



**TESTIMONY  
OF  
KYLE W. KEMPF**  
Senior Director, Government Affairs

**NATIONAL SMALL BUSINESS ASSOCIATION**

*“Innovative Practices to Create Jobs and Reduce Pollution”*

**Before the U.S. Senate Committee on Environment and Public  
Works Subcommittee on Green Jobs and the New Economy**

**October 13, 2011**

Good morning Chairman Sanders, Ranking Member Boozman, and members of the committee; thank you for inviting me here today to discuss the benefits of an innovative practice that is of great benefit to small businesses, the U.S. economy, and the environment: On-Bill Financing.

My name is Kyle Kempf and I am the senior director of government affairs for the National Small Business Association (NSBA), America's oldest small-business advocacy organization. Since 1937, NSBA has worked in a nonpartisan manner to promote policies beneficial to the small-business community.

*On-Bill Financing: How It Works*

On-Bill Financing is a collaborative mechanism among utilities, contractors, and customers aimed at making it as easy as possible for small-business owners to invest in energy-efficiency upgrades and alternative-energy sources, while realizing immediate financial benefit.

Before an On-Bill Financing program is enacted, a utility must identify a source of capital for the program. While some utilities are able to use their own capital, most rely on ratepayer funds to finance them. Unfortunately, such ratepayer funds are not available in all areas. The scarcity of capital sources has significantly impeded the spread of On-Bill Financing programs around the country.

Once a utility has located a capital source, it must identify and certify a network of contractors—usually with backgrounds in remodeling, lighting, heating, ventilation, or air conditioning—who will perform energy audits.

It is worth noting that that vast majority of these contractors are themselves small businesses. In fact, small firms provide most of the services now offered in any utility-operated energy-efficiency program, usually including everything except program administration and quality assurance, which the utilities operate. For example, more than 92 percent of the Air Conditioning Contractors of America membership base (providing services to the HVAC industry) has fewer than 50 employees—and 96 percent has less than 100 employees.

Frequently, these contractors then help identify the small-business utility customers who would most benefit from the program. Having identified a potential participant, the contractor performs an energy audit of the business premises to identify possible cost-effective efficiency measures. These audits typically take from one to four hours. At the end of the audit, the contractor sets an appointment with the small-business owner to return and present his results.

The contractors usually then enter the data they gathered during the energy audit into a standardized program and database, which produces a report detailing the measures and potential energy and cost savings for the small-business owner.

At this point, the contractor also usually works with the utility to evaluate the loan application. Ordinarily, this evaluation is based on factors such as how many years the applicant has been in business and his or her bill-payment history.

Once the application has been evaluated, the contractor once again visits the small-business owner to outline the specific improvements that could be achieved. The small-business owner may choose some or all of the measures, depending on how large a project he or she financially wants to commit to, how significant the financial benefit is, etc., but at this point he or she commits to the On-Bill Financing program.

The terms of the existing On-Bill Financing programs differ but utilities generally offer small-businesses loans at a zero percent interest rate for two to five years. Utilities also usually offer rebates ranging from 10 percent to as high as 70 percent of the total project cost.

Subsequently, the contractor—again, normally another small business—performs the upgrades and submits his invoice to the utility for payment. The utility oftentimes conducts a post-installation inspection; with the contractor remedying any identified deficiencies.

The utility then pays the contractor and begins placing a new energy-service charge for repayment on the small business's bill. The charge generally should be less than the energy cost savings. While small-business energy-efficiency projects vary greatly according to a variety of factors, they generally range from \$8,000-\$12,000.

### *Why On-Bill Financing is Attractive to Small-Business Owners*

Energy is a very high overhead expense for many small businesses, one for which most have little control. This is most obviously reflected in the fact that small businesses often pay more for energy than comparable large firms.

A 2008 report, “Characterization and Analysis of Small Business Energy Costs,” from the U.S. Small Business Administration Office of Advocacy found “significant price differentials between what the smallest and largest entities paid for energy in the commercial and manufacturing sectors.” Many small businesses—particularly those with fewer than 35 employees in the manufacturing sector—pay 35 percent more per unit for their electricity than their largest counterparts.

Given this situation, one might surmise that small-business owners have rushed to invest in energy-efficiency upgrades or alternative-energy sources for their firms. This is not the case. Only 40 percent of the respondents to NSBA’s 2011 Energy Survey—which will be released next week—reported investing in energy-efficiency improvements in the last 18 months or plans to do so; and only 16 percent said they had conducted an energy audit in the previous two years.

Small-business owners obviously are eager to cut costs whenever and wherever they can, so what is holding them back? When asked why they had not conducted an energy audit, 30 percent of the respondents cited the cost, 22 percent identified a lack of information on service providers or the auditing process, and 18 percent said a shortage of time. Forty percent of the respondents cited cash flow as the main obstacle to them making their small business more energy efficient.

In short, small-business owners lack the necessary money, time, and reliable information to invest in energy-efficiency upgrades and alternative-energy production. On-Bill Financing resolves each of these impediments.

### *The Potential Benefits of On-Bill Financing*

In 2009, NSBA issued—conducted with funding from the Bipartisan Policy Center—the report, “On-Bill Financing: Helping Small Business Reduce Emissions and Energy Use While Improving

Profitability.” The report outlined how On-Bill Financing programs work and explored their track record of success.

The study highlighted how much small-business owners could save by using On-Bill Financing programs to invest in their firms.

On-Bill Financing program administrators report that utility bill savings of 15-30 percent are highly typical—usually by the simple adoption of existing energy-efficiency strategies. Lighting alone can represent up to 40 percent of typical energy consumption in a commercial building and improved lighting is a simple and easy way to improve a small-business’s efficiency.

Although energy cost savings will vary greatly from one small firm to another, the report found that an average small business could save \$4,932 each year on its energy bills—with many saving much more.

#### *Specific Examples*

To illustrate, I would like to share some specific examples of actual small-business owners who used On-Bill Financing to reduce their energy costs.

In West Haven, Connecticut, Chick’s Drive In—a small, family-owned restaurant known for its hot dogs and lobster rolls—used the Energy Efficiency Fund’s Small Business Energy Advantage (SBEA) program at United Illuminating (UI) to improve its energy efficiency.

The UI SBEA program is designed to provide cost-effective energy-saving services for small commercial and industrial customers lacking the financial resources or in-house expertise to analyze and reduce their energy usage.

Following the energy audit from an approved UI vendor, obsolete T12 fluorescent interior lighting was replaced with high-efficiency T8 lighting, occupancy sensors were installed in work areas where there generally was little activity, high-intensity exterior lights were replaced with more efficient pulse-start technology, and motors and evaporator fan controls were upgraded. In total, the upgrades cost about \$32,000—although the Energy Efficiency Fund subsidized approximately \$15,000.

The upgrades are expected to reduce Chick's annual electricity consumption by approximately 48,639 kilowatt-hours a year, however. This equals a remarkable savings of roughly \$9,000 per year, which means that Chick's loan should be paid off in about two years.

A small grocer in California used the On-Bill Financing program offered by San Diego Gas & Electric to invest \$20,292 in improved lighting and refrigeration efficiency. The grocer received a rebate of \$5,916.50, leaving him with \$14,375.50 to pay back to the utility. The estimated annual energy costs savings resulted from the improvements were \$5,737.45.

This translates into a payback period of 30 months. The loan term extended to the grocer by San Diego Gas & Electric was 31 months. This resulted in a customer fixed monthly loan payment of \$463.73. This will loan go will practically unnoticed, given that the grocer is expected to realize \$478.12 in monthly energy savings which will be used for loan repayment. Following the 31-month payback period, this small grocer simply will get to keep all of his savings.

A small retailer used San Diego Gas & Electric's On-Bill Financing program to invest \$7,512.70 in lighting-efficiency improvements. This small-business owner also received a rebate for \$817, leaving a total customer loan of \$6,695.70. The loan term extended by the utility was 29 months. This left the small retailer with a fixed monthly loan payment of \$230.89, but expected monthly energy savings of \$236.43.

A health care center in Santa Ana, California installed \$18,900 worth of Ozone Technology at its laundry facility to reduce the use of hot water and dryers' gas consumption. With a \$9,450 incentive, this left the small-business owner with a total loan amount of \$9,450. This investment left the owner with an estimated annual energy savings of \$17,217 and a payback period of only ten months.

In areas that lack On-Bill Financing programs, the decision to invest in energy-efficiency upgrades or alternative-energy production is more difficult—even when potential cost savings are evident. Walco, a remanufacturing company located in Providence, Rhode Island took advantage of an energy-savings initiative sponsored by its local utility. Through the program, Walco was able to update the lighting system in its 40,000 sq. ft. production area with energy-efficient lighting. Roughly 50 percent of the approximately \$52,000 cost was underwritten by the utility. The balance

was covered by Walco. Although the net energy costs saved by the new lighting allowed for a 12 month return on investment, Walco was unable to upgrade the lighting of the entire plant because of cash-flow issues. Opportunities like this need not be squandered.

### *Conclusion*

In addition to significant financial savings for small-business owners, NSBA's "On-Bill Financing: Helping Small Business Reduce Emissions and Energy Use While Improving Profitability" report found that the environmental outcome of the widespread adoption of On-Bill Financing would be enormous.

The report found that small businesses as a whole could reduce greenhouse gas emissions by 259 million tons each year if they improve their energy efficiency by 30 percent. Remarkably, this is the equivalent of the emissions from 51 coal-fired power plants.

On-Bill Financing represents an effective way to help small business afford critical efficiency improvements. These improvements benefit: small-business owners' bottom lines; the sizable sector of the small-business community engaged in energy audits, efficiency retrofits, and alternative energy production; and the environment.

Thank you again for the opportunity to appear before you today. I thank you for your time and welcome any questions.

# On-Bill Financing

*Helping Small Business*

*Reduce Emissions and Energy Use*

*While Improving Profitability*

Prepared for the  
**National Small Business Association**



Matthew H. Brown  
*ConoverBrown LLC*  
[www.conoverbrown.com](http://www.conoverbrown.com)

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September 2009

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## FOREWORD

Since 1937, the National Small Business Association (NSBA) has been the nation's leading small-business advocate. As part of NSBA's mission to address the needs and represent the concerns of the small business community, we are pleased to provide you with the findings of the 2009 NSBA report: "On-Bill Financing: Helping Small Business Reduce Emissions and Energy Use While Improving Profitability."

