

U.S. Department of Energy Energy Efficiency Conservation Block Grant Better Buildings Neighborhood Program

Wisconsin Energy Efficiency Program (Me², Green Madison, and Re²)

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EXPERIENCE. INNOVATION. RESULTS.

Executive Summary

The Wisconsin Energy Efficiency (WE2) Program delivered residential and commercial programming for the City of Milwaukee (Me2) and the City of Madison (Green Madison) as well as commercial only programming for the City of Racine (Re2). Direct incentives and loan products for homeowners and business owners were offered for with the goal of achieving at least 15 percent in energy savings. Throughout the program timeframe, many changes were implemented to react to the changing energy efficiency marketplace, the challenging economic times of the Great Recession, as well as directly responding to the needs of the targeted audiences. At the time of this report, there were more than 2,000 residential energy efficiency upgrades completed (including single family and multi-family) and more than 300 commercial energy efficiency upgrades completed. The average energy savings for the WE2 Program's portfolio of residential and commercial projects exceeds the goal of 15 percent and is closer to 30 percent energy savings. Combined energy savings of both residential and commercial activities were: 20,937,369 kWh; 1,018,907 Therms; and 31,655 gallons of heating oil; or at least 332,788 MMBTUs; or at least \$3,444,828 in estimated energy costs saved. Conservative economic impact estimates include the employment of more than 100 residential auditors and contractors, more than 90 commercial contractors, and more than \$41 million in total project costs expended in the targeted communities.

WECC, along with the Partner Cities, attempted to create energy efficiency programming that helped to increase economic activity, increase workforce opportunities, and save energy in three of the largest communities in Wisconsin. Homeowners were assisted through the residential process by Energy Advocates, consultants, contractors, and trade allies. Business owners were assisted through the commercial process by Program Advocates, contractors and trade allies. Contractors in both the residential and commercial programs were educated and trained by the many offerings provided by WECC and other program partners. Together, WECC, Milwaukee, Madison, Racine, Energy Advocates, Program Advocates, trade allies, auditors, contractors, homeowners, and business owners made the WE2 Program successful.

The most prominent innovative approaches employed in the Me2 and Green Madison programs for residential retrofits were: use of a loan loss reserve approach to improve access to lower cost financing; a primary focus on "community-based" marketing and outreach through local organizations to attract program participants; use of Energy Advocates to facilitate homeowner understanding during participation of the retrofit process; increase in financial incentives, especially to achieve higher project savings; and additional building science and sales training for participating contractors, as well as the use of a Community Workforce Agreement (CWA) as part of a "high road" economic development process in the Me2 and Green Madison programs.

The most prominent innovative approaches used in the commercial building retrofit programs for the Me2, Green Madison and Re2 programs were: development and use of innovative, improved customer financing through loan-loss reserves for small commercial building retrofits; cash collateral advance account for larger projects which mitigated the financial risk of lenders; and the ultimate development of a Commercial Property Assessed Clean Energy (C-PACE) program in the City of Milwaukee. Other approaches included: increased customer financial incentives, especially for small commercial projects, in excess of the incentives available from the Focus on Energy program. Each Partner City's commercial program was built on existing Focus on Energy programming, which allowed the WE2 Program to leverage experience from Focus on Energy personnel to help promote participation, and encourage more extensive retrofits.

Several legacy items will continue into the future, while there will be ongoing attempts to create a sustainable program. In the future, homeowners in Milwaukee and Madison will continue to have opportunities for incentives through the State of Wisconsin's public benefits program, Focus on Energy, as well as loan products being offered through Milwaukee Energy Efficiency (Me2) and Green Madison. Similarly, business owners will continue to benefit from incentives through the State of Wisconsin's public benefits program, Focus on Energy, as well as loan products being offered through Milwaukee Energy Efficiency (Me2) and Green Madison. Finally, the most recent development and implementation of

Commercial Property Assessed Clean Energy or C-PACE for large commercial building owners or business owners in Milwaukee may have substantial economic impacts in Milwaukee. C-PACE may have similar impacts in Madison should they chose to implement the program in the near future.

The WE2 Program's immediate economic activity, workforce development, and energy savings coupled with long-term opportunities such as C-PACE provide a strong platform for the future, and could have only been created through meaningful collaboration.

Final Technical Report

Institutional Design and Business Model

The WE2 Program consisted of a cooperative approach of the Cities of Milwaukee, Madison and Racine, together with WECC, to develop and administer energy efficiency building retrofit programs. This cooperative approach was set forth in agreements with each of the Cities and WECC establishing the general principles and specific terms for the allocation and oversight of the use of grant funds. However, a key attribute of this cooperative effort was that each community would determine the specific program designs and attributes within its area, albeit recognizing that economies of scale and other benefits from a common program design were very important beneficial considerations to all. As a result, while the Cities decided to pursue separate programs (Me2, Green Madison and RE2), the core elements of these distinct programs were common ones, so that “lessons learned” in one community could help inform potential improvements in another community.

The WE2 Program involved residential and commercial retrofit markets. The Cities of Milwaukee and Madison chose to develop and implement programs in both sectors, while the City of Racine (due to a smaller grant fund allocation) decided to focus on the commercial retrofit sector. Efforts in both market sectors built on the existing statewide Focus on Energy programs. Specifically, the WE2 residential program offered in the Cities of Milwaukee and Madison built on the Home Performance with ENERGY STAR model which is based on the use of private energy assessors and contractors with customer financial incentives, while the commercial programs built on the Focus small and large commercial segment programs in which the primary attributes were an initial assessment of some level and customer financial incentives.

The institutional model for the WE2 Program efforts was to use the WE2 grants to build on the existing statewide Focus on Energy programs administered by a third party for the state’s utilities to: attract additional private lenders and providers to offer improved, attractive services to more potential customers while also testing improved program designs to mitigate barriers to customer to undertaking comprehensive retrofit activities. Thus, WECC and the Cities partnered with the Focus on Energy program, community organizations, market providers and lenders, and available city resources to offer expanded resources and options to achieve residential and commercial retrofit savings of at least 15 percent per project and a significant increase

Program Design

The key add-on to the Focus program designs and attributes for the WE2 program varied by sector. For the residential programs, the Me2 and Green Madison programs added several targeted program design attributes intended to increase overall program effectiveness both in terms of the breadth (overall retrofit projects) and depth (savings per project). The most prominent attributes added to the Focus program design were:

- The use of improved, easier access to financing at a reasonable cost for more potential residential participants that could make it more affordable to undertake more comprehensive energy saving projects.
- The use of “Energy Advocates” to facilitate participants through the program process and better understand the nature and scope of available energy efficiency savings/benefits.
- A reliance of more targeted “community-based” marketing and outreach with an aim to create a community buzz about the program that would increase interest and participation in the program.
- Attention to efforts to improve the quality and availability of trained energy efficiency assessors and contractors to both promote and perform retrofits (including developing a Community Workforce Agreement).

The WE2 Program was built on the platform of helping homeowners and business owners save environmental and financial resources through energy efficiency. The Program included:

- A hands-on approach to meet quantifiable and lasting energy savings
- Partnerships with key market channels (e.g., contractors, consultants and retailers) to deliver cost-effective and lasting value to consumers
- Ease of participation and rewarding customer experiences
- Flexibility and innovation

The Program was offered within three Wisconsin cities:

- Madison (Green Madison)
- Milwaukee (Me2)
- Racine (Re2)

These cities enabled whole house or whole building energy efficiency improvements by establishing and maintaining a strong program team, both in the field and in the office, proactive and reactive approaches were possible.

The WE2 Program was a turn-key design utilizing customer support personnel as well as industry experts to deliver and implement whole house / whole building retrofit energy efficiency services. The Program components were as follows:

Roles/Personnel

- Consultant (Green Madison and Me2): BPI certified, Home Performance with ENERGY STAR technical professional who provided pre and post energy assessments in houses. The consultant is an unbiased, third-party representative who works on behalf of the homeowner to ensure the appropriate measures are installed correctly.
- Contractor: Insulation/air sealing, HVAC, Electric, Plumbing or Process professional who installed the recommended energy efficiency measure.
- Energy Advocate (Green Madison and Me2): a customer service employee of the program administrator who served as a “hand holder” for the homeowner – assisting with setting appointments, filling out paperwork, explaining program details, etc.

Program Description

The WE2 program targeted residential and commercial whole house/building retrofit energy efficiency. To help customers identify and implement efficiency upgrades, specific program design elements included:

- Cash back incentives
- Financing options
- Personal representative (Energy Advocate – residential only)

Although minor program design elements differed at times within the cities, the overall program descriptions are as follows:

Residential

An Energy Advocate was assigned to the homeowner. The Energy Advocate performed a walk through energy audit, discussed program details with the homeowner and provided the homeowner with a list of participating consultants. The homeowner then scheduled an energy assessment appointment with a consultant on behalf of the homeowner..

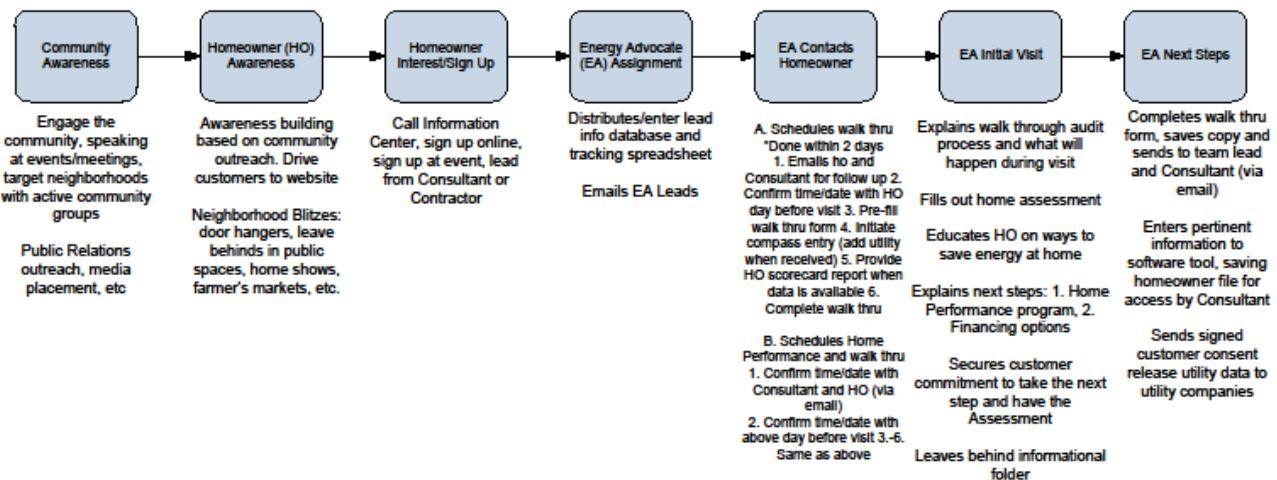
A consultant performed a Home Performance energy assessment including a blower door and health and safety checks. The consultant entered the assessment findings into a software program and prepared a report for the homeowner, outlining the recommended energy efficiency improvements. The report was sent

to the Energy Advocate who scheduled another visit or telephone call with the contractor with the homeowner to review the findings.

