allow bundling of various energy efficiency financial incentives. This allows businesses to first take advantage of any rebates or credits before determining the remaining principal required to finance the energy efficiency investment.

ENERGY EFFICIENCY FINANCING IN IDAHO

Numerous rebate programs are available through Idaho Power, Avista Utilities, Idaho Falls Power, and Rocky Mountain Power to encourage small businesses to invest in energy efficiency measures. Idaho Power offers a number of rebate programs to incentivize energy efficiency upgrades for businesses. Their Easy Upgrades program requires a pre-application for energy efficiency investments costing over $1,000. Incentive payments are based on the retrofit and are paid to the small business, or a designated third-party, after the project is complete (Idaho Power, 2010). Avista Utilities[1] and Rocky Mountain Power[2] offer similar incentive programs.

The State of Idaho added a rebate program for energy efficient appliances starting in March 2010. Approximately $1.3 million has been allocated for rebates of $25 - $300 depending on the appliance replaced. The program will run until funds are exhausted (Idaho Office of Energy Resources, 2010). Rebate programs are critical to Idaho's portfolio of financing mechanisms because they encourage small businesses and other program participants to reduce energy use. For example, Idaho's largest publicly-owned utility, Idaho Power, has saved more than 30

[1] Avista Utilities' "Efficiency Avenue" offers rebates on specific commercial equipment, as well as customized energy saving design assistance. Eighty-two million kilowatts of energy was saved in 2009 due to both residential and business energy efficiency incentive programs (Avista Corp., 2010).

[2] Rocky Mountain Power offers incentives for lighting, HVAC and other equipment upgrades through its FinAccess Express program for businesses (Rocky Mountain Power, 2010).

million kilowatt-hours per year through its Easy Upgrades program since the program's inception in early 2007 (Idaho Power, 2010). Incentives and rebates are just one part of a portfolio of energy efficiency financing options.

Idaho currently has two upfront financing options for energy efficiency measures. The first is a traditional loan through the Office of Energy Resources, and the other is an on-bill financing program offered by Idaho Falls Power.

The State's Low-interest Energy Loan Program (see Appendix A) through the Idaho Office of Energy Resources provides loans for energy efficiency projects to all types of businesses and Idaho residents. The interest rate is 4% for projects which prove energy savings will pay back the total cost of the project in 15 years or less. Loans are extended for a minimum of $1,000 to a maximum of $100,000 and must be repaid within 5 years (Idaho Office of Energy Resources, 2007). The Low-interest Energy Loan Program is a revolving loan program which was originally funded with Petroleum Violation Escrow funds. According to the Loan Officer at the Idaho Office of Energy Resources, the program has had a very low default rate over its 20 year history, disbursing $1,000,000 in loans at the peak of the EnergyStar window program (Hoebelheinrich, personal interview, August 20, 2009).

Idaho Falls Power offers on-bill financing programs to small businesses (see Appendix A) because the utility "aggressively pursues [a] least cost, reliable power supply" (Idaho Falls Power, 2009). They introduced on-bill financing in 1996 in order to reduce their need to purchase electricity from the Bonneville Power Administration. The municipal utility loans 100% of upfront costs at zero-percent interest for up to 60 months for energy efficiency measures recommended following an energy audit. The recipient must be an Idaho Falls Power customer with a good payment history. Conservation programs have been used by Idaho Falls Power since the early 1980s to reduce electricity demand (Idaho Falls Power, 2009). The utility offers both loans and rebates to its customers.

Effective July 1, 2011, the State will have a sales-and-use tax exemption for machinery and equipment used to generate energy from renewable sources (Idaho law, I.C. § 63-3622QQ). Idaho currently does not have tax credits or deductions for energy efficiency measures. These are available to Idaho residents and businesses though through Federal tax incentive programs.