Contrary to the antiquated paradigm that economic growth must run counter to environmental conservation, this study—conducted with funding from the Bipartisan Policy Center—takes an in-depth look at a program that successfully bridges that gap. Currently implemented in several states, "on-bill financing" is a method by which small businesses can improve their energy efficiency through a financing mechanism offered by their utility company.

Among the many eye-opening conclusions you'll find in this report, small businesses as a whole could reduce greenhouse gas emissions by 259 million tons million tons each year if they improved their energy efficiency by just 25 percent. Furthermore, through energy efficient upgrades, the average small business could save \$4,932 each year on its energy bills. And many could save much more!

The report also makes recommendations on how the federal government can help facilitate additional on-bill financing programs across the country. We believe that improving America's energy efficiency must be a central component of any national energy plan. We also believe that any such plan must incorporate America's small firms. The first step in this process must be devising a mechanism to help small business afford critical efficiency improvements. According to an April 2009 NSBA survey, the number one reason small-business owners cite for their inability to make their firms more energy efficient is cash-flow.

NSBA has long held the belief that energy efficiency and entrepreneurial growth can and do go hand-in-hand. The current state of the U.S. economy makes it absolutely crucial to have government policies that foster, not hinder, entrepreneurial growth. The findings of this report are presented to members of the media and policy makers so that they can make informed decisions when working on energy and small-business issues. With 29.6 million small firms—comprising 99.7 percent of all U.S. employer firms—small businesses stand to make significant, positive and lasting improvements to both the economy and the environment.

We hope you find this report useful, and welcome your feedback as we plan future surveys and research projects.



Todd McCracken  
President and CEO



Keith Ashmus  
2009 Chair

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## I. EXECUTIVE SUMMARY

The importance of small businesses to the U.S. economy is difficult to overstate; small businesses represent 99.7 percent of all the firms in the U.S. that have employees, and have generated the overwhelming majority of new jobs over the past 15 years. As a result of the prominent role that they play in the economy, small businesses also turn out to be critically important to any U.S. strategy to reduce greenhouse gas emissions. This report focuses on a method to not only help small businesses reduce their greenhouse gas emissions, but to help them upgrade their lighting, refrigeration and other energy-consuming equipment while simultaneously increasing their profitability. This method uses financing for energy-efficiency measures that we describe as on-bill financing.

This report finds that small businesses as a whole could reduce greenhouse gas emissions by 259 million tons each year if they improve their energy efficiency by 25 percent—the equivalent of the emissions from 51 coal-fired power plants. Energy cost savings for small businesses will vary tremendously from one small business to another; however, on average, a small business that matches the national average will save approximately \$411 per month or \$4,932 per year on the combination of natural gas and electricity bills.

These energy cost savings are critical to small businesses because they often pay more for energy than comparable large firms. Many small businesses—particularly those with fewer than 35 employees in the manufacturing sector—pay 35 percent more per unit for their electricity than their largest counterparts.

Despite the benefits of efficiency investments, challenges remain. These include:

*Cash flow:* With tight margins and relatively small revenues, many small businesses find it challenging to undertake new capital investments, even if they will save money over time. Fifty-two percent of small-business owners see cash flow as the primary barrier to investing in energy efficiency.

*Up-front capital required:* A typical energy-efficiency project might cost from \$7,500 up to more than \$20,000, with some projects costing a bit less and a few costing far more.

*Energy efficiency is only one priority among many:* Small-business owners are heavily focused on the business at hand: managing inventory, maintaining payroll, providing health insurance, etc. They rarely have the time to focus on their energy bills, on energy-efficiency measures, or on their greenhouse gas emissions profile.

In order to overcome these challenges, any successful strategy to help small-business owners to reduce their greenhouse gas emissions must be simple, easy-to-use, and resolve the first-cost barrier. It must be effective, yet not divert from the core competencies and concerns of small-business owners. On-bill financing for energy efficiency is one such financing mechanism that has proven to be highly effective.

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On-bill financing reduces small businesses' upfront costs for energy-efficiency investments to zero by financing all costs not covered through rebates. Most importantly, it stretches out the financing costs over a sufficiently long period and uses low enough interest rates that the result is cost savings from day one of the agreement. Small businesses actually see lower utility bills, not to mention improved energy efficiency and newer equipment—all while reducing greenhouse-gas emissions.

Lighting upgrades dominate the list of measures financed through on-bill programs today—representing as much as 75 percent of such measures—but they are by no means the only manner with which small businesses achieve increased efficiency. Improved refrigeration, heating and air conditioning systems, insulation and motors also are common.

On-bill financing efficiency programs are under development in Illinois and Michigan and now operate in several states including Arkansas, California, Connecticut, Hawaii, Kansas, Massachusetts, New Jersey and Rhode Island. Connecticut and California utilities operate the largest on-bill financing programs and have seen successful and rapidly growing programs.

This paper concludes that two barriers are worthy of particular attention.

1. The two most established on-bill financing programs are running up against their state regulatory commission-imposed caps on outstanding loans. This problem is caused by the programs' success, indicating that they are popular with small businesses. One constraint that these programs will face, and a constraint that others are likely to encounter in the future, is the availability of low cost or zero cost capital to fund a revolving on-bill loan program.
2. Although default rates for loan programs have been lower than one percent, default risk and credit risk remain a critical concern for lenders, for utilities and for the state utility commissions that oversee utility rates. On-bill financing programs will not be able to raise private capital without a clear definition of who bears the risk for potential loan defaults.

As a result, two options and steps should be considered:

1. Make a pool of capital available to utilities that agree to match federal funds with their own loan capital. This approach would have the effect of expanding the capital available to fund small-business on-bill loans, thus helping to overcome to provide a barrier of a lack of capital for such programs.
2. Make funding available upon application and approval, as a guarantee of new on-bill loans that meet specific requirements. Such a guarantee could be structured to take into account the historically low default rates with on-bill finance programs, and be set based upon a maximum amount of funding for each lending utility.

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## II. BACKGROUND

This paper focuses on one of the most effective techniques to engage small businesses in the effort to reduce greenhouse gas emissions: energy efficiency. It focuses on achieving electricity and natural gas energy efficiency in a way that works for America's small businesses: through simple and easy-to-access financing paid for through the utility bill. This system can give small businesses an immediate financial benefit—as soon as they install energy efficiency measures—because their energy cost savings exceed the principal and interest payments that finance the measures.

Simple financing for energy efficiency is important because small businesses could play a big part in helping the U.S. reduce its greenhouse gas emissions. This report finds that small businesses as a whole could reduce greenhouse gas emissions by 259 million tons each year if they improve their energy efficiency by 25 percent—the equivalent of the emissions from 51 coal-fired power plants. Energy cost savings for small businesses will vary tremendously from one small business to another; however, on average, a small business that matches the national average will save approximately \$411 per month or \$4,932 per year on the combination of natural gas and electricity bills.<sup>1</sup>

**On-bill financing** reduces small business' upfront cost for energy-efficiency investments to zero by financing all costs not covered through rebates. Most importantly, it stretches out the financing costs over a sufficiently long period and uses low enough interest rates that the result is cost savings from day one of the agreement. Small businesses actually see lower utility bills, while enjoying the benefits of more energy efficiency and newer equipment and reducing greenhouse gas emissions.

For perspective on the relative magnitude of this 259 million ton annual reduction, the U.S. Department of Energy's Energy Information Administration reports that total greenhouse gases from the entire commercial and industrial sector (including both small and large businesses) were an estimated 1,722 million tons in 2007.<sup>2</sup> This reduction in the small commercial sector would therefore be more than 25 percent of the entire commercial and industrial sectors' emissions.

Energy efficiency is particularly important for the small-business manufacturing sector because small businesses with less than 35 employees pay 35 percent more per unit for their electricity than largest businesses.<sup>3</sup> Small businesses stand to gain a great deal from efficiency investments.

Yet the path to greater energy efficiency and lower greenhouse gas emissions for small businesses has challenges. Some of these challenges are:

*Cash flow:* Some small businesses operate on tight margins and relatively small revenues: not all small businesses have the cash flow to support new energy efficiency investments. The following table provides perspective on the revenues of many small businesses in the U.S. and shows that well over one-half of all small businesses have revenues of less than \$500,000 annually.

A recent NSBA survey found that 52 percent of small businesses see cash flow as the primary barrier to investing in energy efficiency.<sup>4</sup> Preliminary results of another study, not yet released, from the California Air Resources Board, found that a lack of capital is one of the primary barriers to making investments—including energy-efficiency investments—to reduce greenhouse gas emissions.<sup>5</sup>

**Up-front capital required:** A typical energy-efficiency project might cost from \$7,500 up to more than \$20,000, with some projects costing a bit less and a few costing far more. This first-cost is out of reach for many small-business owners.

**Energy efficiency only one priority among many:** Small-business owners are heavily focused on the business at hand: managing inventory, maintaining payroll, providing health insurance, etc. They do not have the time to focus on their energy bills, on energy-efficiency measures, or on their greenhouse gas emissions profile. Unlike large and energy intensive businesses that may have individuals or divisions assigned to procure and manage energy, small businesses often see energy costs as an expense over which they have little control. The aforementioned NSBA 2009 Energy Survey discovered that one-quarter of small businesses lacked the time or resources to research and implement energy-efficiency measures.

The most effective means to help small-business owners to reduce their greenhouse gas emissions must be simple, easy-to-use, and resolve the first-cost barrier. It must be effective, yet not divert from the core competencies and concerns of small-business owners. This paper identifies on-bill financing for energy-efficiency as a highly effective efficiency financing mechanism for small businesses. On-bill financing has potential because if structured correctly, it saves money from day one, it helps utilities to effectively reach energy-efficiency targets in states that have them, and helps the U.S. reduce its greenhouse gas emissions.

This paper presents the results of several on-bill financing programs and then suggests potential federal action that could support on-bill financing mechanisms.