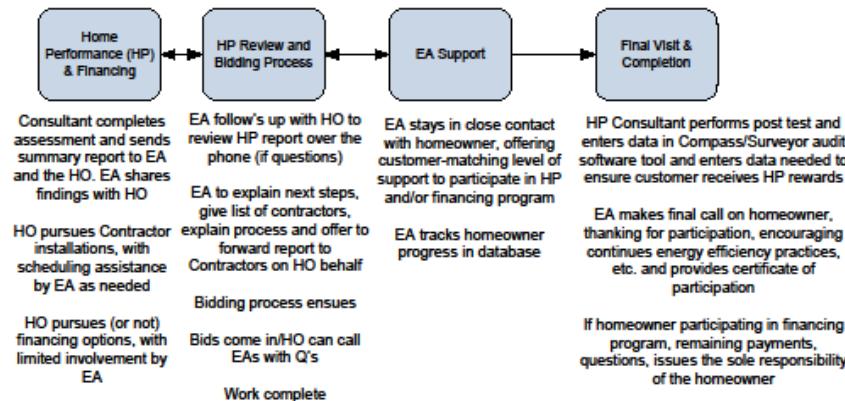
The homeowner then decided which improvements to implement and contacted or sought a bid from one of the participating contractors to schedule the work. The homeowner also pursued the financing option if interested.

The contractor performed the work and the consultant completed a post assessment, verifying the work performed by the contractor. The consultant then gathered all invoices, updated the software program, marked the job as “completed” and submitted the paperwork for payment. A job was approved for payment until a Certificate of Completion signed by the homeowner and the contractor was submitted to the program stating that each acknowledges and approves the work performed. If financing was used by the homeowner, the signed Certification was the necessary notice to the lender that the loan could be consummated and the loan proceeds distributed.

Customer Recruitment, Scheduling and Initial Visit



Energy Efficient Improvement



Commercial

The WE2 Commercial Program paired affordable financing options with program incentives, existing Focus on Energy incentives and federal tax credits (if available and applicable) to allow business property owners or tenants to pay for efficiency upgrades to their buildings while they reap the savings on their energy bill.

There were two segments of the WE2 Commercial Program: the first focused on the small commercial market typified by various retail businesses, and the second focused on larger commercial real estate buildings to reflect both the different energy efficiency measure interests and decision making processes embodied in each segment. The WE2 Small Commercial Program worked closely with local contractors and retailers, especially through the Focus on Energy Small Commercial Program. The larger commercial market program personnel worked with energy service companies and providers, especially to identify develop comprehensive projects in commercial office space. As explained more fully in the subsequent Financing section, a loan loss reserve financing model was used in the small commercial sector, while more customized financing vehicles were required for larger projects.

These program options were only available to property owners and tenants if they utilized WE2 Participating Contractors and if the proposed project was reasonably estimated to achieve a 15 percent energy usage savings reduction in the area impacted by the energy efficiency improvement project. Property owners worked directly with participating contractors who installed the efficiency measures and submitted the appropriate paperwork. The Program Administrator offered oversight of the owner and contractor relationship as well as program support. Focus on Energy's Energy Advisors also assisted property owners in identifying efficiency upgrade opportunities.

Customer Experience

The overall customer experience with the WE2 Program was positive, although areas for improvement exist. Overwhelmingly, customers appreciated the tiered higher incentives and bonuses offered through the program. However at times, that message may have overshadowed the improved energy efficiency message and lasting financial impact the improvements, which may have been influenced by the severe economic conditions at the time.

Customers were introduced to the program through a number of ways, including:

- Neighborhood events
- Mass marketing (billboards, newspaper, etc.)
- Websites
- Community meetings
- Door-to-door canvassing
- Yard signs

Upon signing up for the program, via phone, online, in-person or referral, the customer was connected with an Energy Advocate or participating contractor. Program staff and/or Focus on Energy's Energy Advisors were also available to assist commercial property owners with recommended efficiency improvements. The Energy Advocate or contractor served as the customer's personal program liaison. The Energy Advocate or contractor met in- person with the homeowner/business owner to explain the program and maintained that presence with the customer throughout the duration of the program. In many cases, the customer developed a bond and high level of trust with the Energy Advocate or contractor who became their program champion. Customers appreciated the face-to-face contact and felt they were being heard.

A few customer testimonials include:

"The difference in how much warmer our house is in the winter and cooler in the summer is AMAZING! YES, YES, YES I recommend this program to everyone!" *Amanda, Me2 homeowner*

"I was surprised that the most cost effective way for us to save energy was to blow insulation into the walls. I had assumed that our area of most heat loss would be the attic, but that actually had some insulation, whereas our living space had no insulation at all." *Merci, Me2 homeowner*

“I am happiest with the air sealing and insulation. After the post-test assessment was completed, I could see first-hand the future cost savings on my electric and gas bills.” *Scott, Me2 homeowner*

“Man what can I tell you; the workers were great they took pride in their work; they did a fantastic job with some of the problems they ran into and still completed on scheduled. From day one I felt a tremendous difference in the comfort level of the home. The walls really retain heat I do not have cold spots in the home anymore. This year’s winter probably helped a lot since it was a mild one. I am happiest because it is within my budget.” *James, Me2 homeowner*

“I have a room over my garage which my kids have always called the “cold room” because it is freezing all winter and I had to put a little oscillating space heater in there in order for anyone to use it. Since I had the ceiling of the garage insulated and the attic overhead, I have not needed to use the heater. The difference is incredible. The people I worked with were wonderful – neat, reliable and efficient. They went above and beyond and always asked at the end of the day if everything was up to par. I have lowered my heat setting and we have been experiencing frigid temperature so I know the insulation is making a huge difference. I am so grateful for the financial assistance too. This has been a wonderful experience (and I certainly never thought I’d say that about insulation!)” *Barbara, Green Madison homeowner*

“I was impressed with how concerned Green Madison staff members were in helping us go through the process. The steps that were involved were explained clearly and I knew exactly what I needed to send in to be considered for the program.” *Journey Mental Health Center, Green Madison business*

“We were very impressed with the expertise and frank advice provided in the assessment report. It really provided a road map for us, prioritizing issues in a way that made sense and educating us about our home’s structure and systems in a way that we’d never thought about before.” *Matt, Green Madison homeowner*

“I would definitely recommend this program for the expert advice and financial incentives offered.” *Richard, Green Madison homeowner*

Providing excellent customer service was an ongoing performance expectation of all WE2 Program staff and partners. Quality control measures assured customer needs were being met. Energy Advocates and contractors fulfilled their role of being the go-to person for the customer. All told, the customer experience was positive, thorough and rewarding.

Driving Demand

The WE2 Program adopted a two stage rollout, opting for a one to two month “soft launch” in Milwaukee and Madison followed by a full-blown marketing blitz. The soft launch was conducted to test the market and program operations, assuring all processes, resources and tools were working as planned. Individual city program (Me2 and Green Madison) websites were rolled out announcing the program and inviting customers to participate. Each new customer was assigned an Energy Advocate of the program to officially begin the process. After the soft launch, a full-fledged marketing and outreach campaign was implemented and continued throughout the duration of the program.

The Racine commercial program launch occurred in early 2012.

Tactics

Tactics used throughout the program were wide-ranging, and included:

Mass Marketing

- Websites
- Billboards

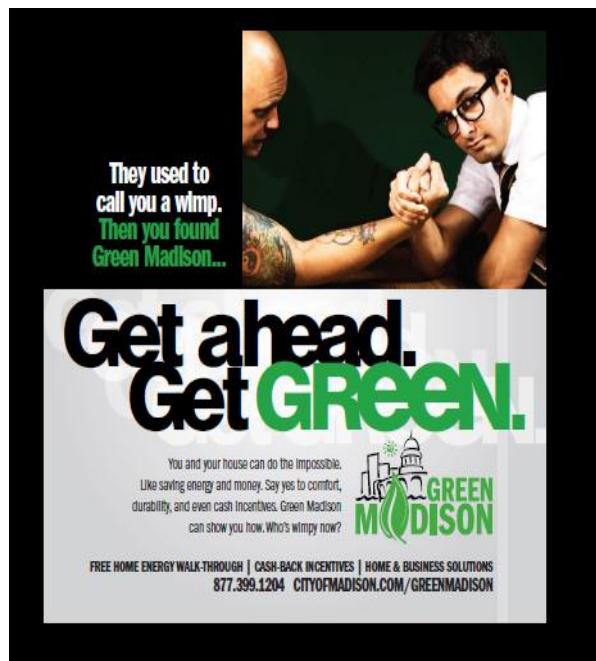
- Direct mail
- Public relations
- Media events
- Retailer partnerships
- Bonus promotions
- Social media

Targeted Marketing

- Door hangers
- Yard signs
- Neighborhood events
- Community events
- Contractor/consultant referrals
- Program fact sheets
- Flyers
- Posters
- Window Clings

Marketing Message

Improved energy efficiency, having a more comfortable home and lower energy bills were the primary messages used throughout the program.



Me²
Milwaukee Energy Efficiency
Smart energy pays.

Referral Rewards Program

Me² helps City of Milwaukee homeowners make energy saving home improvements.

Now, Me² is giving you the opportunity to earn energy saving gifts and monetary rewards for referring your friends, family, co-workers, and neighbors!

\$50 VALUE!
Introducing the Philips L Prize® Winning LED

The Philips Award Winning LED Bulb is the efficient alternative to a standard 60 watt incandescent bulb. The unique design provides over 1000 lumens of light with only 10 watts of power.

- Saves \$12/year based on 2000 hours of use
- 30,000 hours usage life (30x conventional bulb)
- Contains no mercury
- Winner of the L Prize from the U.S. Department of Energy

Get your Me² Referral Rewards. It's simple!

- 1 Clicking the REFER A FRIEND button on SmartEnergyPays.com
- 2 Receive your Philips LED bulb in the mail!
- 3 Receive a \$50 Visa gift card for each referral who signs up for Me². Your friend will receive a \$50 gift card too!

www.SmartEnergyPays.com

PROTECT YOUR FAMILY FROM HIGH ENERGY BILLS THIS FALL

PACK HEAT

Me²
Milwaukee Energy Efficiency
Smart energy pays.

Subheadline would go into this area.

Copy about how great this program is would go here for people to read.

Copy about how great this program is would go here for people to read.

Energy Advocates

WE2 customer outreach not only used consistent messaging and target tactics, but also maintained customer involvement and buy-in through the Energy Advocates and the consultant-contractor model. Guiding customers through the entire process was a key component to the Energy Advocates' role and was proven to be effective in generating results. Upon signing up for the program, the customer was contacted by an Energy Advocate within 48 business hours. At the conclusion of the initial customer meeting, the Energy Advocate would provide customers with program materials and instructions on the next steps to move their project forward. Yard signs were provided to enhance word-of-mouth marketing within neighborhoods. Additionally, program consultants and contractors utilized referrals to encourage existing customers to participate in Me2, Re2 or Green Madison.