GAPS AND BARRIERS IN IDAHO

Fulfilling Idaho's energy efficiency potential may require adding new program models to its energy efficiency financing portfolio. Currently, the inability of local governments to offer financing for energy efficiency measures and the lack of upfront financing opportunities, specifically on-bill type programs, are the primary gaps in Idaho's portfolio.
The Idaho Constitution does not allow local governments to give credit to or become responsible for the debt for any private purpose (Idaho Const., art. VIII, § 8-4). Cities and counties cannot take advantage of PACE financing, energy efficiency districts, or any other public financing option for energy efficiency unless the Idaho legislature passes enabling legislation. Numerous states have passed energy legislation in order to allow them to pursue

their energy plans. As an example, Colorado passed legislation in May of 2008 that amended the Colorado Constitution to allow local governments to create local improvement districts specifically for energy efficiency improvement through either resolution or ordinance. Through House Bill 1350, Law 229 amends Part 5 of Article 25 of Title 31, Colorado Revised Statutes, to "… the expenditures of public moneys made pursuant to this Part 5, will serve a valid public purpose and that the enactment of this Part 5 is expressly declared to be in the public interest" (Colorado, Session Laws 2008).

On-bill financing is not accessible to most small businesses in Idaho. As noted, Idaho has a number of rebate programs in place to incentivize energy efficiency. These programs reimburse a portion of the costs of energy efficiency measures after the participant has paid the costs upfront. Encouraging on-bill financing programs would enable more small businesses to invest in energy efficiency measures. According to a non-scientific survey of stakeholders conducted in December 2009 as part of this study (see Appendix B), 52% of respondents disagreed with the statement "Idaho has in place the necessary financing mechanisms to encourage small businesses to invest in energy saving measures." The same survey found that 79% of respondents believed that "Small business owners do not have the available cash for the initial out-of-pocket costs to invest in energy efficient measures." Idaho could encourage more participation in energy efficiency programs if there were more upfront financing opportunities available. According to a 2007 Energy Policy Institute survey, more than 90% of respondents would be willing to invest in energy efficiency measures if they could obtain 100% financing upfront (Energy Policy Institute, 2007).

Idaho Falls Power established an on-bill financing option many years ago. The Idaho Public Utilities Commission encourages investor-owned utilities to invest in energy efficiency as a resource but does not mandate any specific targets. At this time, there is no incentive for utilities to initiate on-bill programs. On-bill financing would provide two critical components to energy efficiency financing in Idaho. First, upfront loans could alleviate the number one barrier to installing energy efficiency mechanisms, which is cash flow. Second, a simple payback process would encourage more businesses to participate, especially if their payback on the loan was offset by the energy savings realized. Cities and counties would be able to offer on-bill financing if legislation was passed to enable them to lend money for energy efficiency measures.

The final challenge for developing more options for energy efficiency financing is obtaining the capital. The State of Idaho, utilities, and third-parties cannot lend or allocate money they do not have. Idaho has been able to rely upon SEP funds and other grants from the federal government as a reliable source. For example, in March 2010 the Office of Energy Resources was able to introduce the Energy Star appliance rebate program using ARRA funds. Although stimulus funds from the ARRA have all been appropriated and are no longer available, future SEP funds could be used to supplement or initiate new revolving loan opportunities for energy efficiency programs (U.S. Department of Energy, 2010). Finally, as discussed earlier, enabling legislation would allow local municipal governments to initiate local improvement districts specifically for energy efficiency and PACE bonding opportunities. Investor-owned utilities are

using energy efficiency surcharges to finance rebate and incentive programs. Some of these funds could be allocated to revolving loan funds for on-bill financing.

This report has outlined a number of opportunities for financing energy efficiency programs and projects. Idaho has relatively few of these programs currently available. Other than established low-interest state revolving loans, it has depended on utilities, both investor-owned and municipal, to initiate and administer energy efficiency programs. A wider portfolio of energy efficiency financing mechanisms could allow more businesses to install energy saving measures which could dramatically reduce demand for energy and help support the needs of small businesses.

CONCLUSION

The State has already taken a number of positive steps towards reducing energy demand such as creating the 2007 Energy Plan, adopting stricter energy efficient building codes, using EECBG grant funds to retrofit schools, and establishing various task forces to determine how best to meet the State of Idaho's energy objectives. Providing an array of financing options, from partial rebates to 100% upfront financing would allow more businesses to invest in energy efficiency measures.

Numerous states have aggressively promoted energy efficiency as an energy resource by providing financial incentives to businesses large and small and to individual homeowners. State policymakers, utilities, public utility commissions, cities, counties and private organizations have all contributed to the process. By understanding some of the programs offered in other states, Idaho has an opportunity to customize its policies to achieve the energy objectives set forth in the 2007 Energy Plan.