#### Small Business Revenues for Most Recent Fiscal Year

Less than \$100K	35%
\$100K–\$500K	26%
\$500K–\$1M	14%
\$1M–\$5M	16%
\$5M–\$25M	5%
\$25M–\$75M	1%
\$75M–150M	1%
More than \$150M	1%

**Source:** Survey conducted by Public Opinion Strategies, for the National Small Business Association, 2008. <http://www.nsba.biz/docs/2008bizsurvey.pdf>

**Small businesses** represent over 29.6 million firms with total employment of more than 60 million people in the U.S. These small businesses represent 99.7 percent of all the firms in the U.S. that have employees, and have generated of the overwhelming majority of net new jobs over the past 15 years. They create more than one-half of the nonfarm private gross domestic product. Their economic success and their ability to improve their energy efficiency—and thereby reduce their greenhouse gas emissions—are indispensable to the U.S. economy and any strategy to reduce emissions of greenhouse gases.

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## Why Use Financing for Energy Efficiency?

While financing may be a straightforward way to overcome the first-cost barrier for small firms' energy-efficiency projects, it has complexities. Financing requires ongoing loan administration, credit review and program design that is different from more traditional rebate programs. So why does financing—as opposed to rebates—make sense?

*1. Financing expands the amount of capital available to invest by attracting new sources of money to energy efficiency or renewable energy.*

Financing energy-efficiency investments offers a return on capital. This return provides an opportunity to attract new sources of capital, including bonding or private lender capital. One example of a new source of capital that could be applied to on-bill loan programs is the qualified energy conservation bond, as authorized through recent federal stimulus legislation.

*2. Financing means “skin in the game” for customer/borrowers.*

Financing implies that customer/borrowers must pay back the money that they have borrowed. This “skin in the game” may encourage them to operate and maintain equipment better than if a utility simply gave it to them. This was one factor that California considered when designing its on-bill financing programs.<sup>6</sup>

*3. Financing programs extend the life of already limited government funds.*

A rebate or grant program by definition provides funding at no cost. Once it is spent in the form of a rebate or grant, it is gone. On-bill financing recycles that money many times over.

*4. Financing programs can complement rebate or grant programs.*

In many cases, a financing program can operate in tandem with a rebate program, so the two are not mutually exclusive: a rebate could reduce the total amount financed.

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### **III. How Do On-Bill Financing Mechanisms Work in the Small-Business Sector?**

On-bill financing works through a collaborative relationship among utilities, contractors and customers. The goal is to make it as seamless as possible for the small-business owner, while offering an immediate financial benefit. On-bill financing typically works through the following steps (individual programs may vary):

#### **1. Utility identifies a source of capital to fund the program.**

Utilities can use their own capital to fund on-bill financing programs, but may also use ratepayer funds to fund them. Utilities could raise capital to fund on-bill financing from bond or other investor markets, or might develop a partnership with a private lender to provide capital to the loan program, with principal and interest payments collected on the utility bill.

The size of the capital pool depends on the size of the potential market and the size of typical projects. Individual energy-efficiency project sizes vary greatly, but are often in the range of \$8,000-\$12,000. The utilities that have operated on-bill financing programs have had budgets of between \$4 million and \$10 million, but they have also begun to run up against the upper limits of those budgets; the limited experience to date has shown that some of these programs are constrained by their budgets.

#### **2. Utility identifies and certifies a contractor network to deliver efficiency services.**

Utilities use contractors that they certify and train to operate on-bill financing programs. In most cases, these contractors have specialties in remodeling, lighting or heating, ventilation and air conditioning. Utilities generally screen contractors to ensure they operate in an ethically and financially responsible way. In many cases the utility relies on them to identify new customer leads and bring new customers into the program. These contractors are almost always small businesses and many base their entire business model on providing energy-efficiency services for the utility on-bill finance program.

#### **3. Contractors identify potential customer candidates for the program.**

Contractors identify potential customers who might benefit from energy-efficiency retrofits. All small businesses are eligible for the program, but utilities usually define them by their energy demand, typically from 150-200 kilowatt hours (kWh) or less for an electricity customer. Small businesses are often defined as occupying premises of less than 100,000 square feet and having fewer than 500 employees—the vast majority have far fewer employees and operate in a much smaller facility.

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Many kinds of small businesses would benefit from energy-efficiency measures. Interviews with contractors reveal that patterns indicating what type of small business most often takes advantage of on-bill finance are difficult to discern. A wide variation in small businesses appear to take advantage of on-bill finance programs. Examples include restaurants, office buildings, car washes, small manufacturers, a Salvation Army, churches and condominium associations.<sup>7</sup>

Not all customers are the perfect fit for an on-bill financing program. For instance:

- Contractors in Connecticut have found that businesses located in older, larger office buildings do not pay their own utility bills because energy charges are built into monthly rent. These businesses have little incentive to reduce their energy use as a result.
- In some cases, contractors find that potential small-business borrowers worry they may not be in business within a year. Contractors report that this factor has been particularly noticeable within the past year.
- In other cases, the business may be about to move out of their facility and be unwilling to commit to a multi-year efficiency loan.

In general, contractors find that small-business owners find the following features of on-bill financing attractive:

- It is turnkey and simple for the small business
  - It is linked to the credibility of a utility measurement and verification program that assures that the project will deliver the energy and cost savings it promises.
  - It offers an immediate financial benefit.
- 4. Contractor performs an audit of customer premises to identify cost effective efficiency measures.**

The contractor conducts an audit of the small-business facility to identify the combination of lighting; heating, ventilation and air conditioning (HVAC); or other measures that will reduce energy bills. Lighting measures tend to be most common among those that contractors identify, although other measures such as refrigeration; HVAC systems and insulation are widespread as well. One contractor has found that involving small-business owners in this audit process plays a big part in giving the small-business owner the assurance that the potential savings are real and not created at the whim of the contractor and a utility.<sup>8</sup> The audit takes anywhere from one to four hours, at the end of which the contractor sets an appointment with the customer to return and present the results of the audit.

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- 5. Contractor enters results of audit into utility database and then works with utility to decide if the project should be approved and funded through a loan.**

Contractors have a standardized program and database into which they enter the data they have gathered during the energy audit. A run of this program produces a report detailing the measures and potential energy and cost savings for the customer. At this point, the contractor also works with the utility to evaluate the loan application. The evaluation is typically based on the number of years the applicant has been in business and bill payment history. At this point, the utility identifies those measures that are eligible for a rebate. These rebates reduce the total loan amount.

- 6. Customer selects the measures to install and customer commits to on-bill financing.**

The contractor visits the customer again to identify specific measures to install. The customers may choose some or all of the measures, depending on the size of project to which they feel comfortable committing. The contractor will work with the customer to determine measures that will provide an immediate financial benefit, given the loan term and available rebates.

Small-business programs typically operate as loan programs whereby the utility extends a two to five year zero percent interest loan to the customer, and includes rebates ranging from 10 percent to as high as 70 percent of the total project cost.

The loans are sometimes set up as business loans, but several programs now operate with a financing arrangement that is attached to the utility meter. Attaching the financing arrangement to the meter enables the payment obligation to transfer at the same time that the obligation to pay the rest of the energy bill transfers. The effect of this is to extend the term of the loan and to reduce monthly payments. This provides for an immediate financial benefit without a rebate.

- 7. Contractor schedules and performs work and submits invoice to utility for payment. Utility conducts a post-installation inspection.**

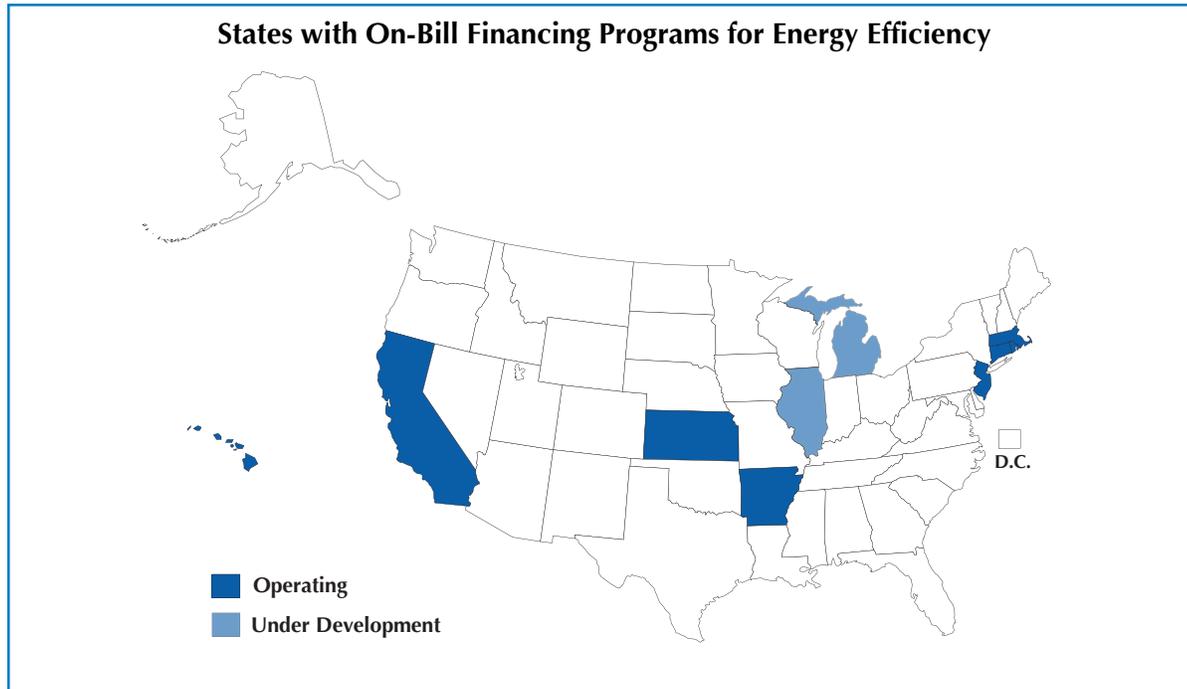
The post-installation step is critical to the credibility of on-bill financing. If the utility identifies deficiencies in the installation, the contractor will remedy them at this point.

- 8. Utility pays the contractor. Utility places charge on customer's bill.**

The utility pays the contractor once it has verified successful installation. At this point, the utility places a new energy service charge on the customer's bill. This charge should be less than the customer's energy cost savings.