Effective Strategies

The following strategies proved to be most effective at driving qualified homeowners and businesses to participate in the We2 program.

Neighborhood Meetings

Energy Advocates along with city staff made their presence known by attending nearly 100 neighborhood events each year between within the three partner cities. The programs were promoted at events the included monthly neighborhood association meetings, church forums, block parties, as well as many others. This type of grassroots marketing helped drive word-of-mouth advertising from neighbor-to-neighbor, ultimately increasing consistent participation within particular city neighborhoods.

Limited Time Sales and Bonuses

A major barrier of entry into the program on the residential side was having homeowners pay for the initial energy assessment. While it was determined that these assessments should have a cost to help establish a commitment from the homeowner, reducing the up-front cost for limited periods of time drove higher participation while maintaining qualified homeowners entered the program.

Limited time sales and contractor bonuses also achieved the desired goal of increasing project completions during typically slower time of the year (summer, end of winter). Promotions often featured a bonus incentive for the homeowner and a separate incentive for the contractor. This push-pull strategy proved effective in keeping the programs' funnel full during the off seasons.

Utility Partnership

In Madison, the Green Madison program was able to form a partnership with the local energy utility, Madison Gas & Electric (MGE) nearly from the program's launch. Through this partnership with MGE, ads were placed in more than 30 neighborhood association newsletters and a joint presence was maintained at many energy efficiency events. This partnership proved effective as the majority of Madison residents have a favorable and trustworthy opinion of MGE.

End of Program Push

As the program drew to a close, limited-time and last chance messaging was conveyed to customers to prompt them to act. The effectiveness of that messaging became evident as contractors' schedules quickly became full and project completions increased three-fold.

Through effective outreach and messaging, customers within the targeted cities were exposed to the WE2Program with many people taking up the call to action and improving the efficiency of their home or business.

Workforce Development

As one of the goals for the Better Buildings Neighborhood Program is job creation, WECC utilized several methods to recruit and then train or mentor contractors for the program.

Participating Contractors

A Request for Qualifications (RFQ) was created at the onset of the program which included all of the information about the program including the program goals and anticipated outcomes as well as all federal and city program requirements. These RFQ's were initially distributed to a list of all contractors in the demographic regions where the program was being implemented and then added to the cities websites under a section created for contractors. The program also allowed for continued open enrollment for contractors in the targeted markets. Contractors were instructed to read through the RFQ and the attached Participation Agreement. Once it was completed, submit the RFQ to WECC's Compliance Analyst. The Compliance Analyst then performed a background check to ensure that the contractors applying for admission would be able to be safely admitted into a home or business.

The Compliance Analyst worked with each contractor, assisting them with meeting program requirements, gathering and providing necessary information (proof of insurance, licenses, certificates, waste management plans, etc.). There was no entry fee for contractors to join the program, so those contractors with a smaller workforce were not excluded from the program based on costs. Once the contractors were approved to participate in the program they were provided with marketing information, including the program logos and contact information for the marketing staff at WECC who could assist them with promoting the program through their own marketing channels.

The approved contractors' contact information was then added to a Participating Contractor List which was posted on the program's website.. Each city program maintained a unique website, with a list of residential and commercial contractors. The lists utilized a symbol method, identifying those types of services that each contractor was able to provide (i.e. lighting, insulation, HVAC, plumbing, solar, etc.) to assist customers with contractor selection. Some contractors were able to offer "full service" and were identified by a green leaf symbol to let customers know that these contractors provide a "one stop shop." These "full service" contractors entered into agreements with other Participating Contractors, allowing the lead contractor to bid on projects on their behalf and represent any subcontractors on that job. Full Service contractors agreed to use only Participating Contractors on their team to enforce program flow-down requirements.

Community Workforce Agreement

Two of the three cities in the program utilized a Community Workforce Agreements (CWA) to promote fair wages, unemployed and underemployed workers and commitment to providing a safety-trained workforce in

which all onsite workers had completed the OSHA 10 safety training as well as an Environmental Hazard Awareness training.

The City of Milwaukee included a requirement in their CWA that contractors would agree to utilize unemployed or underemployed residents of the City of Milwaukee to complete a minimum of 40% of the total hours on each project. The Residential Preference Program (RPP) concept was to create jobs to those workers that had been unemployed for 30 days or had worked less than 1200 hours in the past 12 months. Contractors were provided with several organizations that they could work with to recruit workers that met this requirement. In addition to providing work to these unemployed or underemployed workers, RPP workers were provided with training that they received through the program to make them more marketable. Many Participating Contractors utilized workers through Wisconsin's apprentice program so these workers could work towards completing their apprenticeship while making a fair wage.

Both the cities of Madison and Milwaukee also included a minimum wage of \$17 per hour for all workers in the residential program, while the prevailing wage (Davis Bacon Act) was a requirement for the commercial program.

The RFQ, in addition to CWA terms, included program rules and requirements such as timelines for submitting reports, job hour reporting, meeting customer expectations and customer service standards. The RFQ also outlined the paths for contractor remediation and or removal from the program in the event that complaints were received and program requirements were not met. As part of the participation agreement, contractors agreed to the following measures to assist in ensuring quality installations: program staff allowed to accompany them on installations, install materials in a workmanship manner and in accordance with manufacturer specifications, and to warranty all work for a period of at least one year.

Workforce Training

Multiple training opportunities were provided for the employees of the Participating Contractors. The goal of these trainings was to create a well-trained workforce which would lead to market sustainability once the program ended. Several trainings were required as outlined in the CWA and contractors had to agree to provide these trainings to their workers in order to become a Participating Contractor.

Safety

All contractors wishing to become a Participating Contractor in any of the three city programs were required to have a safety-trained workforce. OSHA 10 hour course was selected as the minimum safety course and all contractors had to agree that any onsite worker held an OSHA 10 training certificate. Contractors who had untrained workers were mandated to have their workers trained within 90 days of the first available training date offered by WECC. Trainings were hosted in both Madison and Milwaukee several times throughout the grant period and contractors were given the option of having their workers attend these WECC-sponsored training programs or enlist their workers in an OSHA 10 course on their own. Contractors were provided with website links to on-line OSHA 10 trainings that might fit their workforce needs better than an onsite training. Forty-four workers were trained in OSHA 10 safety through the WECC offered OSHA 10 courses.

Environmental Hazard Awareness

With safety being such a strong training goal, Participating Contractors were also required to have all onsite workers receive Environmental Hazard Awareness training. This class consisted of lead and asbestos awareness. The goal of these courses were not to train workers on how to remediate lead and/or asbestos, but to be able to identify it on the job site and know what steps to follow where remediation by a certified lead or asbestos abatement professional would be required. Workers already certified as lead safe workers or licensed in asbestos remediation through the State of Wisconsin were not required to attend the trainings. Again, many training courses were offered in both Madison and Milwaukee and for those contractors who could not get all of their employees training through these courses, options were given for them to attend the same course at the Milwaukee Lead and Asbestos Training Facility. In total, 268 individual workers were

trained in Environmental Hazard Awareness through the WECC offered courses offered for Participating Contractors.

BPI RBE-WHALCI (Building Performance Institute Residential Building Envelope Whole House Air Leakage Control Installer)

All residential Participating Contractors providing insulation services were required through the Participation Agreement to have at least one onsite employee trained as a Building Performance Institute (BPI) Residential Building Envelope Whole House Air Leakage Control Installer (RBE-WHALCI). The program offered a BPI RBE-WHALCI Orientation to allow for workers already familiar with insulation installation to become familiar with BPI RBE-WHALCI requirements. Forty-five workers attended these trainings, held in both Madison and Milwaukee for residential contractors. WECC staff or Keith Williams, with Building Services & Consultant, were able to administer the BPI RBE-WHALCI exam for contractors seeking certification. Given the mature market of insulation installers in each target community, most firms working in the programs had staff able to successfully complete the BPI RBE-WHALCI field exam without further extensive preparation. The program also allowed for equivalency of a comparable LiUNA certification, Weatherization Trained Installer, offering a path to employment for workers trained through LiUNA.

Quarterly Contractor Update Meetings

WECC held quarterly meetings in both Milwaukee and Madison in which all Participating Contractors were invited. These quarterly meetings were held to keep contractors up-to-date on changes to the program, provide updates on training opportunities, and to answer any outstanding questions. Contractor feedback was always solicited in these quarterly meetings in an effort to refine the program, and work to meet contractors' needs.

Subjects covered program include: financing, incentives, compliance, reporting requirements, customer service and installation best practices. Representatives from Summit Credit Union, the organization selected to provide financing for program projects, attended contractor program updates on numerous occasions to present the loan product and provide personal contacts for the contractors in each market as well as to stress the ease of the process for both contractors and loan applicants. When the program launched the tiered incentive structure in 2012, contractors were provided with all details required to leverage program incentives in their business practices. Program compliance and reporting requirements were covered extensively in each update meeting for both residential and commercial Participating Contractors. Timelines for requirements to provide assessment reporting, place estimates, provide installation, make any necessary corrections and report job hours were outlined at each meeting.

Infield Training and Mentoring

Activities related to infield training and mentoring were performed for the residential program. Energy Advisors accompanied energy engineers on commercial assessments to ensure that the engineers understood the program requirements. In the residential programs, experienced Participating Consultants were utilized. Each of the Participating Consultants were both RESNET/HERS and BPI certified at the onset of the program. The WE2 Program conducted one HERS/BPI Building Analyst training in Milwaukee at the launch of the residential program to bring in new market providers. As part of their HERS certification, each Participating Consultant had previously undergone, or conducted through the program, a total of five mentored site visits in the presence of a trainer or qualified program staff.

Contractor training and mentoring was offered on an ad-hoc basis. Program staff was available to go onsite with contractors for difficult installations or where quality issues were identified that required corrections. With the use of a third party building performance consultant conducting the assessment for residential projects, each contractor had access to an expert to answer questions specific to the project that might arise in the course of the installation. Where contractors new to the building performance field or to the program, additional job site monitoring was provided.

Sales Training

The WE2 Program offered multiple opportunities for contractors to enhance their ability to sell energy efficiency projects. In the commercial programs, Focus on Energy's Energy Advisors were able to accompany contractors onsite while performing sales calls. The Energy Advisors were able to help contractors navigate the statewide Focus on Energy Program incentives in addition to the requirements of the commercial programs. The commercial programs held routine contractor meetings in each target market to reinforce sound sales practices throughout the entire program period.