APPENDIX A: Selected Energy Efficiency Programs

The information contained in this appendix provides a summary of some example programs examined through this study. The summaries provided are not intended to be all-inclusive, but serve as a representative sample of the wide range of programs inventoried and currently available through the states.

Oklahoma Gas & Electric

CHARACTERISTIC	DESCRIPTION	DETAILS
Level of Funding	100%	
Timing of Funding	Upfront	
Type of Funding	Loan	Low interest
Repayment	Off-bill	
Responsibility	Individual	

Administration: Investor-Owned Utility
Source of funds: Local Credit Union
Website: http://www.oge.com/business-customers/products-and-services/Pages/Geothermal.aspx

Keystone HELP Energy Efficiency Loan Program - State Of Pennsylvania

CHARACTERISTIC	DESCRIPTION	DETAILS
Level of Funding	100%	Residential up to $15,000; All others up to $35,000
Timing of Funding	Upfront	
Type of Funding	Loan	Low interest
Repayment	Off-bill	Term: 3 – 20 years
Responsibility	Individual	

Administration: Third-party administrator – AFC First Financial Corporation
Source of funds: Pennsylvania Treasury Department, Pennsylvania Department of Environmental Protection, Pennsylvania Housing Finance Authority
Website: http://www.keystonehelp.com/
Other information:

- Available to all property owners.
- Work must be done by an approved contractor.
- Audit required for Whole House Improvement Program.

APPENDIX A: Selected Energy Efficiency Programs

Long Island Green Homes - Town of Babylon, New York

CHARACTERISTIC	DESCRIPTION	DETAILS
Level of Funding	100%	100% up to $12,000
Timing of Funding	Upfront	
Type of Funding	Loan	0%
Repayment	On-bill	Municipal sewer bill
Responsibility	Property	

Administration: Municipal utility
Source of funds: City's Solid Waste Fund
Website: http://www.ligreenhomes.com/page.php?Page=home

ClimateSmart Loan Program - Boulder and Boulder County, Colorado

CHARACTERISTIC	DESCRIPTION	DETAILS
Level of Funding	100%	The lesser of $50,000 or 20% of property value
Timing of Funding	Upfront	
Type of Funding	Loan	Prevailing market rate
Repayment	On-bill	On property tax bill; 15- year term
Responsibility	Individual	Can be transferred at sale

Administration: Local government
Source of funds: Special Assessment Bonds (approved for $40 million)
Website: http://www.bouldercounty.org/bocc/cslp/cslp_faqs.html
Other information:

- Available to all property owners.
- Available for energy efficiency and renewable projects.
- Applicants must attend a mandatory workshop.
- Audit required for Whole House Improvement Program.

APPENDIX A: Selected Energy Efficiency Programs

Small Business Energy Advantage - United Illuminating Company, Connecticut

CHARACTERISTIC	DESCRIPTION	DETAILS
Level of Funding	100%	After available rebates of 30-40%
Timing of Funding	Upfront	
Type of Funding	Loan	0%
Repayment	On-bill	Term: 36 months
Responsibility	Property	

Administration: Investor-owned utility
Source of funds: Energy surcharge by third-party administrator
Website: http://www.uinet.com/wps/portal/uinet/business**Other information:**

- Energy audit required.
- Pre-approved contractors install, service and warranty measures.
- Contractors are the primary liaison between the customer and the utility.
- Provide a turnkey service.

Commercial Energy Conservation Loan Program - Idaho Falls Power, Idaho

CHARACTERISTIC	DESCRIPTION	DETAILS
Level of Funding	100%	Up to various limits depending on the energy efficiency measure
Timing of Funding	Upfront	
Type of Funding	Loan	0%
Repayment	On-bill	Term: Up to 60 months
Responsibility	Property	

Administration: Municipal Utility
Source of funds: General funds
Website: http://www.idahofallsidaho.gov/city/city-departments/idaho-falls-power/energy efficiency.html
Other information:

- Energy audit is required prior to participation in order to identify qualified improvements.
- Credit qualification based on payment history.
- On-bill financing available for residential and appliances also.
- Rebate programs are also available.

APPENDIX A: Selected Energy Efficiency Programs

Low-Interest Energy Loan Program - State Of Idaho

CHARACTERISTIC	DESCRIPTION	DETAILS
Level of Funding	100%	Residential up to $15,000; All others up to $100,000
Timing of Funding	Upfront	
Type of Funding	Loan	4%
Repayment	Off-bill	Term: 5 year maximum
Responsibility	Individual	

Administration: State Agency
Source of funds: Petroleum Violation Escrow Funds
Website: http://www.energy.idaho.gov/financialassistance/energyloans.htm
Other information:

- Loans available to all sectors.