## IV. WHAT IS THE EXPERIENCE WITH ON-BILL LOAN PROGRAMS TO DATE?

On-bill financing programs now operate in several states and are under development in others. The following map illustrates those states, some of which are host to small programs.



The following four states have adopted legislation or have specific utility commission orders in place that will require development of on-bill financing.

### Illinois

Illinois legislation adopted in 2009 requires utilities to conduct on-bill financing programs for residential customers; such programs may include small-business customers as well. Information is available at: <http://www.ilga.gov/legislation/publicacts/fulltext.asp?Name=096-0033>

The Illinois Commerce Commission is holding hearings and meetings to finalize this program, and the state's utilities are beginning to work with lenders and others to develop on-bill finance programs to respond to the law.

### Massachusetts

Massachusetts legislation requires utilities in the state to conduct pilot on-bill finance programs. Information available at <http://www.mass.gov/legis/laws/seslaw08/sl080169.htm>

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The Massachusetts utility commission is conducting hearings and working with utilities to develop programs that will respond to the requirements of the law. These programs will supplement existing programs that two utilities now operate in Massachusetts.

## Michigan

The Michigan Public Service Commission issued a Request for Proposals (RFP) asking bidders to design and operate an on-bill energy efficiency program known as Michigan Saves. A combination of Public Sector Consultants and the Delta Institute won the RFP and are now working, with assistance from the author of this study, to design on-bill financing pilot programs in the state.

## California

California's Public Utility Commission issued a proposed decision in Case 08-07-021 on August 25, 2009, that set out a number of parameters for on-bill financing programs operated by the state's four investor-owned utilities. This proposed decision lays out proposed budgets for on-bill financing programs, guidelines on loan terms and conditions, and sets out a plan for a state task force to address further energy-efficiency financing issues.

Utilities in two states—Connecticut and California—have had substantial experience in operating on-bill loan programs for the small-business sector. These are profiled below.

### *Sempra Energy Utilities (California)*<sup>9</sup>

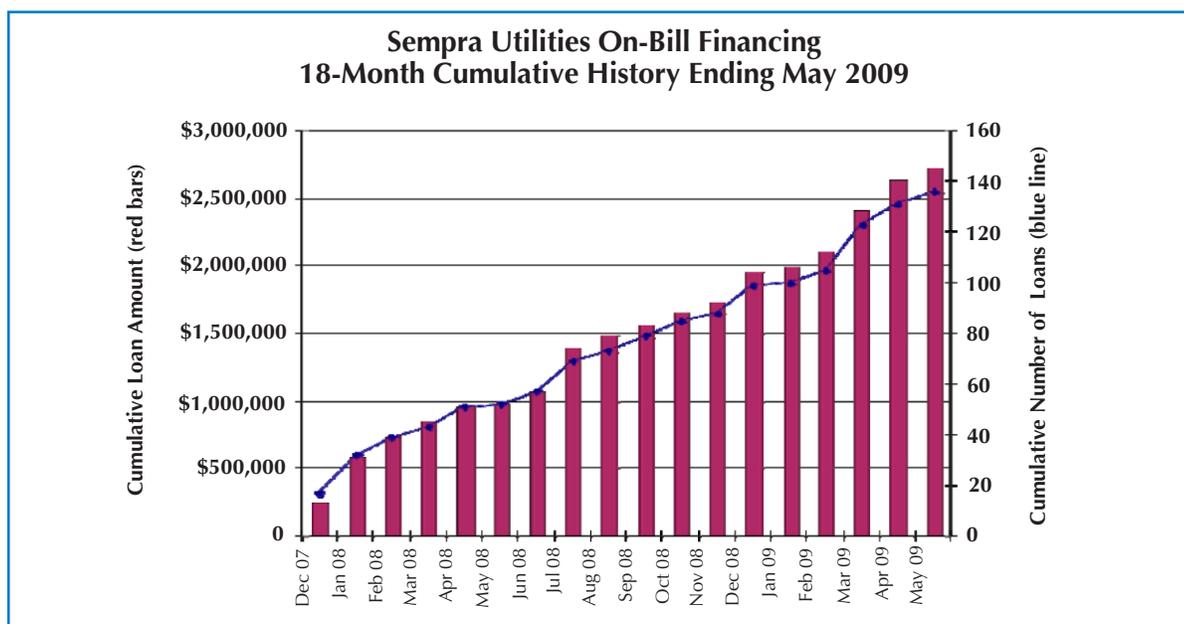
Sempra Energy Utilities is a utility holding company that operates San Diego Gas and Electric and Southern California Gas Company. Sempra Energy Utilities has, since 2007, operated an on-bill loan program for the small-business sector. It defines business customers to be commercial, industrial, government and non-owner occupied multi-family buildings.

The company offers zero-interest unsecured loans—combined with a rebate—to cover energy-efficiency measures. The size of the rebate depends on the specific measure and type of customer, but maximum rebates tend to range from 15 to 20 percent of the project cost. The utility identifies measures through an energy-efficiency audit. The combination of the rebate and the loan mean that the borrower should be able to realize immediate financial savings on the utility bill. The minimum loan amount is \$5,000 and the maximum loan amount is \$100,000 for a business and \$250,000 for government/institutional customers. Default on the loan can result in disconnection.

Loan terms are capped at five years for business customers and 10 years for government/institutional customers. To qualify for a loan, applicants must have had no disconnection notices within the previous 12 months and have been in business for at least two years at their current location. This means that the program is not lending to many businesses that are in their earliest, and often riskiest, stages of development.

Typical loan amounts to electric customers are approximately \$20,500. For gas customers, the typical loan amount is \$34,000, as gas projects tend to be more expensive, custom projects. Loan volume has been increasing steadily since the program's inception in December 2007.

As of late summer 2009, the company had \$3.5 million loans outstanding, with approximately the same amount at some point within the audit/loan approval process. The company was rapidly approaching \$10 million in loans outstanding, which was the cap that the state regulatory commission approved on total loans that the company could have outstanding in the first cycle of the program (additional loan funds are pending approval). The following table illustrates the rapid growth in loan volume since the program's inception in 2007.



Default rates have been very low, with only two defaults from the total portfolio of more than 350 loans made. The state's public benefit fund covers any potential losses.

The program has noted two key challenges.

- Lending regulations: The company had to spend a significant amount of time at start-up addressing federal and state lending laws. Program staff notes that it is important, from their perspective, that on-bill financing programs render a utility a "bank," as that is not a core function of the utility.
- As the pace of new lending grows, the program has begun to approach the \$10 million cap on total loans outstanding imposed by the California Public Utilities Commission. This cap would essentially require the program to shut down any new lending.

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### *United Illuminating (Connecticut)<sup>10</sup>*

United Illuminating (UI), a Connecticut-based utility that serves approximately 20 percent of the state's electric load, began an on-bill financing program in 2000. The program offers zero percent interest financing for energy-efficiency improvements in small businesses (defined as load of less than 150 kWh). The program works both with businesses that own their premises and those that lease spaces; eligibility to participate in the program is tied to the name on the utility bill—not the property owner. Approximately 60 percent of total installations are in leased spaces. Typical loan terms run from 24 to 36 months. UI combines the loans with an incentive buy down to cover 30 percent of lighting efficiency measures and 40 percent of costs for other measures. If the customer/borrower elects to install two or more measures, the rebates grow to 50 percent of the cost, thus encouraging a more comprehensive approach to efficiency investments. Typical project sizes range from \$8,000 to \$12,000. The combination of the incentive buy down and the loan give the small-business customers an immediate financial benefit.

UI also conducts pre and post-installation audits on a random basis to check the quality of the contractors' work. UI is required by its utility regulators to submit a program savings documentation report that includes an analysis of all end-use, energy-efficiency savings. These two features help to ensure that the projected savings match actual savings.

Contractors will generally replace any equipment at no charge if it fails. UI program staff note that out of 3,400 installations, the company has received a total of only three defective batches of lamps or ballasts. Lamps and ballasts come with a three-year warranty but many of the contractors will replace them for up to five years.

These contractors are the primary contact that the utility has with its on-bill finance customers, since they make the initial contact with the customer and perform the energy audit and efficiency upgrades. The contractors noted that the primary concerns that potential customers raise are:

- Will they realize the forecast of energy savings?
  - Contractors addressed this concern by showing verified energy savings results from previous efficiency projects. These results come not only from the contractor's previous projects but from the UI's verified savings results.
- Will their business be a going concern in one to two years?
  - Especially in the current economic situation, this is probably the top concern that business owners raise. They would not be able to commit to a 24 month or longer loan if they did not feel they would be in business for more than a year.
- Will the business be in the same location in one to two years?
  - Businesses that are about to move from either leased or owned space are hesitant to commit to a new loan.

- Are there actual opportunities for energy savings in the facility?
  - Especially in a market in which energy-efficiency programs have been operating for a number of years, some businesses may have already achieved many of the efficiency savings that are cost effective.
- Will they, as tenants, realize any benefit from lower energy bills if they do not pay their energy bills directly—if utility charges are paid through their rent?
  - Most business owners, even if they lease their space, pay their own energy bill. Contractors noted, however, that especially in some older, larger office spaces, the monthly rent includes the energy payment. These situations are not appropriate for the on-bill program. More than 60 percent of the total program works with businesses in leased space, however, according to the UI program administrator.

With one of the longest running on-bill finance programs in the country, UI has done audits in close to 5,500 small-business customer locations—approximately one-third of the total market—with 3,400 project installations. UI expects to complete 600 installations in 2009. Budget considerations drive the speed with which the program expands. Utility commission regulations in place as of 2009 cap the total value of all outstanding loans at \$4.5 million. UI has requested permission from the Commission to increase that cap on outstanding loan value to \$7.5 million, according to the program administrator.

Lighting upgrades dominate the list of measures that the program finances, representing fully 75 percent of such measures. Refrigeration makes up the bulk of the remaining measures installed. Recently, a growing number of LED lighting fixtures and variable speed drives have been installed. The program installs these measures in a wide range of facilities, including convenience and liquor stores, common areas in offices, and manufacturing facilities.

Default rates have been less than one percent, and have typically been on the order of one to three defaults per year out of a total of 3,400 loans made. UI program staff manages defaults by screening customers to make sure they have been in business for at least six months and have been current on their utility bill for at least five years, if they have been in business that long. Ninety-five percent of the customers who apply for financing do qualify, and UI expects to receive more than 600 applications this year.