In addition to covering program requirements, Program updates offered contractors with sales tips, feedback from previous customers, and best practices in using energy savings information to sell projects. Many contractors did not previously have experience in using offset energy savings in their sales presentations. The residential program update meetings also provided a forum for contractors to mingle with each other and share feedback. The program invited contractors with success stories to share with other contractors and create a positive peer exchange in an otherwise competitive environment. In Milwaukee, the program offered a Dale Carnegie Sales Training for Participating Contractors and Consultants. As the training was funded through Milwaukee, the program benefit was limited to contractors with either a physical business or residence within the city limits. Restricting attendance assisted in strengthening contractors within the city limits, further forwarding program goals of developing a robust energy efficiency contractor base in the community. Seventeen Participating Contractors and Consultants attended this training. The training promoted the concept that "sales" is not a dirty word, and encouraged contractors to establish good rapport with perspective clients rather than solely being onsite to place an estimate. The training also helped contractors to overcome barriers frequently encountered. Information from the training was also shared to all participating residential contractors in both Madison and Milwaukee in subsequent program updates.

Davis Bacon Compliance

Many of the commercial Participating Contractors had no experience with Davis Bacon or filing certified payroll reports. For each commercial project that was awarded, an e-mail was sent from WECC's Compliance Analyst to all contractors on the awarded project outlining the federal and city requirements for the project and walking the contractor through each requirement in detail. After the e-mail was sent, a follow up phone call was made by the Compliance Analyst answering questions and providing any additional support needed. Initially training was provided to all contractors on the requirements but it was soon discovered that it was more advantageous to provide this training as projects were awarded so that the information was provided in a timely manner.

Financing and Incentives

The WE2 Program included a mix of tiered financial incentives to promote deeper savings projects and, easy to access financing enhanced by grants to improve underwriting criteria, lower lending rate and other borrowing terms through credit enhancements that mitigated the risk to the lender. The level of incentives offered reflected both the bad economic times as well as the grant objectives of jump starting retrofit activity and getting funds into the local economy. The program recognized that both the substantive impact on improved terms and access as well as a customer-friendly, easy to use financing process were necessary to promote programmatic success.

Residential

WECC's approach to delivering a loan loss reserve was to demonstrate the value of the program to private financial institutions to encourage their participation. WECC staff members have extensive banking knowledge and understand financial institutions' concerns and how to address them. This, in turn, eased financial institutions' concerns, and allowed WECC staff to bring on fully engaged program partners. The end result is that low interest financing was made available to the program's customers. Lenders in the market were valuable trade allies in helping the customer's access financing and supporting the project's completion.

WECC performed targeted outreach to small and medium-size banks and credit unions that had previous experience with energy efficiency upgrades and retrofits. WECC's experience showed these types of financial partners are more likely to have similar customer goals to the grant program. Once financial partners were enrolled in the program, WECC created tools to assist the program's outreach. Financial institutions are heavily regulated and have restrictions on their ability to conduct business outside the norm. Our approach was to use staff members with significant banking experience who understood the needs of financial institutions to reach out to them and provide solutions to address their needs.

Equally important is delivering a strong loan product to the contractor network. Contractors are the key touch point to customers. Contractors understand how no money down and estimated monthly payments will facilitate closing the sale. WECC provided education and training on the benefits of the financing offer. We also leveraged program training so the contractors were well versed in the loan products, kept product explanations simple, and provided paths for quick applications via online decision making tools. These avenues for simple and quick applications lead to faster approvals with financial institution partners. WECC provided contractors the necessary tools to estimate monthly payments and information on how the financing is compared to alternative options.

WECC's loan product exceeded homeowner's expectations and facilitated their decision to make their homes more energy efficient and comfortable. By using targeted outreach, the program delivered 4.75 percent (up to 5 years) and 5.25 percent (up to 15 years) of unsecured loans up to \$15,000. This effectively cut market interest rates in half and doubled the available terms. A key deliverable was the elimination of FICO scores in the underwriting criteria, which allowed the program to dive deeper into the market. This offering was made possible by providing a 5% Loan Loss Reserve where 20:1 leverage was achieved. WECC is proud of this model as it captured more low to moderate-income households, provided significant loan capacity and lower monthly payments for homeowners.

For example, in the City of Milwaukee, WECC was very pleased that at least a third of approvals came from homeowners that had average to bad credit during a major recessionary period.

- 21 percent of loans had credit scores 699-641 (average)
- 10 percent of loans had credit scores 640-500 (bad)

Absent the WE2 Program's financing and WECC's ability to negotiate with the lenders, these homeowners would not have been able to fund projects, as they would have been declined due to lower FICO scores, and

homeowners would have been charged higher rates, or even could have been denied home equity loan options.

Included in the program offering for homeowners, were healthy incentives based on energy savings and audit buydowns. In both Milwaukee and Madison, homeowners received at least \$200 to cover the cost of the audit. In Madison, this took care of half of the audit cost. In Milwaukee, if a homeowner moved forward and completed a project, then the full cost of the audit was covered (the initial \$200 buydown plus an additional \$200 payment was provided after project completion). Besides the audit buydowns, additional incentives for increased energy savings were provided to homeowners in both Milwaukee and Madison. Incentives for homeowners were based on energy savings, these savings were calculated during the creation of baseline consumption during the audit, and then once the project was completed the final energy savings were re-calculated based on the estimated performance of the energy efficiency measures installed. If a homeowner was able to realize 5-9 percent savings the incentive equaled \$750; if a homeowner realized 10-14 percent savings the incentive equaled \$1,000; if a homeowner realized 15-24 percent savings the incentive equaled \$1,500; and if a homeowner realized 25 percent or more in savings the incentive equaled \$2,000.

Business

As part of WE2 Program, WECC designed and implemented project financing. WECC developed Smart Security, or a debt service reserve model, for the cities of Madison, Milwaukee and Racine as well as Commercial PACE (C-PACE) for the City of Milwaukee. The program design defined a small business loan as needs of \$20,000 or less while commercial financing has loan needs in excess of \$20,000. The program offered incentives in addition to the financing offers. The predominant product, debt service reserve, allowed property owners to use their bank of choice. The program provided reserves equal to 20 percent of the loan as a deposit to the bank to support the loan. WECC required the bank to provide documentation indicating how the loan terms improved based on the reserve. Projects received longer terms, lower interest rates and approvals that would not have occurred absent the WE2 Program.

The small business loan was supported via a loan loss reserve model with the same financial partner (Summit Credit Union) that the program had for residential programming. Leverage ratio in the Loan Loss Reserves was 20:1 with attractive loan terms of three, five and seven years. Interest rates were 5.25 percent; 5.75 percent; and 6.25 percent.

The Smart Security, or debt service reserve, was open to the customer's choice of financial institutions. Since business lending in this segment is project specific and has various underwriting criteria the program required the financial institution to provide documentation on how the transaction was improved for borrower with the reserve, such as having a lower interest rate, longer term, or less of a down payment.

WECC facilitated in-person meetings between building owners, lenders, contractors and city representatives in scoping out projects. WECC's banking experience was helpful in positioning the benefits to the lender given the substantive changes in the banking industry around regulations and procedures over the last four years.

Included in the program offering for business owners, were robust incentives based on the level of expected energy savings. In Milwaukee and Madison, business owners received 10 percent of the total project costs if the estimated energy savings were 10-19 percent; business owners received 20 percent of the total project costs if the estimated energy savings were 20-29 percent; and business owners received 30 percent of the total project costs if the estimated energy savings were 30 percent or more. In Milwaukee, the maximum incentive for business owners was \$300,000. In Madison, the maximum incentive for business owners was \$100,000. In Racine, incentives were based on \$0.10 per kWh; \$1.00 per Therm; and \$300 per KW.

Data and Evaluation

In order to track the many pieces of data needed to manage the operations of the program and meet US DOE reporting requirements several systems were utilized in addition to data provided by outside sources.

Residential

WECC Fulfillment Database

Upon entry into the program, a customer's information was entered into the fulfillment database. From there, Energy Advocate assignments were made and customer information was distributed to the appropriate residential participant tracking spreadsheet. WECC's fulfillment database is also used later in the process to pay any relevant incentives.

Residential Participant Tracking Spreadsheets

Excel spreadsheets were initially based on other past WECC programs that utilized the Energy Advocate model. The primary purpose for the Energy Advocates was to manage the assigned homeowners through the program and track some the information needed for reporting that was not captured by the audit tool. Data captured in this tool also supported internal reports on key metrics, such as the number of pre-assessments or audits and post-assessments or test outs. The tracking of the post-assessment data by the Energy Advocate in this spreadsheet enabled WECC to verify the receipt of all necessary paperwork from consultants and contractors.

Multiple training sessions were held with the Energy Advocates to teach them Excel basics and tips and tricks to better utilize and manage the data. Computer skills of the Energy Advocates varied a greatly, and learning the basics such as how to hide columns, freeze and split panes and use the filtering and sorting functionality proved to be extremely helpful. While a CRM system may have been preferable, the Energy Advocate Tracking Spreadsheet ultimately met the customer management and data tracking needs of the program.

PSD Compass and Surveyor

WECC used Performance Systems Development's web-based audit tool Compass, along with the built-in desktop application Surveyor for modeling energy savings. PSD integrated these tools with SalesForce.com which was used for creation of a report that fed residential building data into the quarterly program report.

Non-Residential

Non-Residential Customer Forms

In addition to having a well-documented process in place to streamline the data collection process for internal staff, several forms were created to streamline the process for end use customers. On the commercial side, staged forms were created to reduce the amount of time a business owner would need to commit by completing a lengthy form only to discover that the project did not qualify for the program. Once the project was determined to qualify for the program, a second form was requested that provided the program with the remaining information needed.

Customers are often hesitant to provide that information before they even know if they will qualify. By creating a process with staged forms customers were more likely to continue and program staff members were able to filter out unqualified projects initially. At project completion a customer would be asked to complete a Project Completion Form that would capture data needed for reporting such as total square footage and affected space. Program staff spent a great deal of time up front determining exactly what data was needed in order to manage the time customers spent completing paperwork, assuring that all data collected was relevant and necessary.

Non-Residential Participant Tracking Spreadsheet

Like the residential program, an Excel spreadsheet was used to track project-related data collected in the forms described above and project status.

Energy Saving Calculation Sheet

This Excel tool was developed jointly by WECC and City of Milwaukee staff to calculate the energy savings and incentives of proposed improvements. Incentives were based on the electrical demand of the building, energy savings as a percentage of total building energy use, and project cost. The contractor entered the existing building energy use, energy use of existing equipment to be replaced, and information on new equipment with itemized project cost. Its use streamlined the process so much that contractors were required to use this form in Milwaukee and versions were also developed and used in Madison and Racine.

WECC Fulfillment Database

A WECC fulfillment database was also used to process incentives and store final project cost and savings information.

Residential and Non-Residential

Job Hours Online Survey

WECC was initially using a commercially developed system for tracking job hours and materials. However, per unit project costs and time-burden of using this system was becoming prohibitive to the success of smaller contractors in the program. As a result, an online survey tool was developed in house using Key Survey. This tool received very positive feedback from contractors as it was much quicker and easier for them to use than the system used previously and required no fee to use. It was also easier to create an export and combine with other project data for reporting.