How$mart - Midwest Energy, Hays, Kansas

CHARACTERISTIC	DESCRIPTION	DETAILS
Level of Funding	100%	After available rebates
Timing of Funding	Upfront	
Type of Funding	Loan	Low-interest
Repayment	On-bill	Cannot exceed 90% of projected energy savings
Responsibility	Property	

Administration: Investor-owned utility
Source of funds: General funds
Website: http://www.mwenergy.com/howsmart.aspx
Other information:

- Energy audit is required prior to participation in order to identify qualified improvements.
- Participants must be current on their utility payments.
- Available to any Midwest Energy customer, including landlords and tenants.
- Tenants must have written permission from landlord.

APPENDIX A: Selected Energy Efficiency Programs

On-bill Financing Program - San Diego Gas & Electric, California

CHARACTERISTIC	DESCRIPTION	DETAILS
Level of Funding	100%	After applying rebates and other available incentives
Timing of Funding	Upfront	
Type of Funding	Loan	0% interest
Repayment	On-bill	Term: 5 – 10 years
Responsibility	Individual	

Administration: Investor-owned utility
Source of funds: Public Benefit Funds
Website: http://www.sdge.com/business/rebatesincentives/programs/onbillfinancing.shtml
Other Information:

- The loan term for the project is tied to the repayment period for the equipment and the estimated annual energy savings.
- Participants must meet the financial criteria as set by the utility based on past payment record.
- For further information regarding energy efficiency program implementation and results: http://eega2006.cpuc.ca.gov/DisplayAnnualReport.aspx?ID=9

APPENDIX B: Selected Results from 2009 Energy Policy Institute Survey

An internet survey was conducted in the fall of 2009 to measure Idaho energy stakeholders' perceptions in regard to:

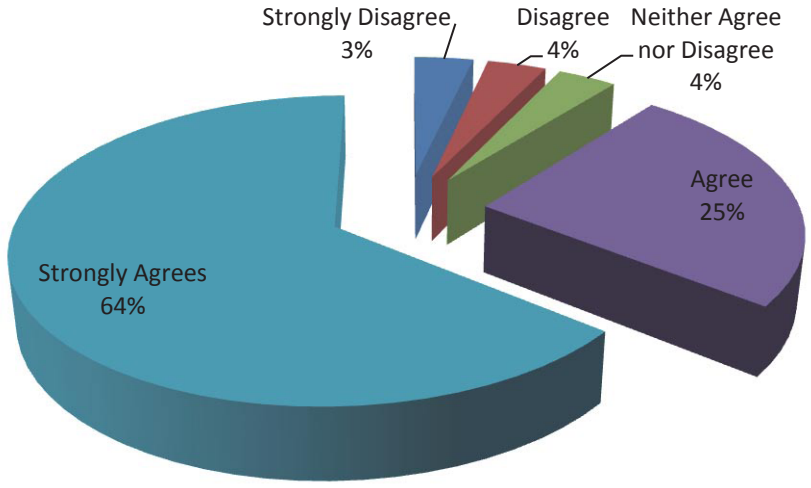
- the State's commitment to energy efficiency,
- small business owners regarding energy efficiency,
- energy efficiency financing mechanisms, and
- the availability of funding for energy efficiency measures.

The survey was sent to representatives of utility companies, energy consulting companies, energy investment companies, environmental organizations, universities, state agencies, municipalities, state legislators, and energy task force members. The energy task force is made up of representatives from the private and public sectors. The study was a non-scientific sample that was conducted during November and December of 2009. Thirty-eight people out of 134 responded to the survey for a response rate of 28%.