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## Major conclusions from experience with on-bill finance

The experience from on-bill financing programs that focus on the small-business sector is that:

- On-bill financing can be a highly effective way to reach the small-business community.
- Loans have proven to be high quality and low risk. One reason that loans have proven to be of such high quality is that most on-bill financing programs will not lend to the newest businesses. The programs may require, for example, that a business has been in operation for 12-24 months. This requirement may weed out the riskiest loans, since 30 percent of small businesses fail within their first two years.<sup>11</sup> Default rates for both the Sempra Energy and United Illuminating programs are less than one percent, figures that are consistent with other on-bill financing programs.
- Limitations on available, low-cost capital will put a cap on total outstanding loans. Greater amounts of capital available to fund these programs would allow them to reach more small businesses.
- On-bill financing programs have been vital to many small, energy-efficiency-service providers and to the small firms that take up the loans. The program has provided new jobs, while reducing small businesses' energy bills and greenhouse gas emissions.

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## V. HOW DO SMALL BUSINESSES BENEFIT FROM ON-BILL FINANCING PROGRAMS?

Small businesses play an important role in all of these programs both as the primary customer base and as the primary service providers.

### As the service providers

Small businesses provide the vast majority of the services now offered in any utility-operated energy-efficiency program, usually including everything except program administration and quality assurance, which the utilities operate. The job categories that act as the service providers for these programs are typically HVAC contractors, lighting and electrical contractors and installers, and those in the remodeling business

These job categories consist overwhelmingly of small businesses. For example, more than 92 percent of the Air Conditioning Contractors of America membership base (providing services to the HVAC industry) has fewer than 50 employees—and 96 percent has less than 100 employees.<sup>12</sup> Other business segments also consist overwhelmingly of small firms and will similarly benefit—including lighting installers, remodelers and energy auditing firms.<sup>13</sup>

Interviews with contractors reveal that on-bill finance programs provide not only a source of additional business but very often provide a core of new business for contractors. As one contractor who works with the United Illuminating program put it, “we would not be in business without this program.”<sup>14</sup> These programs provide jobs as well; the contractors interviewed for this effort employed between 6-20 people per company.

### As the beneficiaries of energy-efficiency measures

A broad and diverse set of small businesses can take advantage of on-bill financing programs. In most cases, the limitations are the result of concerns about the business’ future, that the business may move to a new location, or that efficiency improvements already have been made.

As previously noted, it is difficult to identify a typical small-business segment that takes advantage of on-bill financing programs, since businesses range from churches to grocery and convenience stores, to retail spaces, to office buildings, to small manufacturers. According to program administrators, however, utility bill savings of 15 to 30 percent are highly typical in the eligible locations and properties. Buildings use energy through many end uses, but lighting is large, and can represent up to 40 percent of typical energy consumption in a commercial building.<sup>15</sup>

Overall evaluations of the small-business sector are difficult to locate, but the Center for Small Business and the Environment produced a report identifying efficiency potential in two small-business sectors:

- If all 19,700 National Automobile Dealers Association members reduced their energy consumption by the association's stated goal of 10 percent, they would save a total of approximately \$193 million in energy costs and eliminate one million tons of greenhouse gas emissions.
- If all 380,000 members of the National Restaurant Association, the National Grocer's Association (50,000 independent stores) and the National Association of Convenience stores (140,655 stores) reduced their energy consumption by 30 percent they would save a total of \$6 billion each year.<sup>16</sup>

As one example, Pennsylvania is host to the Pennsylvania Small Business Development Center (SBDC), which has conducted over 500 on-site, small-business energy assessments. As a result of these on-site energy assessments, the Pennsylvania SBDC has provided over \$1.1 million to install energy-efficiency upgrades in 189 projects. Based on these audits and installed projects, the organization estimates that energy cost savings of 20 to 30 percent are realistically achievable. Although the cost savings vary—depending on the type of business, its energy intensity, and the details of the project—the Pennsylvania SBDC estimates that the average annual energy cost savings have been somewhat greater than \$2,800 for each business.<sup>17</sup>

#### ***Pennsylvania Energy-Efficiency Upgrade***

McGinnis Special Food Stores is a family-owned small grocery store in Pennsylvania. This store took advantage of an energy audit and rebates provided by the Pennsylvania SBDC. The audit identified potential savings from upgraded lighting in its three grocery store locations. Total installation costs were \$20,124 with annual energy cost savings of \$7,643 and annual electricity savings of 88,585 kWh. The payback based on the energy savings alone would have been 2.6 years, however a \$7,500 grant provided for a 1.6 year payback.<sup>18</sup>

This Pennsylvania program does not offer an on-bill financing option so the business needed to come up with over \$12,500 on its own to finance the efficiency improvements. Had it existed in Pennsylvania, an on-bill financing program would have obviated the need for the business to come up with any capital, and provided an immediate monthly financial benefit.

#### ***California Energy-Efficiency Upgrade Through On-Bill Finance***

The California-based Radisson Suite Hotel is a franchisee-owned hotel in the San Diego Gas & Electric territory. This project installed efficient heating and cooling units in 153 guest rooms at a cost of \$25,267. Rebates of \$6,750 reduced the project loan to \$18,517, with annual energy savings of \$4,005, or \$334 per month. With the loan term adjusted so that the hotel owners would achieve bill neutrality (no increase in their total bill after accounting for loan principal and interest as well as energy savings), the loan term was set at 56 months and the total monthly loan payments were set at \$330 per month. After the loan is paid off, the hotel owner's monthly bill will decrease by \$330 and the owner will continue to benefit from the energy savings through the life of the new efficient HVAC systems.<sup>19</sup>

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## **VI. POTENTIAL GREENHOUSE GAS AND ENERGY-EFFICIENCY POTENTIAL OF REDUCING ENERGY USE IN THE SMALL-BUSINESS SECTOR THROUGH ON-BILL FINANCING**

We estimate that average total natural gas and electricity savings on a per-business basis will be \$411.40 per month—or \$4,932 per year if those businesses save 25 percent on their total combined natural gas and electricity bill. Twenty-five percent is the mid-range of most savings estimates for existing small business on-bill financing programs.

Appendix A provides an estimate of state-by-state savings. We estimate, for example, that combined natural gas and electricity savings could be \$555 per month (\$6,665 per year) for a small business in Maine because of the state's high energy prices. A small business in Colorado, with its relatively low energy prices, could save \$315 (\$3,775 per year). In California, a typical small business might save \$479 per month (\$5,752 per year). Variations exist from state to state and certainly from business to business because of large differences in energy consumption patterns. This figure, however, provides a useful estimate of national average potential dollar savings on a per-business basis.<sup>20</sup>

On a national basis, these savings equate to close to \$62 billion and 259 million tons of carbon equivalents *annually* for the combination of small commercial and small industrial sectors. For a sense of equivalent effects of this reduction in carbon emissions, this is equal to avoiding emissions from 51 coal-fired power plants. Again, these figures are based on national average data.<sup>21</sup>

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## **VII. BARRIERS TO GREATER USE OF ON-BILL FINANCING TO SUPPORT ENERGY EFFICIENCY IN SMALL BUSINESSES**

On-bill financing programs are an effective method to encourage small-business owners to increase the energy-efficiency of their facilities, but the programs are still new and face a number of hurdles.

### **Capital to support programs**

The two most well-established on-bill financing programs that provide loans to small businesses are running up against their state regulatory commission imposed caps on outstanding loans. This problem is caused by the programs' success, indicating that they are popular with small businesses. One constraint that these programs will face—and a constraint that others are likely to encounter in the future—is the availability of low cost or zero cost capital to fund a revolving on-bill loan program.

### **Credit and default issues**

Although, in general, default rates for loan programs have been lower than one percent, default risk and credit risk remain a critical concern for lenders, utilities that might administer on-bill financing programs, the utility commissions that oversee utility rates, and consumer advocates who seek to maintain those rates at just and reasonable levels. On-bill financing programs will not be able to raise private capital without a clear definition of who bears the risk for potential loan defaults.

### **Legal concerns—utility as lender**

Some utilities may perceive federal or state lending laws as a barrier to operating an on-bill finance program. In general, federal laws relate primarily to disclosure requirements for lenders and will not likely all apply to utilities. State laws and regulations vary considerably, and may or may not pose a barrier to on-bill finance programs. In general, policymakers may wish to consider developing approaches and interpretations of lending laws that treat utilities not as banks but as energy-service providers who are extending a financing product that is incidental to their primary business.<sup>22</sup>

### **Billing system concerns**

Some utilities that have considered new on-bill financing options have found that their billing systems are not designed in a way that would allow for automated and electronic management of on-bill loans. As a result, some utilities have been required to use manual data entry for each loan. While this can be resolved with upgrades to the utility's billing system and is not an issue with every utility, it nonetheless poses a barrier in some situations.

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## **VIII. PROPOSED LEGISLATIVE RECOMMENDATIONS TO SUPPORT ON-BILL FINANCING IN THE SMALL-BUSINESS SECTOR**

The experience with small business on-bill financing programs suggests two related means to further develop on-bill financing.

### **Lending Capital Pool**

Make a pool of capital available to utilities that agree to match federal funds with their own loan capital. This approach would have the effect of expanding the capital available to fund small business on-bill loans, thus helping to overcome to provide a barrier of a lack of capital for such programs.

### **Loss Reserve**

Make funding available upon application and approval, as a guarantee of new on-bill loans that meet specific requirements. Such a guarantee could be structured to take into account the historically low default rates with on-bill finance programs and be set based upon a maximum amount of funding for each lending utility.

Funds could be made available through direct appropriation or as eligible uses of greenhouse gas emissions allowances by the state governments charged with use of those allowances.