Loan Data

WECC's finance partner provided detailed loan level data for both residential and small commercial loans on a quarterly basis. The residential file was then supplied to PSD to import into the audit tool for the quarterly residential program report.

Utility Data

Three different utilities were involved in the WE2 Program. While the pre-retrofit data was usually supplied by the homeowner for the residential program, each had a different process for providing pre-retrofit non-residential data and post-retrofit data. One was able to provide ongoing, monthly exports for every release it received while the others required a request as data was needed. This meant requesting pre-retrofit data for non-residential customers as needed and monthly requests for the projects completed 15 months ago.

Evaluation

In addition to the regular data tracking and reporting, WECC conducted two internal process evaluations. One during the beginning of the program and the second is nearing completion. The earlier process evaluation had interviews with internal program staff including: energy advocates, market provider surveys, and surveys of both participating and non-participating homeowners. This evaluation identified areas that were working well, areas that were challenges, and several areas where improvements were recommended.

The second process evaluation included a program debrief conducted with program and partner city staff to assess their impressions of the program and lessons learned. Additionally, contractor roundtable discussions were held with the Milwaukee and Madison contractors who participated in the residential programs. Across the board, program staff and contractors agreed that the driving force behind customer participation were the high incentives. Most agreed that the one-on-one attention given by the Energy Advocates was also helpful. A couple of program challenges that people agreed on were: the financing package did not offer enough to interest many homeowners, and the amount of and process for handling paperwork at times was burdensome for contractors and homeowners.

Best Practices and Lessons Learned

- One of the keys to working with so many different systems was to have a common unique project identifier so information from all sources can be linked back to the project.

- Plan early not only to ensure that all necessary data is captured but for a system to verify receipt of data and a process for tracking down any missing information.
- Change things that aren't working whenever possible.
- Work to reduce the burden of data collection to the customer whenever possible.
- Have a system of checks in place to ensure accurate data.

Accomplishments

WE2 Program's SOPO Task 1.0 Program Sectors

WE2's Program will focus its efforts on the Residential and Non-residential markets. This division of focus will allow the team to successfully reach the desired impact. The sector-specific approach allows Wisconsin the capability to address all the necessary elements for a successful program - administration, program design, marketing and outreach, financing, measurement and verification, and workforce development - and is the key strength in meeting this criterion.

Action on WE2 Program's SOPO Task 1.0 Program Sectors

The WE2 Program was able to design, create, administer and implement programs in Milwaukee (Me2) and Madison (Green Madison) for both the Residential and Non-Residential markets. In addition, the WE2 Program also designed, created, administered and implemented a Non-residential program in Racine (Re2).

WE2 Program's SOPO Subtask 1.1 Residential

The Wisconsin Energy Efficiency (WE2) Project plans to build on a successful pilot conducted in the City of Milwaukee. The WE2 Project provides the opportunity for WECC and the Partner Cities of Milwaukee and Madison to apply implementation strategies that overcome customer and market barriers keeping customers from pursuing whole house energy efficiency retrofits. Building on this experience, the WE2 Project will offer citywide eligibility in the Partner Cities of Milwaukee and Madison, and will also implement targeted marketing activities for specifically selected neighborhoods in both Partner Cities. The objective is to achieve 2,500 residential retrofits over the grant period. Utilizing a tiered incentive structure, residential loans, and assistance from energy advocates the WE2 Project will implement a comprehensive whole house retrofit program. The WE2 Project is based on supportive service delivery from energy advocates that is combined with the ability to finance cost effective energy efficiency improvements through innovative loan offerings. The use of these innovative strategies can significantly increase the capture of energy efficiency savings to reduce customer energy bills, reduce carbon emissions and create jobs.

Action on WE2 Program's SOPO Subtask 1.1 Residential

WE2 was able to build off of the successful pilot conducted in the City of Milwaukee. In the Partner Cities of Milwaukee and Madison the WE2 Program applied strategies that did overcome customer and market barriers moving homeowners toward whole house retrofits. The WE2 Residential Project also benefitted by leveraging Wisconsin's statewide energy efficiency and renewable energy program, Focus on Energy. The use of city-wide eligibility, and targeted marketing strategies in select neighborhoods in both Partner Cities led to the completion of at least 2,010 residential retrofits in single-family homes, and multi-family buildings. The use of a tiered incentive structure, residential loans, and assistance from energy advocates made these completions possible. In addition to the completions there were at least 309 loans used by homeowners to complete the energy efficiency retrofits. The average energy savings for residential participants was more than 30%. This greatly reduced homeowners' energy bills and reduced carbon emissions. Also, the overall economic impact of the residential programming is likely to exceed \$17 million. More than 100 local companies had consultants and contractors that worked on residential projects to maintain and create jobs.

WE2 Program's SOPO Subtask 1.2 Non-Residential

The WE2 Non-Residential Project is the area that recognizes the largest program and budget changes due to two key components—DOE program guidance and passage of Commercial PACE legislation in Wisconsin.

WE2 is will have a Commercial PACE option available in the Milwaukee market, and this is consistent with the goals of the FOA for Topic 1 proposals. Additionally, having the WE2 Program in Milwaukee offer a Commercial PACE program lends additional support to WE2 efforts to pursue the development of a framework for the “super-aggregator” model. This could form the basis for broader replication.

Similar to the residential project, the WE2 Commercial Energy Efficiency Retrofit Program will partner with Focus on Energy to offer citywide eligibility (subject to underwriting criteria) in the Partner Cities of Milwaukee, Madison, and Racine. The goal will be to achieve retrofits in up to 485 buildings over the three year grant period. The WE2 Non-Residential Project Plan will utilize loan loss reserve funds to create more accessible and affordable financing for all three city's commercial activities.

Action on WE2 Program's SOPO Subtask 1.2 Non-Residential

The WE2 Non-Residential Project attempted to implement a Commercial PACE option in the Milwaukee market. At this time, it will likely be a legacy item from the grant period that is not using ARRA US DOE EECBG BBNP grant funds. It will be fully funded by private sector investments in the future. The WE2 Program's Me2 Commercial PACE offering currently has a waiting list of potential commercial projects that are interested in becoming the first Commercial PACE project in the State of Wisconsin. The WE2 Program focused most of its time and energy small business and other commercial customers in the Partner Cities of Milwaukee, Madison and Racine. Using a tiered incentive structure, and innovative small business and commercial loans products the WE2 Project delivered more than 300 commercial completions. There were at least two Small Business loans provided totaling at least \$40,000 and there was at least one Clean Energy Finance loan for a large commercial project that was provided more than \$200,000 in a mini-loan-loss-reserve to support more than \$1.7 million in private loans. Key components of the WE2 Non-Residential Project include: Energy Efficiency Service Company (ESCO) model; and Enhanced Performance Contracting. The WE2 Non-Residential Project also benefitted by leveraging Wisconsin's statewide energy efficiency and renewable energy program, Focus on Energy.

WE2 Program's SOPO Task 2.0 Financing Strategies

The WE2 Project is designed to overcome customer barriers to undertaking deep impact home retrofits and allow the capture of economies of scale in program delivery. Experience has indicated that one of the barriers noted by customers—both residential and non-residential—to undertaking a comprehensive energy retrofit is the cost of the investment and the need to pay for that investment upfront. The WE2 consortium has intentionally focused on quality financing for both of these retrofit markets for a number of reasons including its ability to:

- Allow a customer to undergo an the energy efficiency retrofit process with a relatively low first-cost;
- Achieve scale by aggregating individual energy efficiency projects on either a geographic, financial, or technology basis;
- Be utilized (or replicated) in different geographic areas in Wisconsin (and perhaps the U.S.), and
- Demonstrate an innovative financing option that is either emerging and is well-positioned to help accelerate the adoption of energy efficiency.

The PACE financing option can potentially benefit hard-to-reach market segments and end-user groups that currently lack creative financing structures, e.g., residential, small, medium and large commercial and industrial customers, including multi-tenant buildings. Additionally, for the Partner Cities perspective, Milwaukee specifically, the utilization of the PACE framework and adequate loan loss reserve fund could attract private capital without using the general obligation bonds from the cities.

Action on WE2 Program's SOPO Task 2.0 Financing Strategies

The WE2 Project developed multiple financing strategies to address customer barriers such as, upfront investment. For the WE2 Residential Program the inability of the project to use a PACE model led to the development of a loan loss reserve model that was created with a local credit union, Summit Credit Union. Summit Credit Union has locations in both Milwaukee and Madison and has a cooperative mission to serve community lending needs. This loan loss reserve was able to provide the program 20:1 leverage, and it was able to provide homeowners competitive unsecured loan products with interest rates as low as four percent, with terms that extended as far as fifteen years. As was previously stated there were at least 309 residential loans. The average residential project cost was approximately \$8,600. This provided for approximately \$2,657,400 in loan capital. For the WE2 Non-residential Program there were multiple financing strategies that were implemented. As was previously stated, the following strategies were implemented: a tiered

incentive structure, innovative small business and commercial loans products. These products helped to achieve more than 300 commercial completions. There were at least two Small Business loans provided totaling at least \$40,000 and there was at least one Clean Energy Finance loan for a large commercial project that was provided more than \$200,000 in a mini-loan-loss-reserve to support more than \$1.7 million in private loans. Also, as was previously stated, a Commercial PACE offering was developed and implemented. At this time, it will likely be a legacy item from the grant period that is not using ARRA US DOE EECBG BBNP grant funds. It will be fully funded by private sector investments in the future.

WE2 Program's SOPO Task 3.0 Project Management and Reporting

WECC will be utilizing existing systems in addition to using some of the granted funds in an effort to enhance the reporting mechanisms.

Action on WE2 Program's SOPO Task 3.0 Project Management and Reporting

WECC did use existing systems as well as other systems recommended by the US DOE, such as the PSD tool, Compass/Surveyor. The PSD tool along with existing tools assisted WECC staff in properly completing monthly, quarterly, and annual reports for the US DOE.

Challenges

The WE2 Program development and implementation were affected by a diverse variety of challenges from internal and external sources.

Getting Started

WECC was the applicant for the US DOE grant on behalf of the Cities of: Milwaukee, Madison and Racine. Unfortunately, the limited time between the announcement of the grants and the contract signing for the grant provided a limited window for project organization especially when three municipal entities with their own internal approval processes and timelines were involved. In addition, the primary experience of the municipalities had been as the recipient of grants directly. As a result with any team-centric undertaking, role definition and team member responsibilities are critical to ensure strong, effective lines of accountability and leadership. While these issues were resolved through the good faith efforts of those involved, the initial phase of the project was subject to some confusion and frustration which affected the timing in which the WE2 Program roll-out occurred as well as the ability to immediately hit the ground running with some desired workforce development initiatives with various program partners.