Selected Responses:

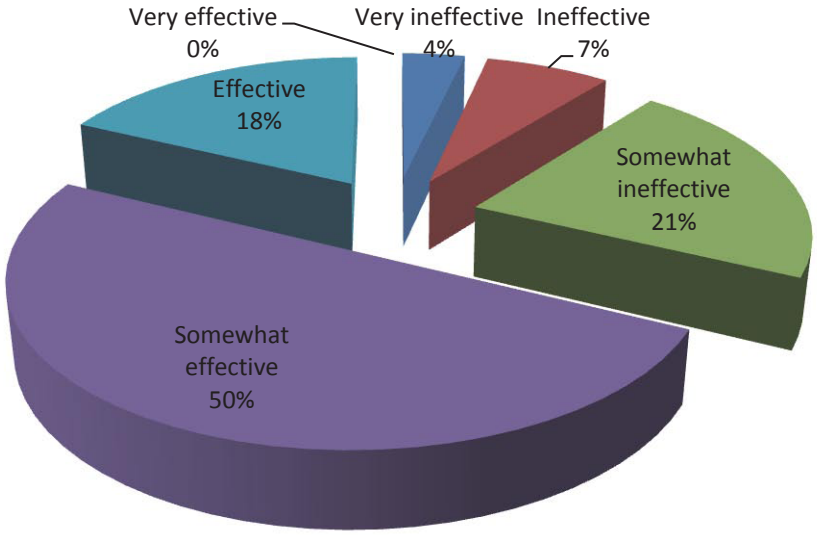
Perceptions of the State's commitment to energy efficiency

> The 2007 Idaho Energy Plan states, "... energy conservation provides the greatest economic and environmental benefits for Idaho and should be Idaho's highest-priority resource" (p.37)
> How strongly do you agree with this statement?

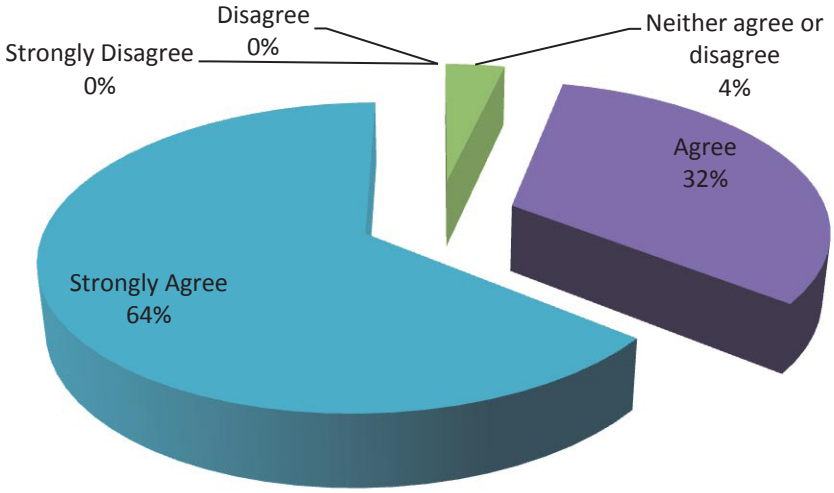


APPENDIX B: Selected Results from 2009 Energy Policy Institute Survey

Idaho is effectively tapping into conservation & energy efficiency as a resource.



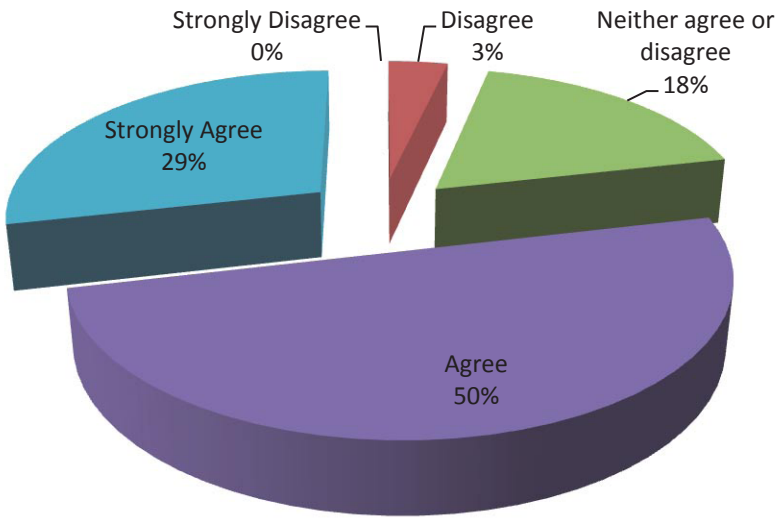
As a public policy, Idaho should pursue conservation and energy efficiency more aggressively.