## APPENDIX A. COMMERCIAL SECTOR ENERGY COST SAVINGS POTENTIAL

State	Avg. Electricity Price (cents per kWh)	Avg. Natural Gas Price (\$/Therm)	Avg. Monthly Electric Bill	Avg. Monthly Natural Gas Bill	Avg. Total Utility Bill	Avg. Monthly Savings @ 25%	Avg. Annual Savings @ 25%
AK	12.19	0.753	\$1,250.86	\$449.98	\$1,700.83	\$425.21	\$5,102.50
AL	8.70	1.476	\$893.28	\$882.02	\$1,775.31	\$443.83	\$5,325.92
AR	6.91	1.252	\$709.74	\$748.17	\$1,457.91	\$364.48	\$4,373.74
AZ	8.27	1.007	\$848.51	\$601.76	\$1,450.27	\$362.57	\$4,350.81
CA	12.82	1.007	\$1,315.61	\$601.76	\$1,917.37	\$479.34	\$5,752.12
CO	7.62	0.797	\$781.91	\$476.27	\$1,258.18	\$314.54	\$3,774.53
CT	15.39	1.225	\$1,579.46	\$732.03	\$2,311.49	\$577.87	\$6,934.47
DC	12.01	1.394	\$1,232.88	\$833.02	\$2,065.90	\$516.48	\$6,197.71
DE	11.21	1.334	\$1,150.33	\$797.17	\$1,947.50	\$486.87	\$5,842.49
FL	9.75	1.21	\$1,000.28	\$723.07	\$1,723.34	\$430.84	\$5,170.03
GA	8.07	1.286	\$827.91	\$768.49	\$1,596.40	\$399.10	\$4,789.19
HI	21.91	2.73	\$2,248.59	\$1,631.39	\$3,879.98	\$970.00	\$11,639.95
IA	7.11	0.987	\$729.34	\$589.81	\$1,319.15	\$329.79	\$3,957.45
ID	5.14	1.042	\$527.61	\$622.68	\$1,150.28	\$287.57	\$3,450.85
IL	8.57	1.026	\$879.90	\$613.11	\$1,493.01	\$373.25	\$4,479.04
IN	7.29	0.996	\$748.35	\$595.19	\$1,343.54	\$335.88	\$4,030.61
KS	6.83	1.182	\$700.61	\$706.34	\$1,406.95	\$351.74	\$4,220.84
KY	6.76	1.1	\$693.43	\$657.34	\$1,350.77	\$337.69	\$4,052.30
LA	9.13	1.085	\$936.73	\$648.37	\$1,585.10	\$396.28	\$4,755.30
MA	15.20	1.313	\$1,560.28	\$784.62	\$2,344.90	\$586.22	\$7,034.70
MD	11.58	1.187	\$1,188.29	\$709.32	\$1,897.62	\$474.40	\$5,692.85
ME	12.94	1.495	\$1,328.44	\$893.38	\$2,221.82	\$555.45	\$6,665.46
MI	8.77	0.978	\$900.61	\$584.43	\$1,485.04	\$371.26	\$4,455.11
MN	7.48	0.993	\$767.50	\$593.39	\$1,360.89	\$340.22	\$4,082.67
MO	6.34	1.161	\$650.54	\$693.79	\$1,344.32	\$336.08	\$4,032.97
MS	8.92	1.08	\$915.79	\$645.38	\$1,561.17	\$390.29	\$4,683.51
MT	8.10	0.961	\$831.83	\$574.27	\$1,406.10	\$351.53	\$4,218.30
NC	7.43	1.231	\$762.50	\$735.62	\$1,498.12	\$374.53	\$4,494.35
ND	6.58	0.799	\$675.83	\$477.46	\$1,153.30	\$288.32	\$3,459.90
NE	6.39	0.9	\$655.95	\$537.82	\$1,193.77	\$298.44	\$3,581.31
NH	13.91	1.52	\$1,428.16	\$908.32	\$2,336.48	\$584.12	\$7,009.43
NJ	12.99	1.169	\$1,333.38	\$698.57	\$2,031.95	\$507.99	\$6,095.86
NM	7.66	0.971	\$786.71	\$580.25	\$1,366.96	\$341.74	\$4,100.89
NV	10.09	1.147	\$1,035.84	\$685.42	\$1,721.26	\$430.31	\$5,163.78
NY	15.92	1.143	\$1,633.54	\$683.03	\$2,316.57	\$579.14	\$6,949.71
OH	8.67	1.132	\$890.35	\$676.46	\$1,566.81	\$391.70	\$4,700.43
OK	7.33	1.027	\$752.68	\$613.71	\$1,366.39	\$341.60	\$4,099.17
OR	7.20	1.212	\$738.99	\$724.26	\$1,463.25	\$365.81	\$4,389.76
PA	9.20	1.227	\$944.69	\$733.23	\$1,677.92	\$419.48	\$5,033.75
RI	12.67	1.432	\$1,300.48	\$855.73	\$2,156.21	\$539.05	\$6,468.63
SC	7.74	1.307	\$794.88	\$781.03	\$1,575.92	\$393.98	\$4,727.75
SD	6.61	0.879	\$678.45	\$525.27	\$1,203.72	\$300.93	\$3,611.15
TN	8.09	1.154	\$830.42	\$689.60	\$1,520.02	\$380.01	\$4,560.07
TX	9.87	0.947	\$1,013.01	\$565.91	\$1,578.91	\$394.73	\$4,736.73
UT	6.54	0.756	\$670.85	\$451.77	\$1,122.62	\$280.65	\$3,367.85
VA	6.38	1.148	\$654.65	\$686.02	\$1,340.67	\$335.17	\$4,022.01
VT	12.29	1.278	\$1,261.41	\$763.70	\$2,025.11	\$506.28	\$6,075.34
WA	6.55	1.206	\$672.56	\$720.68	\$1,393.24	\$348.31	\$4,179.71
WI	8.71	1.022	\$894.49	\$610.72	\$1,505.22	\$376.30	\$4,515.66
WV	5.85	1.245	\$600.08	\$743.98	\$1,344.06	\$336.02	\$4,032.19
WY	6.25	0.759	\$641.33	\$453.56	\$1,094.89	\$273.72	\$3,284.66
<b>U.S. Average</b>	<b>9.65</b>	<b>1.097</b>	<b>\$990.08</b>	<b>\$655.54</b>	<b>\$1,645.62</b>	<b>\$411.40</b>	<b>\$4,936.86</b>

**Note:** National Average Annual Per Business Electricity Consumption is 123,167 kWh. National Average Annual Per Business Natural Gas Consumption is 7,171 Therms. National average consumption data is used for commercial facilities because no state-by-state small business average data on commercial building is available. Consumption averages, and therefore savings, will vary from state to state and business to business based on individual consumption patterns.

**Source:** U.S. Energy Information Administration Commercial Business Energy Consumption data set, [www.eia.doe.gov](http://www.eia.doe.gov) accessed September 2009.

## APPENDIX B. SAMPLE ON-BILL FINANCE APPLICATION FROM SAN DIEGO GAS & ELECTRIC

Note that this appendix contains a sample project application. Part of the application requires the customer to fill out name and account number, but the remaining portion of the application is completed by the contractor on behalf of the customer. The customer then approves the application and the contractor submits it to the utility. The company may update this application in the coming months.



### 2009 ON-BILL FINANCING REBATE/INCENTIVE APPLICATION

Complete pages 4-6 and fax to 1-866-476-0357 or  
email SDGEOBF@semprautilities.com

#### GENERAL DESCRIPTION

The On-Bill Financing ("OBF") Option is offered by San Diego Gas & Electric Company ("Utility") to eligible commercial Utility customers. A commercial Utility customer who participates in the OBF Option will receive: (a) zero percent (0%) interest, unsecured financing for the measures or equipment selected through the Eligible Program(s) (as defined below) and certain related labor charges, and (b) a rebate or other financial incentive from each Eligible Program in which such customer qualifies to participate (which will be reduced by 10% for non-comprehensive projects). Comprehensive projects are defined as projects involving two or more distinct measure types not including CFLs or delamping.

For taxpayer-funded customers, the minimum loan amount available through the OBF Option is Five Thousand Dollars (\$5,000) per meter, and the maximum loan amount is two-hundred and fifty thousand dollars (\$250,000) per meter. For this purpose, a taxpayer-funded customer is defined as a customer that uses tax revenue to pay utility bills associated with that specific meter, including, but not limited to: public schools (k-12 and state-funded universities); public libraries, and government offices.

For non-taxpayer-funded customers, the minimum loan amount available through the OBF Option is Five Thousand Dollars (\$5,000) per meter, and the maximum loan amount available is one-hundred thousand dollars (\$100,000) per meter.

In no event shall a participating Utility customer be entitled to receive a loan amount in excess of one hundred percent (100%) of the total project cost (including installation costs), less the rebates or financial incentives received under the Eligible Program(s). The loan amount is determined by the repayment period of the project selected through the Eligible Program(s) (calculated based on estimated annual energy savings) or the maximum loan term, whichever is shorter. The loan amount is subject to California Public Utilities Commission authorization.

For non-taxpayer funded customers, the maximum loan term is five (5) years; for taxpayer-funded customers, the maximum loan term is ten (10) years or useful measure life, whichever is shorter. The monthly loan repayment will be billed as part of the participating Utility customer's Utility bill. A Utility customer may qualify for multiple loans under the OBF Option on the same meter, provided that the aggregate dollar amount of the loans provided for such meter does not exceed the maximum loan amount during the OBF Option cycle.

As stated above, participation in the OBF Option may require a reduction in the rebates or financial incentives received from the Eligible Program(s) in which the Utility customer chooses to participate. If the retrofit is a non-comprehensive, lighting-only project, the reduction is calculated as follows: the rebate or financial incentive for each qualifying lighting measure or piece of equipment under the selected Eligible Program(s) will be reduced by ten percent (10%). The reduction calculations will be reflected in the OBF Project Summary Sheet completed by Utility and approved by Utility customer as part of the OBF application process ("Project Summary Sheet").

The OBF Option has a limited budget. This On-Bill Financing Rebate/Incentive Application (this "Application"), will be accepted from qualified commercial Utility customers on a first-come, first-served basis until funds are no longer available. The Project Summary Sheet shall be attached to and made a part of this Application. The OBF Option may be modified or terminated without prior notice. All financing received through the OBF Option may only be used for the business purpose of implementing or installing energy-efficient measures or equipment through the Eligible Program(s) in which the Utility customer decides to participate.

The agreement between Utility and each Utility customer regarding such Utility customer's participation in the selected Eligible Program(s) and the OBF Option and each loan provided by Utility thereunder is comprised of five (5) parts: this Application (including the Project Summary Sheet), the On-Bill Financing Loan Agreement, Utility Tariff Rule No. 40, and the applicable Eligible Program Application(s) (as defined below).