Unfortunately, also shortly after the inception of the WE2 Program, a fundamental program design change occurred that further delayed the initial roll-out of the project. The WE2 Program grant proposal was premised on using the Residential Property Assessed Clean Energy (PACE) model to test whether several market barriers to more comprehensive residential retrofits could be significantly mitigated that traditional and other innovative financing approaches were not likely to do. Two of the primary barriers that PACE focused on were addressed by: allowing extended terms for retrofit projects where a positive cash flow from the expected savings for the project cost could be attained; and mitigating the risk of longer term financing of retrofit projects that a homeowner may move before the savings from the retrofit had repaid the costs. While the project was able to implement another innovative financing model, that helped expand access for reasonable credit to additional program participants, the available options could not potentially reduce market barriers as PACE may have. The program also tried to involve the affected utilities to consider implementing on-bill financing/repayment options, which may be able to achieve similar results as a PACE model in the future, but this effort with the local utilities was unsuccessful.

At later times in the project, the turnover of key program personnel also caused program delays. But, changes in internal processes and an increased overall “team effort” tied to improved communications remedies this turnover and helped ensure that the program stayed on course.

Potential Conflicting Requirements

The Me2 and Green Madison residential programs were intentionally built on the existing Focus on Energy Home Performance with ENERGY STAR model, which in Wisconsin was a “consultant-based” model when the grant period began. Under this model, consultants or energy auditors have developed their own software packages to collect and process data gathered in an assessment for the Focus program. However, the grant program with its own reporting needs led to the requirement for consultants to use different software that involved more data points and did not coincide with consultants established data gathering techniques. A number of consultants were more comfortable with using their own software, which led to program problems with getting adequate information in a timely manner, and in an easy to use format to convert into project reports for customers. A similar problem was encountered due to the program software and consultants’ software sometimes producing different results for key elements in a comprehensive retrofit. These problems eventually led to program process problems that slowed down the preparation and delivery of energy savings reports to program participants resulting in a backlog at times. While these issues were eventually resolved, it took program staff time to address concerns by participating consultants and contractors, and delays in communications with customers were largely avoided.

Another factor that contributed to the issue noted above was that by the second year of the program, Focus on Energy decided to change the Home Performance with ENERGY STAR program from a consultant-based

model to a contractor-based model as well change eligible measures and incentives. This was mostly due to the selection of a new program administrator. These changes required a redesign of the Me2 and Green Madison residential programs to try and align the programs to avoid the conflicting requirements noted above as well as redesign program incentives consistent with the Focus on Energy changes. The Focus on Energy transition also caused some delay in program activity because of uncertainty created in the retrofit delivery market since the new Focus on Energy model required a change in the business model for most energy efficiency consultants and contractors.

Program “Boom and Bust” Cycle

Over its term, the Me2 and Green Madison programs experienced peaks and valleys in activity, especially in the number of jobs awaiting completion. While the approach or on-set of colder weather has traditionally led to a spike in assessments leading to completed jobs, some of the factors noted above also led to peaks and valleys for jobs to be completed. The end of the original grant period also contributed to this effect later in the project. These spikes created issues for contractors to meet the increased demand in a timely manner given their current resources. While it might be expected that contractors may have added capacity to deal with supply and demand issues, the limited term of the initial grant program likely counteracted such a response. In addition, under the WE2 Program business model, consultants and contractors were private entities who had to meet program participation requirements rather than program employees or captive contractors that the program could have contracted or expanded as needed. Smoothing out this “boom and bust” cycle, to the extent possible, in future program efforts will be an important program delivery improvement.

Energy Advocates

While participants and contractors substantially supported the use of Energy Advocates in the program, the exact role of the Energy Advocate was not precisely identified for some periods in the program. An important issue was an on-going discussion of what exactly an Energy Advocate’s tasks should be: a salesperson with developed sales skills; an energy efficiency installer that interacts with a program participant through low-cost direct install measures or recommending a series of behavioral actions that could mitigate energy usage; or a facilitator between the program participant and the consultant and contractor. This discussion was mostly driven by the high implementation costs attributed to the use of Energy Advocates.

External Influencing Factors

The Great Recession and its subsequent spin-off effects had obvious economic and other consequences that would be expected to create strong headwinds for any energy efficiency retrofit project testing out innovative financing and community-based marketing. After 2009 and through the original grant period, both residential and commercial real estate markets were especially depressed as was lending of almost any kind. Actual unemployment or the fear of unemployment persuaded homeowners and businesses to curtail expenses and to focus on reducing debt. This was particularly evident in the City of Milwaukee where there are concentrated areas of economic depression, with many homes being foreclosed upon or homeowners being underwater on existing mortgages.

Overview

For the reasons mentioned above the WE2 Program faced challenges from its inception through its implementation. Some challenges had to simply be accepted and addressed, especially the impacts of the Great Recession, the inability to use Residential PACE and the mid-term change in Focus on Energy’s Home Performance with ENERGY STAR Program. Other challenges might be described as situational and not inherent. For example, the a short time period to develop and implement a program in the field, including the need to reconcile two sets of program requirements, as well as, differing modeling and reporting needs. But to the extent that problems or challenges arose, the WE2 Program experience is such that challenges can be overcome with good faith and good communication within the entire team and a willingness to identify and fix problems when they occur.

Under what could be described as abnormally adverse circumstances, the WE2 Program was able to accomplish substantial comprehensive retrofit activity in residential and commercial buildings. Among the lessons learned is the reinforcement of the importance of effective prior planning, especially for a program that will require coordination amongst many other parties that have multiple moving parts and systems that already existed independent of a new program. On the financing side, the WE2 Program suggests that innovative financing approaches are able to at least marginally improve the willingness and ability of some homeowners to undertake comprehensive retrofit projects. Also, it is important to stress that there may be even stronger impacts available from other more innovative financing approaches such as, Commercial PACE and utility on-bill financing or repayment programs.

In retrospect, lessons are learned to improve future efforts, including those that hindsight suggests could have been avoided in whole or avoided in the first place. The summation for the original WE2 Program grant period is that significant personal, social, economic and environmental benefits were achieved and have led the Cities of: Milwaukee and Madison to build upon concrete benefits and lessons learned to continue with improved future programming.

Program Sustainability Plans

According to the Purpose and Instructions the following information is being provided.

What program name will be used?

The programs in Milwaukee and Madison will likely continue. Milwaukee's program will continue to be called Me2, and the Madison program will likely not use the Green Madison name. Racine is discontinuing its program Re2.

Are there any building upgrade or market transformation goals?

At this time, there have been no building upgrade goals or market transformation goals. Once there is clearer direction from our Partner Cities – Milwaukee and Madison, program goals may be established. At this time, WECC is waiting on budgetary decisions from both Milwaukee and Madison.

What is the market you will be serving?

The Me2 Program will likely have a residential component utilizing a loan loss reserve model to provide loans to homeowners through the established credit union. The Me2 Small Business Program may continue, but at this time it may be difficult due to budget constraints. Me2 will also have a Commercial PACE component that does not use any federal funds. The Commercial PACE Program will offer PACE loans for large commercial projects.

The Green Madison Program is going through a re-organization. The Green Madison Program will likely have a residential component, and possibly a small business component. The City of Madison staff members are currently identifying other federally funded programs, and are hoping to consolidate related programming and staff. During the first quarter of 2014 the City of Madison staff will be updating WECC staff members about the City's intentions. At this time, it is expected that the City of Madison will continue a program after a brief suspension of the program (October 2013-March 2014). Further details about the new program will be shared with WECC staff during the first quarter of 2014.

What product or service you will be offering?

Me2 will be offering residential loans and possibly small business loans, as well as Commercial PACE. Green Madison will likely be offering residential loans, and possibly small business loans.

Is there any intention of continuing collaboration with partners?

WECC and the Partner Cities of: Milwaukee and Madison, intend on continuing our partnership through the extended grant period. Other service providers, such as the credit union for residential loans and small business loans, as well as the economic development corporation in Milwaukee will provide Commercial PACE offerings during the extended grant period.

How you will communicate this sustainability strategy to the public?

WECC, the City of Milwaukee, and the City of Madison plan to re-organize the websites for the Me2 and Green Madison programs. Other efforts may include: direct mail marketing, contractor workshops, and customer workshops.

Verification of Data

All summary data provided by the DOE to date has been reviewed and verified and all necessary corrections have been made.

There have been no independent evaluations during the grant period on which to report.

Developed Products

Note: All materials are also included as an Appendix.

Materials

1. Completion Certificates
2. Energy Audit
3. Energy Savings Calculator Tool

Collaborations

1. We2 participated in many, if not most, of the DOE's Peer Exchange Calls.
2. Neighborhood Associations and Community Events
3. Urban League of Madison- Ambassador program- S:\EECBG WE2\Green Madison Ambassador Report.pdf

Presentations

1. "Engaging Commercial Market", December 2011
2. "Engaging Financial Institution Partners", April 2011
3. "Commercial Energy Financing", June 2011
4. "Green Madison Program", May 2012
5. "Green Madison Contractor Program Rollout", February 2012
6. "PACE Best Practices and Lessons from the Field", May 2011
7. "Green Madison Community Presentation", February 2011
8. "Me2 Energy Consultant Training", November 2011
9. "Me2 Contractor Rollout Meeting", July 2011
10. "Financial Institution Training", August 2011

Web Sites

1. Me2: <http://city.milwaukee.gov/me2>
2. Green Madison: Site is no longer on City's pages.
3. Re2: Site is no longer on City's pages.
4. WECC: <https://weccusa.org/main/federalgrantprograms/title/Federal%20Grant%20Programs>

Videos

1. Me2: <http://www.youtube.com/watch?v=40dGd9xXcTo&feature=plcp>

Partnerships

1. Brighter Planet Technology Solutions
2. Clinton Climate Initiative- Home Energy Affordability Loan (HEAL)
3. Conservation Services Group
4. Focus on Energy
5. Johnson Controls, Inc. - HEAL participant
6. Massachusetts Institute of Technology
7. Milwaukee Solar Shines
8. NARI
9. Select Milwaukee
10. South Central Wisconsin Multiple Listing Service
11. Staples
12. Sustainable Homes Tour
13. WISPRIG
14. WRTP/Big Step

Publications

1. "Delivering Energy Efficiency to Middle-Income Single Family Households", Lawrence Berkeley National Laboratory, Contributor to publication: <http://middleincome.lbl.gov/reports/report-lbnl-5244e.pdf>
2. Data sharing to NREL for upcoming Building America House Characterization Study

Milwaukee Energy Efficiency (Me²) Project

Community Meetings



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Overview

- DOE Grant Award
- Goals and Objectives
- Whole house energy efficiency
- Roles
- Home Performance with ENERGY STAR®
- Process
- Getting Started



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DOE Grant Big Picture

- The Department of Energy (DOE) announced national grant program
- Wisconsin Energy Efficiency grant awarded to combined grant submission on behalf of the Cities of Milwaukee, Madison, and Racine
- Wisconsin grant was one of 25 grants awarded
- Milwaukee program will be marketed as Milwaukee Energy Efficiency (Me²)



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Me² Goals

- Grow the market for whole-house energy efficiency retrofits
 - Create private-sector jobs
 - Reduce energy bills
 - Reduce pollution
 - Improve housing stock
- Comparable program for commercial and industrial properties



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Me² Objectives

- Utilize community
- Test various outreach / marketing and ongoing communication techniques
- Deliver optimal building science practices / products addressing whole house energy efficiency
- Guide / redirect home energy efficiency attitudes / behaviors toward sustainability



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What is a “Whole-House” Energy Retrofit?