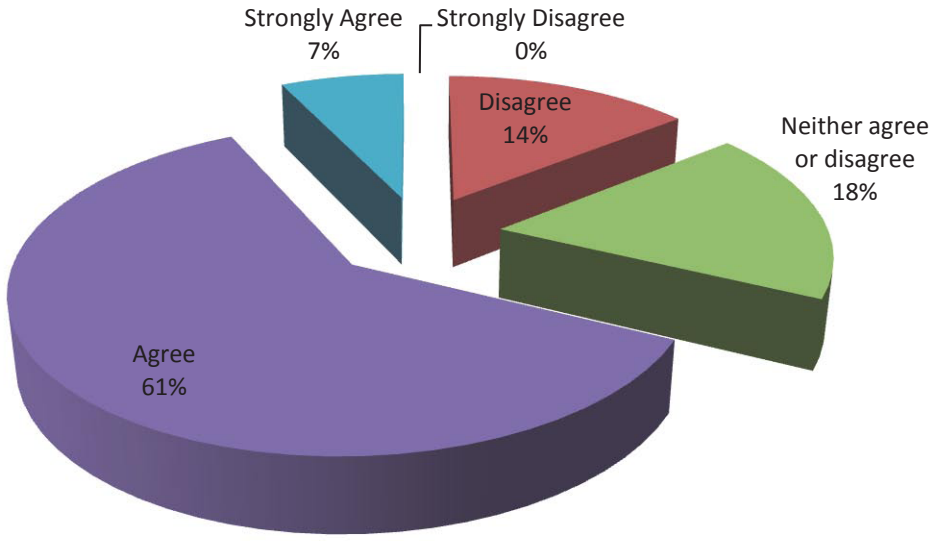
APPENDIX B: Selected Results from 2009 Energy Policy Institute Survey

Perceptions regarding small businesses and energy efficiency

Small business owners do not have the available cash for the initial out-of-pocket costs to invest in more energy efficient measures.

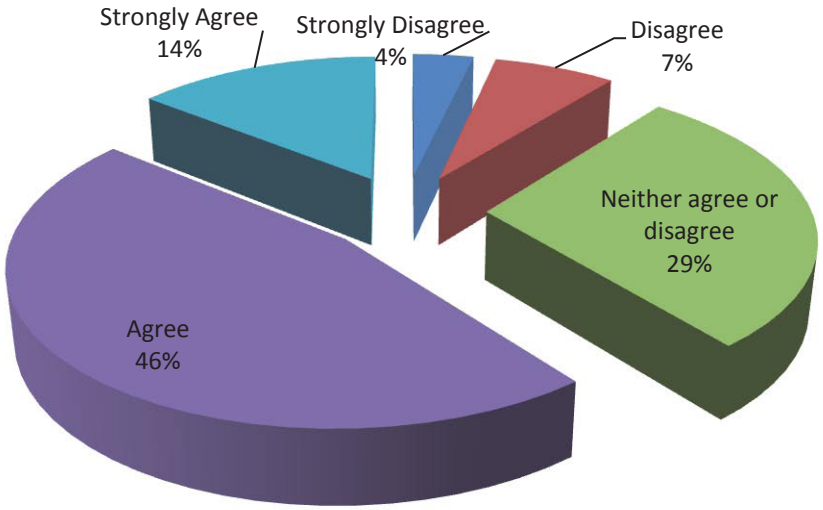


Small business owners have poor information regarding conservation and energy efficiency measures.