#### ON-BILL FINANCING REQUIREMENTS

To qualify for the OBF Option, a Utility customer must participate in at least one (1) of the Energy Efficiency rebate/incentive programs offered by Utility, or an eligible Utility Third Party Program (each, an "Eligible Program"). The Utility customer must satisfy the requirements of each selected Eligible Program and execute the applicable rebate/incentive application or agreement for such Eligible Program (an "Eligible Program Application"). The Eligible Program Application(s) executed by the applicant are hereby incorporated into this Application by this reference. If there is any conflict between the terms and conditions of any Eligible Program Application and the terms and conditions of this Application or the On-Bill Financing Loan Agreement (including, but not limited to, the calculation of the reduced rebate amount for the Eligible Program(s)), the terms and conditions of this Application and the On-Bill Financing Loan Agreement shall control. Utility customers interested in the OBF Option should contact Utility's representatives and/or a participating OBF contractor before purchasing any equipment or services.

## APPENDIX B. SAMPLE ON-BILL FINANCE APPLICATION FROM SAN DIEGO GAS & ELECTRIC (CONTINUED)

### 2009 ON-BILL FINANCING REBATE/INCENTIVE APPLICATION

Complete pages 4-6 and fax to 1-866-476-0357 or  
email SDGEOBF@semprautilities.com

#### **CUSTOMER ELIGIBILITY**

To qualify for participation in the OBF Option, the applicant must satisfy each of the following conditions:

1. The applicant must be an existing commercial, nonresidential Utility customer (including government accounts) or owner of residential multi-family units who does not live on the premises, that falls within one (1) of the following categories:
  - **Commercial Customers:** (tax-payer funded and non-taxpayer-funded customers) an existing commercial customer on a valid Utility commercial, industrial and/or agricultural rate.
  - **Multi-family Customers:** a property owner or property manager (authorized agent for property owner) of an existing residential multi-family complex with two (2) or more dwelling units. The property owner cannot reside on the premises.
2. The applicant must have been a Utility customer (i.e., maintained an active account) for at least twenty-four (24) months prior to the start of participation in the OBF Option in the same business with a minimum of twelve (12) months historical energy usage at the applicant's current meter.
3. The applicant must be in good credit standing with Utility, with no final disconnection notices in the past twelve (12) months, and no deposit pending or on hand with Utility.

#### ELIGIBLE PROGRAMS

In addition, the applicant must satisfy the requirements of the Eligible Program(s) in which the Utility customer qualifies for and elects to participate. The Eligible Programs are as follows:

##### **Small Business Super Saver Program**

- The applicant must be an existing commercial, nonresidential Utility customer on a valid Utility commercial, industrial and/or agricultural rate with a monthly electrical demand under one hundred (100) kilo-watt (kW) and/or an average monthly gas usage under four thousand one hundred sixty-six (4,166) therms.

##### **Multi-family Energy Efficiency Program**

- The applicant must be a property owner and/or property manager (authorized agent for property owner) of existing residential multi-family complexes with two (2) or more dwelling units. (Note: The property owner is not eligible to participate in the OBF Option if he or she lives on the premises.)

##### **Express Efficiency Rebate Program**

- The applicant must be an existing commercial customer (as defined above) on a valid Utility commercial, industrial and/or agricultural rate with a monthly electrical demand of one hundred (100) kW or above and/or an average monthly gas usage of four thousand one hundred sixty-six (4,166) therms or above.

##### **Standard Performance Contract Program**

- The applicant must be an existing commercial customer (as defined above) and/or a Small Commercial Customer (as defined above) on a valid Utility commercial, industrial and/or agricultural rate.

##### **Energy Savings Bid/Tax Exempt Customer Program**

- The applicant must be an existing commercial customer (as defined above) and/or a Small Commercial Customer (as defined above) on a valid Utility commercial, industrial and/or agricultural rate.

##### **Savings By Design Program**

- The applicant must be an existing commercial customer (as defined above) and/or or Small commercial customer (as defined above) on a valid Utility commercial, industrial or agricultural rate.

##### **Utility Third Party Programs**

- The applicant must be an existing commercial customer (as defined above) and/or a Small Commercial Customer (as defined above) on a valid Utility commercial, industrial and/or agricultural rate.

## APPENDIX B. SAMPLE ON-BILL FINANCE APPLICATION FROM SAN DIEGO GAS & ELECTRIC (CONTINUED)

### 2009 ON-BILL FINANCING REBATE/INCENTIVE APPLICATION

Complete pages 4-6 and fax to 1-866-476-0357 or  
email SDGEOBF@semprautilities.com

#### APPLICATION PROCESS

1. Before purchasing and installing any energy efficient measures or equipment, the applicant must satisfy the eligibility requirements of the OBF Option and the selected Eligible Program(s). The applicant must also have an energy assessment/pre-inspection completed by Utility before commencing any work or purchasing any equipment related to the project.
2. The applicant may request an application and determine account eligibility by calling the Energy Information Center (EIC) at 1-800-644-6133 or download an application from SDGE.com/obf. The applicant will need the applicable Utility account number to make the reservation.

The applicant may authorize a contractor or vendor to call the EIC on its behalf to request an application for the OBF Option and applications for any Eligible Program(s) and, if applicable, reserve rebate funds for the project. The applicant will need to provide the appropriate Utility account number(s) to the contractor or vendor in order to make the reservation. The completed OBF application should be faxed to 1-866-476-0357 or emailed to SDGEOBF@semprautilities.com. If the application is complete and meets eligibility requirements, an On-Bill Financing representative will pre-qualify account and project and request a mandatory pre-inspection.

3. If the applicant meets the OBF Option eligibility requirements and the proposed new equipment qualifies for rebates or incentives from the Eligible Program(s) in which the applicant decides to participate, Utility's OBF Option staff will calculate and record the estimated annual energy savings, applicable rebates/incentives, loan amount, loan terms and monthly loan payment in the On-Bill Financing Loan Agreement.
4. The applicant must read this Application, the On-Bill Financing Loan Agreement, the Project Summary Sheet, the applicable Eligible Program Application(s) and Utility Tariff Rule No.40 in their entirety. If acceptable, the applicant must complete, sign and date the On-Bill Financing Loan Agreement. The Loan Agreement must be received and signed by Utility Administrator prior to installation of measures. A faxed or emailed copy may be submitted to begin installation, but an original signed loan agreement must be submitted to utility for any payments to be disbursed.
5. The applicant, the contractor or the vendor working on behalf of the applicant will schedule and complete the retrofit project as proposed.
6. The Eligible Program Application(s), final invoices, manufacturer specification sheets, hours of operation worksheets, and the original On-Bill Financing Loan Agreement will be submitted for final verification, which includes a post-completion inspection of the applicant's project by Utility. Upon completion of the final verification process for the applicant's project, the rebate/incentive check(s) from the applicable Eligible Programs and the loan check from the OBF Option will be issued and sent to the applicant or the contractor or vendor working on behalf of the applicant.

The signed and dated Application and On-Bill Financing Loan Agreement must be received by Utility no later than **5:00 PM, Pacific Time, on December 31, 2009**. Incomplete or incorrect applications cannot be processed. You may withdraw this Application for any reason by providing Utility with a written notice of such withdrawal.

If your OBF Option application is denied, you have the right to a written statement of the specific reasons for the denial. To obtain the statement, please contact SDG&E® On-Bill Financing Option by mail at San Diego Gas & Electric®, On-Bill Financing Option, 8306 Century Park Ct. CP62E, San Diego, CA 92123, by phone at 1-800-644-6133 within sixty (60) days from the date you are notified of utility's decision. The Utility will send you a written statement of the reasons for the denial within thirty (30) days of receiving your request for the statement.

This program is funded by California utility customers and administered by San Diego Gas & Electric under the auspices of the California Public Utilities Commission. This program may be modified or terminated without prior notice. The selection, purchase and ownership of goods and services are the sole responsibility of the customer.

The Federal Equal Credit Opportunity Act prohibits creditors from discriminating against credit applicants on the basis of race, color, religion, national origin, sex, marital status, age (provided the applicant has the capacity to enter into a binding contract; because all or part of the applicant's income derives from any public assistance program; or because the applicant has in good faith exercised any right due under the Consumer Credit Protection Act. The federal agency that administers compliance with this law concerning this creditor is the Federal Trade Commission, Equal Credit Opportunity, Washington DC 20580.

# APPENDIX B. SAMPLE ON-BILL FINANCE APPLICATION FROM SAN DIEGO GAS & ELECTRIC (CONTINUED)

## 2009 ON-BILL FINANCING REBATE/INCENTIVE APPLICATION

Complete pages 4-6 and fax to 1-866-476-0357 or  
email SDGEOBF@semprautilities.com

*Please note: SDG&E® does not endorse or recommend any vendor and does not review vendor proposals. The customer is solely responsible for reviewing the feasibility of the vendor proposal and verifying vendor qualifications, pricing, energy savings, warranties, and other terms and conditions. If you have concerns or disputes about equipment or any work performed, the customer must contact the vendor directly.*

### CUSTOMER INFORMATION

<u>Name on Account (Customer of Record)</u>
<u>Account Number</u>
<u>Service Address</u>
<u>Contact, Customer</u>
<u>City, State, Zip</u>
<u>Relationship to Customer of Record</u>
<u>Phone Number</u>
<u>Email Address</u>
<u>Federal Tax ID or Social Security #</u>
I have read and understand all of the OBF Option requirements and terms and conditions set forth in this Application. I hereby certify that all of the information provided in this Application is true, correct and complete in all respects. I understand that the applicant must meet all eligibility criteria and requirements in order to participate in the OBF option. I declare under penalty of perjury under the laws of the State of California that I am authorized to execute this Application on behalf of the Customer of Record listed below ("Customer").
<u>Customer Signature</u>
<u>Customer Printed Name</u>
<u>Date</u>