- Coordinates a systematic energy audit with heating, cooling, and insulation contractors to save energy and \$\$
- Views the energy use in a house as an interdependent system
- Solar or other renewables are potential add-ons after energy efficiency work is completed



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Me² Players

- Energy Advocate: “go to” person for homeowner, performs walk through audit, provides education/information, assists homeowner through program
- Energy Consultant: trained building science expert, conducts energy assessments
- Contractor: performs energy efficiency improvements



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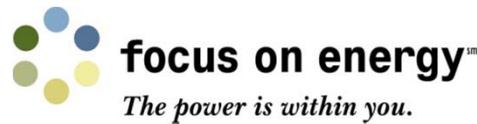


Home Performance with ENERGY STAR®

- Whole house energy assessment performed by Energy Consultant:
 - Blower door test
 - Infrared camera scan
 - Combustion safety test
 - Ventilation test
- Summary Report



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Home Performance with ENERGY STAR®

- Energy efficiency improvements provided by participating Contractors
- Post assessment performed by Energy Consultant
- Cash-Back Rewards



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Me² Process Steps

- Homeowner sign up
- Energy Advocate walk through audit, education and information sharing
- Energy Consultant assessment
- Contractor work
- Energy Consultant post assessment
- Completion



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Me² Let's Go!

- Sign up for your walk through energy audit
- Get to know your Energy Advocate
- Make your home more energy efficient



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Sustainability



Engaging Commercial Market

Best Practices and Lessons from the Field

Presented by
Todd Conkey
Energy Finance Development Director
WECC



Foundation

- Commercial RE market is under distress
- Leveraging needed with FIs
- Build pipeline and partnerships
- Multi-prong approach to outreach

Outreach

- Meetings with large property owners and bankers in Madison
- Met with CDFIs and Economic Development Corporations
- Partnered with JCI on energy efficiency survey
 - Geared toward PACE concept
 - Property >1MM sq. ft.
- Engaged Sustain Dane for market survey
 - ~25 participates in their MPower program
- Outreach to Focus on Energy Energy Advisors

Outreach Cont.

- Outreach to utility reps
 - Researched shared savings program
- Trade Ally model
 - Reps for contractors, suppliers, end-users and banks.
 - Important for intake purpose
- Multiple products to hit different kinds of businesses
 - Small business, tenants and owner-occupied
- Process flow

Sample Questions

- What are the main obstacles for conducting an energy retrofit?
- How important are energy guarantees versus energy savings promised?
- Preferred method of funding?
- Are you planning to do an energy retrofit in the near future?
- How can the City help you initiate an energy efficiency project?
- What could impact your company's minimum ROI?

Education

- Process is very important (internally and externally)
- The projects need to have a solid business case (Paybacks < 7 years) and/or protect their revenue stream.
 - Many see energy efficiency as 10+ years payback
- Capital competition is fierce, especially in difficult economic times
- Disconnect between facility managers and executives at companies.
 - Facility yes-Treasury no
- Internal use of cash is preferred for energy efficiency due to less time and risk. Facilities are looked at as a cost creator versus a revenue generator.

Education Cont.

- Enhanced ROI models to include all factors.
 - Some companies layer all aspects (production stops, employee safety, etc.) while others use simple cost/savings formula.
- Variables that increase priority are high ROI, equipment replacement or if it's part of a bigger project.
- Companies will drag contractors and banks into the program.
- PACE value
 - How viable would it be to add a special rider to existing leases? Very, very difficult by +80%.
- ESCO Energy Guarantees were very valuable
- Positive cash flow could materially change the payback discussion
- Far majority of businesses wanted to work with a trusted party i.e., the City.

Thank You!

Contact Information

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Engaging Financial Institution Partners

Best Practices and Lessons from the Field

Presented by
Todd Conkey
Energy Finance Development Director
WECC



Foundation

- Understand marketplace for program
 - Cohesive or fragmented
- Research possible partners
 - www.fdic.gov and www.ncua.gov
 - Partner websites

Blocking and Tackling

- Before initial outreach
 - Develop telephone pitch
 - Create email with attachment
 - Develop follow-up strategies

Talking Points for Attachment

- Background
- Summary of program goals
- Provide additional sources
 - Other successful programs
- Credit enhancement concept
 - Loan Loss Reserve
 - Set expectations: 5% reserve, 80-90% secondary loss
 - Graph of structure
- Finance Institution role in program
 - Sustainability fees
- Timelines
- Contacts

Goals

- What are they?
 - Uncover if you're talking to the right person
 - Face-to-face meeting with the right people
 - Decision makers: Chief Credit Officer, Marketing Head, President
 - Not branch manager or loan officer
 - Verbal commitment to participate in RFP

Face-to-Face

- Handouts
- Perception of program
- Guide them as stakeholders
 - Market leaders
- What's in it for them?
 - Attraction, retention, PR, partnership
- Tell them what you want (in a nice way)
 - Lower rates, extended tenors, unsecured credit, loosened underwriting given enhancement

Banker Perspective

- They understand loan loss reserves
 - It's an expense and the percentage is up
 - You need to understand it also
- Regulators and capital ratios
- Cash flow lending is king right now
 - Source of repayment
- Real estate values will not drive loan origination

Hurdles and Solutions- Residential

Hurdle	Solution
Home values	Unsecured credit, no appraisal, UCC-1 secured by personal property
FICO scores	Lower Debt-to-Income, shorter length of employment, project benefits
Credit is tight	This is a big add-on to reserves already being allocated
Bank or Credit Union	Credit Unions were more receptive
High reserve	Negotiate step-downs if portfolio performance dictates it
High shared loss percentage	Negotiate based on FICO scores
Energy knowledge	KISS, financial benefits to customer

Hurdles and Solutions- Non-Residential

Hurdle	Solution
Property values	Create cash flow positive program
Transaction appetite versus relationship banking	Program design that leans on relationship banking
Cash flow	Improved Net Operating Income improves cash flow and collateral value
Finance Institution willingness to participate	Create demand in market
Struggling banks	Partner with leaders, new deposits
Limited financial expertise within program	Partner with TAP, lean on other grantees, consider hiring expertise
Volume	Partner with CDFI, SBA providers, centers of influence

Outcome in Wisconsin

- Residential Results

- Interest rates cut in half (4.75% and 5.50%)
- Term tripled up to 15 years
- Unsecured up to \$15,000
- FICO is a part, but not a driver
- 5% LLR, 20:1 leverage

- Commercial Design

- Debt Service Reserve Fund (12 months P&I, project specific, all inclusive to Finance Institutions) and PACE financed by Finance Institutions holding first lien/relationship
- Relationship driven structure, but estimate 7:1 leverage

Thank You!

Contact Information

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SmartEnergyPays.com (877) 399-1203



Project Sponsors



MILWAUKEE
OFFICE OF ENVIRONMENTAL SUSTAINABILITY





Me² Financial Institution Meeting

- Introduction to Me² and staff
- Program goals
- Benefits to businesses and contractors
- Benefits to financial institutions
- Financial products
- Process
- Lead generation



Introduction to Me²

Milwaukee Energy Efficiency (Me²) is a federally funded program to help homeowners and business owners make energy-efficiency improvements.

Me² customers can redirect some of their energy budget toward financing building upgrades with no-money down.



Introduction to Me²

- BetterBuildings Funds
- City of Milwaukee Office Of Environmental Sustainability
- Grow the market for energy-efficiency building improvements



Program Goals

- Promote economic vitality by creating and maintaining jobs
- Sustainable and replicable model
- Overcoming first cost barriers
- Leveraging of funds at least 5:1
- Reduce greenhouse gas emissions



Program Goals

- \$24+ million in non-residential activity in two years (5/31/2013)
- Effectively reach all segments of Milwaukee non-residential market
- Provide opportunity for Me² approved contractors to grow businesses



Technologies

- Lighting
- HVAC
- Hot water
- Steam
- Commercial refrigeration
- Renewables and water saving improvements
(when done in conjunction with energy efficiency)



Eligible Properties

- Non-residential, privately-held properties located in the City of Milwaukee
- Existing buildings, not new construction
- Businesses, non-profits, etc.
- No government buildings or MPS schools
- No casinos, golf courses, or swimming pools
- Must be current on property taxes, if applicable



Customer Benefits

- Save money on utility bills
- Improved bottom line
- Accelerate energy-efficiency projects
- Improved comfort and value
- Improved cash flow
- Minimize impact on environment



Customer Benefits

- Work with your own lender
- Market “green” features of property
- Improve reliability of building systems
- Improve occupancy rates and net operating income
- Provide upgrade incentives to property owners whose tenants pay the energy bills



Approved Contractor Benefits

- Increased project size
- Dual benefit for contractor and customer
- Streamlined approach with other energy-efficiency programs
- Accelerate schedule of projects
- **LIMITED TIME OFFER!**



Approved Contractor Benefits

- Marketing programs
- Promotional placement
- Use of logo
- Listing on website

www.smartenergypays.com

- Mentoring and training
- Program support



Financing Environment

Financial Institution's Perspective

- RE financing is difficult, to say the least
- Preserving capital, increased loan loss reserves- impacting income
- Cash flow versus collateral
- Client retention
- Value-add to relationship



Financing Environment

Borrower's Perspective

- RE financing is difficult
- Net operating incomes are down
- Cash flow versus collateral
- Tenant retention
- Seeking value from financial institution
(long-term relationships viewed as short-term)
- Split incentive



Me² Financing Products

Small Business Financing offered through
Summit Credit Union (\$5,000-\$20,000)

Smart Security Financing
Clean Energy Financing Program
Interest Rate Buy Down



Smart Security Financing

Project size: \$10,000 to \$1 million

Leverages private capital

Multiple lenders

– Client choice

Lower loan risk for financial institution



A better performing building means a better performing business

Me² Smart Security Financing—putting energy efficiency to work for businesses and financial institutions

Me² Smart Security Financing benefits both businesses and financial institutions. It provides collateral on behalf of businesses implementing energy efficiency projects, allowing for no-money-down financing and mitigating a financial institution's risk. Plus, Me² Smart Security Financing can be paired with other Me² financing products and existing energy efficiency offers through utilities, Focus on Energy, and more—Me² will help businesses receive the greatest financial benefit possible.