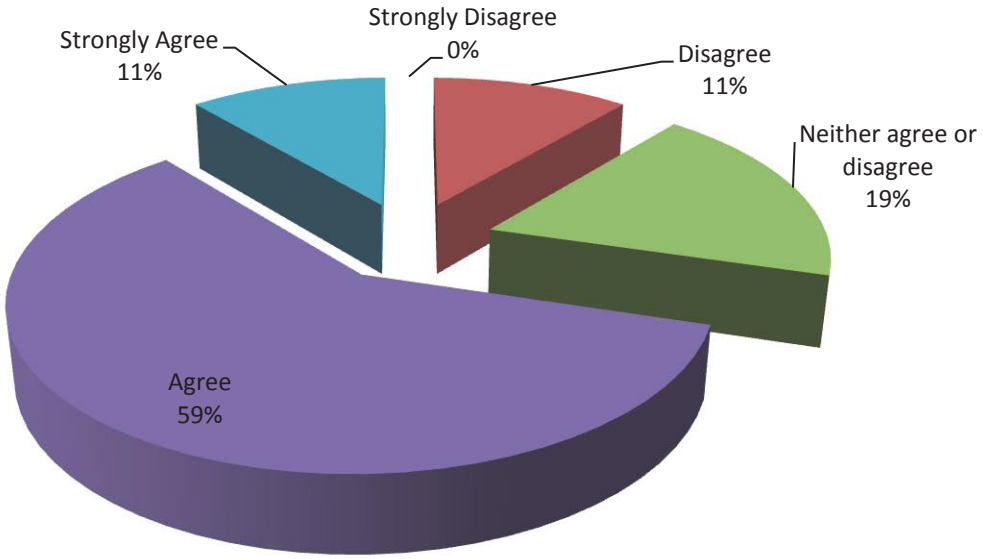


APPENDIX B: Selected Results from 2009 Energy Policy Institute Survey

Small business owners are skeptical of the potential savings available from energy efficiency and conservation.



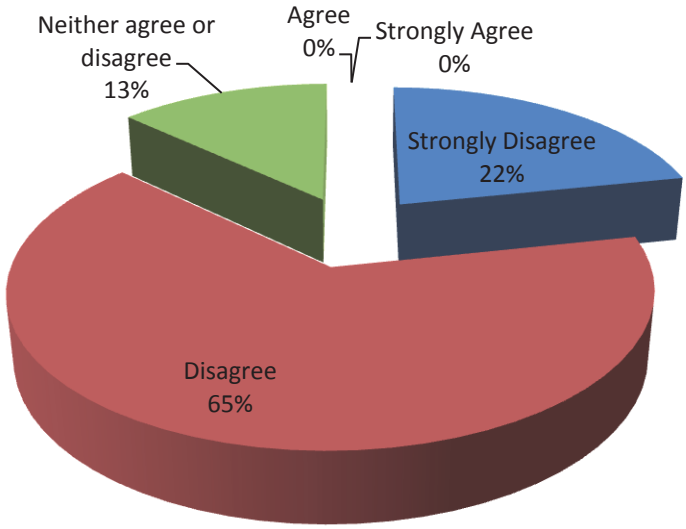
Small business owners do not want to borrow money to install energy efficient/conservation measures because the payback period is too long.



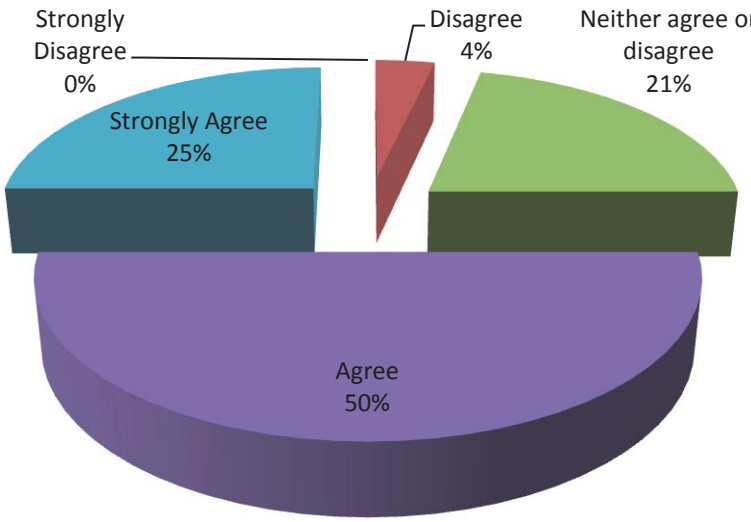
APPENDIX B: Selected Results from 2009 Energy Policy Institute Survey

Perceptions on the availability of funding for energy efficiency measures

Most small businesses are aware of the financing programs available for conservation and energy efficiency programs.