### CONTRACTOR (VENDOR) INFORMATION

**NO CONTRACTOR (SELF-INSTALL)**

<u>Contractor (Vendor) Name</u>
<u>CA State License #</u>
<u>Representative Name</u>
<u>Business Address</u>
<u>City, State, Zip</u>
<u>Business Phone Number</u>
<u>Alternate Phone Number</u>
<u>Email Address</u>
<u>Federal Tax ID or Social Security #</u>
Contractor agrees that any confidential information concerning the Customer listed in this Application, including, but not limited to, any Utility account information, will be used for the sole purpose of facilitating such Customer's participation in the OBF Program and the applicable Eligible Program(s). Contractor hereby agrees to release, hold harmless and indemnify Utility from any liability, claims, demand, causes of action, damages, or expenses resulting from the release of any of Customer's information obtained pursuant to this authorization set forth in this Application and from taking any action on behalf of Customer pursuant to such authorization.
<u>Contractor Representative Signature</u>
<u>Contractor Representative Printed Name</u>
<u>Date</u>

SDG&E OBF Administrator

Date

Printed Name

*Did you know that there are rebates and incentives available for refrigeration, food service, HVAC, gas equipment and many other technologies? Ask your vendor or email us at [sdgeobf@semprautilities.com](mailto:sdgeobf@semprautilities.com) for more information.*

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# APPENDIX B. SAMPLE ON-BILL FINANCE APPLICATION FROM SAN DIEGO GAS & ELECTRIC (CONTINUED)



## On-Bill Financing Project Information

Please provide project information for each account number;  
For rebate programs, reserve funds prior to submitting OBF application by calling the Energy Information Center at 1-800-644-6133

Complete pages 4-6 and fax to 1-866-476-0357 or email SDGEOBF@semprautilities.com

SDG&E Account Number:	Total Project Cost from Quote/Vendor proposal: <i>Includes all equipment, labor, taxes, disposal, etc.</i> \$
Rebate Program:	Rebate Reservation Number:
Incentive Program(s) - <i>Please submit program application and supporting documents along with OBF application:</i>	
Additional Financial Incentives from Other Entities To be applied to project (government grants, etc.): \$	

Note: Rebates/incentives may be reduced for non-comprehensive projects.

Please complete table below or attach detailed project savings calculations  
This information is required to qualify project for payback calculation

Equipment Operating Total Days Weekly	Equipment Operating Hours Daily	Number of Days Annually Equipment is Not Operating (holidays, etc.)	Fixture Qty	Meter Number (located on utility bill)	Existing Equipment Code/Description	Fixture Qty	Proposed Equipment Code/Description

I approve the estimated project scope, costs, annual equipment operating hours.\* I understand that my loan calculation will be based on pre-inspection results and information obtained from my On-Bill Financing Application. Any changes to scope, costs or run hours prior to signing of loan documents will require a revised, signed and dated On-Bill Financing Application.

Customer Name \_\_\_\_\_

Date \_\_\_\_\_

\*Equipment operating hours may differ from normal business hours.

**Incomplete applications will not be processed – Questions? Contact [sdgeobf@semprautilities.com](mailto:sdgeobf@semprautilities.com).**

# APPENDIX B. SAMPLE ON-BILL FINANCE APPLICATION FROM SAN DIEGO GAS & ELECTRIC (CONTINUED)

## 2009 ON-BILL FINANCING REBATE/INCENTIVE APPLICATION

Complete pages 4-6 and fax to 1-866-476-0357 or  
email SDGEOBF@semprautilities.com

### Authorization to Permit Contractor to Receive Customer Account Information and Act on Customer's Behalf

For each of the items initialed below, Customer hereby authorizes the contractor listed in this Application to act as its agent and consultant for the Utility account listed in this Application and to perform the specific acts and functions in each such initialed item.

#### (Applicant must initial each applicable statement)

\_\_\_\_\_ Check with SDG&E regarding Customer's eligibility to participate in any or all of the Eligible Programs and, if applicable, make a reservation of funds for any of the Eligible Programs, and request and receive Customer's account information for the Utility account listed in this Application, including billing records, billing history, meter usage data, and verification of rate and related information.

\_\_\_\_\_ Check with SDG&E regarding Customer's eligibility to participate in the OBF Option, and request and receive Customer's account information for the Utility account listed in this application, including billing records, billing history, meter usage data, verification of balances on the account, discontinuance notices, and verification of rate and related information.

\_\_\_\_\_ Schedule an SDG&E energy assessment and any required inspections on Customer's behalf and request and receive the results of such energy assessments and inspections.

Customer hereby authorizes the release of its Utility account information and authorizes the contractor to act on its behalf on the following basis:

#### (Initial one (1) category only)

\_\_\_\_\_ One-time authorization only (limited to a one-time request for information and/or the acts and functions specified above at the time and receipt of this authorization).

\_\_\_\_\_ One (1) year authorization - Requests for information and/or for the acts and functions specified above will be accepted and processed each time requested within the twelve (12) month period from the date of execution of this Application.

\_\_\_\_\_ Authorization is given for the period commencing with the date of execution of this Application until \_\_\_\_\_ (limited in duration to three (3) years from the date of execution). Requests for information and/or for the acts and functions specified above will be accepted and processed each time requested within the authorization period specified herein.

Customer certifies that the contractor listed in this Application has authority to act on its behalf, to request the release of information for the Utility account listed on this Application and to perform the specific acts and functions listed above which Customer has authorized, and Customer authorizes Utility to release the requested information on its Utility account to such contractor. Customer understands that Utility reserves the right to verify any authorization request submitted before releasing information or taking any action on the customer's behalf. Customer hereby agrees to release, hold harmless, and indemnify Utility from any liability, claims, demands, causes of action, damages, or expenses resulting from: (1) any release of information to the contractor listed herein pursuant to this authorization; (2) the unauthorized use of this information by the contractor listed herein; and (3) from any actions taken by the contractor listed herein pursuant to this authorization. Customer understands that it may cancel this authorization at any time by submitting a written request.

\_\_\_\_\_  
AUTHORIZED CUSTOMER SIGNATURE

\_\_\_\_\_  
DATE

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## NOTES

1. Source: Energy & Security Group; Home-based businesses are beyond the scope of this paper.
2. U.S. Energy Information Administration, <http://www.eia.doe.gov/environment.html>; accessed September 2009.
3. Andy Bollman, E.H. Pechan & Associated, SBA Office of Advocacy, Washington, D.C., April, 2008. The largest businesses are defined as those with more than 1,000 employees.
4. National Small Business Association, “2009 Energy Survey of Small Business,” April 2009.
5. Kyra Naumoff, California Air Resources Board, Personal Interview, September 2009.
6. Based upon discussions with Hank Ryan, Small Business California.
7. Thomas Philips, Personal Interview, Efficient Lighting and Maintenance, Connecticut, September 2009.
8. Bob Harvey, Energy Solutions, Personal Interview, August 2009.
9. Frank Spasaro, Sempra Energy Utilities, Personal Interview providing background information on Sempra on-bill finance programs.
10. Dennis O’Conner, United Illuminating, Personal Interview providing background information on United Illuminating on-bill finance programs.
11. SBA Office of Advocacy, “Frequently Asked Questions,” Washington, D.C., September 2009.
12. Christina Lewellen, Air Conditioning Contractors of America, Personal Interview, August 2009.
13. These are represented by national associations including the Association of Energy Engineers (<http://www.aeecenter.org/certification/>), the American Lighting Association (<http://www.americanlightingassoc.com/>) and the National Association of the Remodeling Industry (<http://www.nari.org/homeowners/>).
14. Bob Harvey, Energy Solutions, Personal Interview, August 2009.
15. Center for Small Business and the Environment, “Small Wonders,” Washington, D.C., 2009, <http://www.smallwondersreport.org/report.html>.

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16. Center for Small Business and the Environment, “Small Wonders,” Washington, D.C., 2009, <http://www.smallwondersreport.org/report.html>.

17. Christopher Lynch, Director, Pennsylvania Small Business Development Center, Personal Interview, September 2009.

18. Pennsylvania Small Business Development Centers, “Lighting Upgrades Show Bright Future,” 2009.

19. SDG&E, “Radisson Case Study,” 2009.

20. Note that many existing programs may be run by utilities that do provide either natural gas or electricity (but not both) so such savings results in those utilities would reflect only one fuel. Energy, greenhouse gas and emissions savings estimates require assumptions and accurate data about natural gas and electricity use as well as data about energy prices and greenhouse gas emissions factors. Such data is available for the commercial sector and industrial sectors, but no entity collects data on the full range of state by state small business energy consumption. As a result, the data presented here reflects an assumption that the national average small business electricity and natural gas consumption holds true for each state. Data assumptions about greenhouse gas emissions factors are drawn from the U.S. EPA Greenhouse Gas Equivalencies Calculator (<http://www.epa.gov/cleanenergy/energy-resources/calculator.html>). Data assumptions for commercial energy consumption are drawn from the Department of Energy EIA CBECS data set; manufacturing data is drawn from the Department of Energy MECS; energy price data is drawn from EIA Annual Energy Review ([www.eia.doe.gov](http://www.eia.doe.gov)).

21. The Energy and Security Group provided this data analysis specifically in support of this paper.

22. Federal lending laws include the Truth in Lending Act, Fair Credit Opportunity Act, Fair Debt Collection Practices Act, and the Federal Fair Credit Reporting Act.

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## ACKNOWLEDGMENTS

The author acknowledges the substantial support of Tom Sullivan in the Washington office of Nelson Mullins Riley & Scarborough, LLP and Kyle W. Kempf of the National Small Business Association. Both provided helpful guidance in the outlining of this document as well as review comments. The author also gratefully acknowledges the information provided by the U.S. EPA ENERGY STAR® program, Christopher Lynch of the Pennsylvania Small Business Center, the California Air Resources Board, Frank Spasaro of Sempra Energy Utilities, Dennis O’Conner of United Illuminating, Byron Kennard of the Center for Small Business and the Environment and Hank Ryan of Small Business California. The author particularly appreciates the support and cooperation of Steve Bell of the Energy & Security Group for quantitative analysis of energy and greenhouse gas emissions, and research assistance of Heather Braithwaite.

This paper was sponsored by the National Small Business Association, with funding from the Bipartisan Policy Center. Since 1937, NSBA has advocated on behalf of America’s entrepreneurs. A staunchly nonpartisan organization, NSBA reaches more than 150,000 small businesses nationwide and is proud to be the country’s first small-business advocacy organization. For more information, please visit [www.nsba.biz](http://www.nsba.biz).

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