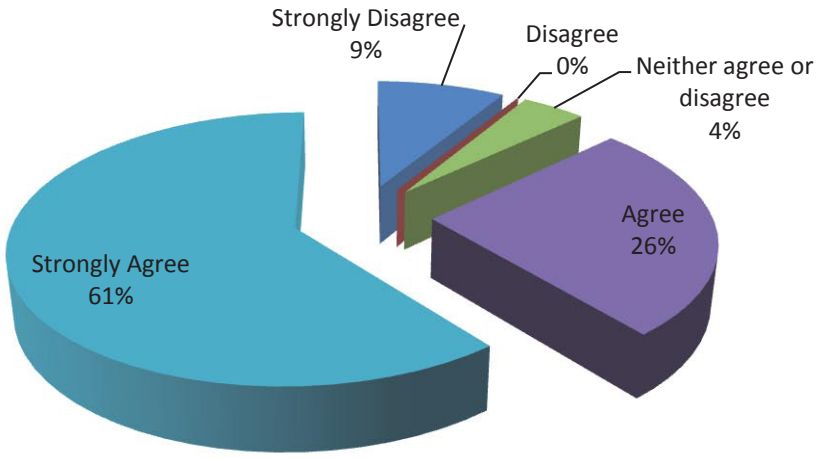


Small businesses have the opportunity to tap into conservation & energy efficiency programs.

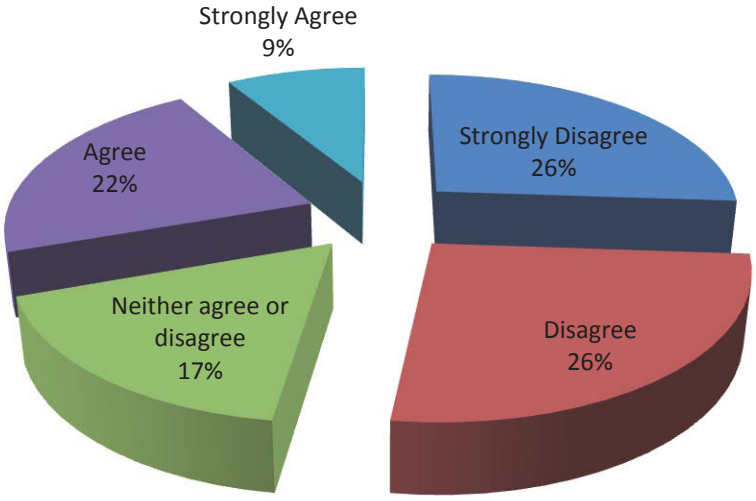


APPENDIX B: Selected Results from 2009 Energy Policy Institute Survey

Creating a state-wide revolving fund specifically focused on energy efficiency and conservation measures would be beneficial.



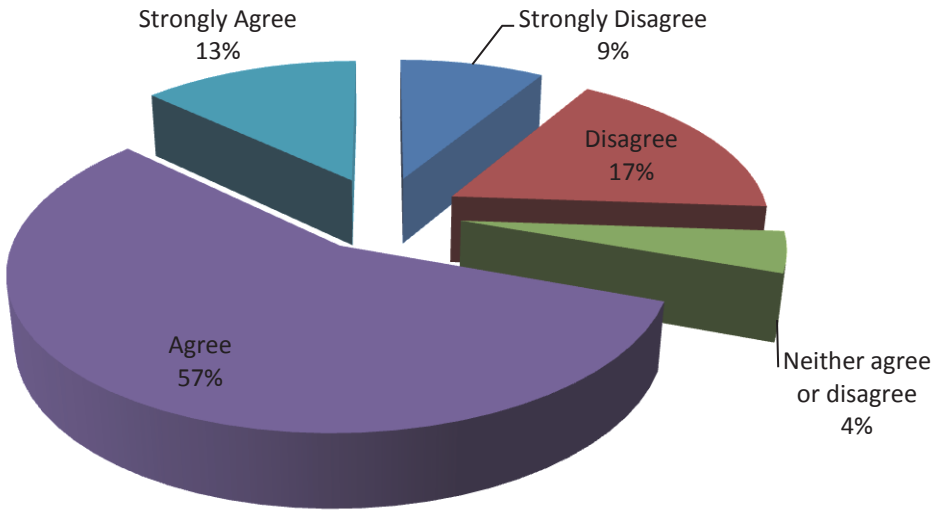
Idaho has in place the necessary financing mechanisms to encourage small businesses to invest in energy saving measures.



APPENDIX B: Selected Results from 2009 Energy Policy Institute Survey

Perceptions of energy efficiency financing mechanisms

The payback period is too long for traditional financing sources to be interested in funding energy efficiency measures for small businesses.



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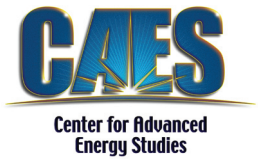

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