Why businesses should participate NOW:

- Improve your bottom line.
- Improve your cash flow.
- Make your property more comfortable for employees and tenants.
- Minimize your impact on the environment.
- Lower your borrowing costs.
- Market the "green" features of your property.
- Work with your existing lender.
- Accelerate your energy-efficiency projects.
- Increase reliability of your HVAC system and other energy-intensive equipment.
- Invest in an asset that may offer accelerated depreciation (consult your CPA).
- OFFER IS AVAILABLE FOR A LIMITED TIME!

How it works for businesses

1. **LEARN:** It is important to be an educated business. Utilize the resources available to make a decision regarding which energy-efficiency projects make the most sense for your property. Me² can put you in contact with the right people.
2. **APPLY:** Me² will work with you and the financial institution of your choice to apply and secure your Me² Smart Security Financing.
3. **UPGRADE:** Schedule and complete your approved energy-efficiency project with approved Me² contractors.
4. **ENJOY:** Start saving energy and money day after day, year after year.

Me² Smart Security Financing is an ideal fit for businesses in the City of Milwaukee looking to implement energy efficiency projects between \$10,000 and \$1 million. Funding accessibility is determined by expected energy efficiency savings of projects. A low customer fee of 1% of the originated loan applies.



Smart Security Financing

Use of escrow account for core deposits

- \$100,000-\$250,000

Cash collateral account (CCA) is funded by escrow

- 20% of loan is placed in CCA
- Adjusts annually due to amortization
- Can be pooled up to 50% of one loan

Financial institution underwrites loan



Clean Energy Financing Program

Project size: \$20,000 to \$5 Million

Multiple lenders

Improve occupancy rates
and net operating income

Special charge pass
through capacity*

Benefits both property



Me²
Milwaukee Energy Efficiency
Smart energy pays.

**Imagine a project that makes a
property owner and a tenant happy**

Me² Clean Energy Financing Program literally pays off for property owners and tenants

You could create a win-win situation for you and your tenants. The Milwaukee Energy Efficiency (Me²) Clean Energy Financing Program allows property owners to pass a monthly charge to tenants to offset the costs of energy-efficiency improvements while the tenant pays lower energy bills. The best part—the tenant's savings are greater than the charge and the landlord gets a better building.

Why you should participate NOW!

- Improve your tenant base
- Minimize your property's impact on the environment.
- Maximize the "green" feature of your property
- Accelerate energy-efficiency projects.
- Increase reliability of your HVAC system and other energy-efficiency equipment.
- Invest in an asset that may offer accelerated depreciation (based on your CFS).
- Improve property comfort and value.
- Improve cash flow.
- Improve tenant satisfaction, trusted landlord.
- Improve occupancy rates and net operating income.
- OFFER IS AVAILABLE FOR A LIMITED TIME!

How it works

1. LEARN: It is important to be an educated business. Utilize the resources available to make a decision regarding which energy-efficiency projects make the most sense for your property. We can put you in contact with the right people.
2. APPROVE: Work with Me² and the financial institution of your choice to apply and receive your pre-approval financing and to gain access to the City of Milwaukee to de-signify your energy-efficiency project through a municipal special charge.
3. APPROVABLE: Schedule and complete your property's energy-efficiency project with approved Me² contractors. Pass a special charge to your tenants to cover the costs of your energy-efficiency project. Your tenants reap the savings of the improvements through reduced energy bills.
4. ENJOY: Benefits start saving energy and money. You improve property value and tenant relationships while getting paid for the improvements.

The Me² Clean Energy Financing Program is an ideal fit for property owners with properties in the City of Milwaukee looking to implement energy-efficiency projects between \$20,000 and \$5 million. Funding availability is determined by expected energy-efficiency savings of projects. A low customer fee applies that's equivalent to 0.52% of the funds provided per application. You repay the borrowed funds through a special charge assessed to the property and payable to the financial institution of your choice. Plus, the Me² Clean Energy Financing Program can be paired with other energy-efficiency financing products. By combining energy audits, focus on savings and Me²-MP will help businesses receive the greatest financial benefit possible.

Energy-efficiency improvements = happy property owners and tenants

With help from Me² property owners and tenants can more easily work together to implement energy-efficiency projects that make economic sense for both parties. To learn more, contact Me² today.

Visit: www.milwaukeeenergypay.com Call: 877.389.1323 Email: Me2@milwaukee.gov

More Me² financing products
Property owners can use the following financing products along with the Me² Clean Energy Financing Program for different energy-efficiency projects:
• Interest Rate Buy Down • Smart Security Financing • Small Business Financing



Clean Energy Financing Program

Loan repayments are deemed a
“municipal special charge” and payable
directly to financial institution

1 year P&I collectable on tax roll in default
situation and guaranteed to financial
institution

Funding accessibility determined by
expected energy savings



Clean Energy Financing Program

Net positive cash flow for tenants and owners

0.50% customer fee on total loan

Treatment as a special charge may allow a property owner to pass through the cost of the improvements to the building's tenants under certain types of lease agreements. The City provides no advice on whether such pass-through is legally allowable and the property owner is solely dependent on seeking independent legal and/or accounting advice if such a pass-through of special charges under the City Ordinance is permissible. The City will not mediate any disputes between a property owner and tenants regarding the disposition or



Interest Rate Buy Down

Project size: \$10,000 to \$500,000

Multiple lenders
Interest rate reduced

- 2% for lighting only
- 3% for lighting plus

\$500 customer fee
\$500,000 allocation

Me² Milwaukee Energy Efficiency
Smart energy pays.

If you think rates are low now, you should talk to us

Me² Interest Rate Buy Down financing—lower interest rates, energy consumption, and utility bills

With continuous business energy-efficiency success stories, you'd be hard pressed to find a business that doesn't care about the rising cost of energy. And now, addressing that expense just got a lot easier with the Milwaukee Energy Efficiency (Me²) Interest Rate Buy Down financing product. The Me² Interest Rate Buy Down is a herculean limited-time offer for Milwaukee businesses. It reduces your energized financing interest rate 2-3%. Plus, the Me² Interest Rate Buy Down can be paired with other Me² financing products and existing energy-efficiency offers through utility, Focus on Energy, and more—Me² will help businesses receive the greatest financial benefit possible.

Why participate NOW?

- Capture lower rates and improve your bottom line.
- Minimize your impact on the environment.
- Accelerate energy-efficiency projects.
- Improve cash flow.
- Offer is available for a limited time!

How it works

1. LEARN: It is important to be an educated business. Utilize the resources available to make a decision regarding which energy-efficiency projects make the most sense for your property. Me² can put you in contact with the right people.
2. APPROX: Me² will work with you and the financial institution of your choice to apply and secure your Me² Interest Rate Buy Down financing.
3. DESIGN: Once approved, complete your approved energy-efficiency project with approved Me² contractors.
4. ENJOY: Start saving energy and money.

The Me² Interest Rate Buy Down is an ideal fit for businesses in the City of Milwaukee looking to implement energy-efficiency projects between \$10,000 and \$500,000. Funding accessibility is determined by expected energy-efficiency savings of projects. A \$500 customer fee applies per financing application.

See an example of the Me² Interest Rate Buy Down in action:

ON YOUR CURRENT FINANCING		WITH Me ²	
STANDARD INTEREST RATE	MONTHLY FINANCING PAYMENT	Me ² INTEREST RATE BUY DOWN	FINAL INTEREST RATE WITH Me ²
7%	\$2,475	.2%	.8%
TOTAL COST: \$54,000		TOTAL COST: \$538,824	TOTAL Me ² INTEREST RATE BUY DOWN BENEFIT: \$80,805

A healthier bottom line
With help from Me², your business can implement energy-efficiency projects and get a handle on energy costs. To learn more, contact Me² today.

Visit: www.smartenergypays.com Call: 877.399.1203 Email: Me2@milwaukee.gov

More Me² financing products



Interest Rate Buy Down

Example:

Project Size: \$125,000

Standard Interest Rate 7% = \$2,475 monthly

Me² Interest Rate Buy Down = -3%

New Interest Rate 4% = \$2,302 monthly

Total savings over 5 years = \$10,385



Cash Flow

Initial Investment	\$1,449,412	Project Percentage of Value	5%	\$207,059
Interest Rate	6.00%	Interest Rate	6.00%	
Amortization	20	Amortization	20	
Mortgage Payment	\$19,285	Payment	\$1,483	
Annual Mortgage	\$231,416	Annual	\$17,801	
Gross Rent @ \$11/ft	\$880,000	Energy Savings	20%	\$24,160
Expenses @ 60%	\$528,000	Excess Cash Flow		\$6,359
	\$352,000	Retrofit DSCR		1.36 X
Cap Rate	8.50%			
CB (NOI/Debt)	1.52 x			

Assumed Performance of Building

Building Size (sq. ft)	80,000
Property Value	\$4,425,412
	\$2,898,824
	\$1,526,588
Interest Rate	6.00%
Amortization	20
Debt Payments	\$20,768
Annual Debt (inc. retrofit)	\$249,217
Gross Rent @	\$880,000
Expenses	\$503,840
	\$376,160
Cap Rate	8.50%
Debt Coverage Ratio (NOI/Debt)	1.51x

If Energy Costs increase 20%

Building Size (sq. ft)	80,000
Property Value	\$4,656,211
Debt	\$2,898,824
Equity	\$1,757,387
Interest Rate	6.00%
Amortization	20
Debt Payments	\$20,768
Total Annual Debt (inc. retrofit)	\$249,217
Gross Rent @	\$880,000
Expenses	\$484,222
NOI	\$395,778
Cap Rate	8.50%
DSCR	



Larger Projects

The goal of the Me² program is to allow for larger energy-efficiency based projects to be implemented by alleviating the need for large upfront capital and allowing businesses to reap energy savings while paying for upgrades.



Target Markets

Restaurant and hospitality

Multi-tenant buildings

Industrial

Multi-family

Healthcare

Any business located in the City of Milwaukee



Program Process

Customer is educated on projects that make most sense for property

Customer applies for financing

Project is approved by Me² staff

Work is completed with Me² Approved Contractors

Payment is made by financial institution



Process Requirements

All projects must meet Focus on Energy or We Energies guidelines where applicable

All projects must be approved by program staff before Me² financing is authorized



We Will Generate Leads!

Program generated projects:

Me² staff is actively working with end users on project generation

Customer educated on program options and other programs

Customer referred to list of approved contractors



Thank You

For more information

www.smartenergypays.com

me2@cityofmilwaukee.gov

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Milwaukee Office of Environmental Sustainability

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Focus on Energy 101

September 8, 2010

What We'll Discuss

- Focus on Energy background
- The Focus approach
- Program overviews
- Resources

What is Focus on Energy?

- Wisconsin's statewide resource for energy efficiency and renewable energy
- Works with eligible Wisconsin residents and businesses
- Goal is to implement cost-effective projects *that would not occur otherwise*

A Brief History

- Originally created in 1999 through Act 9; programs launched in 2001
 - Oversight by Dept. of Administration
 - Operated on July-June fiscal year
 - Funds came primarily from electric side; collected as per-meter line item charges
 - Funds diverted twice by state legislature to help fill state budget gaps

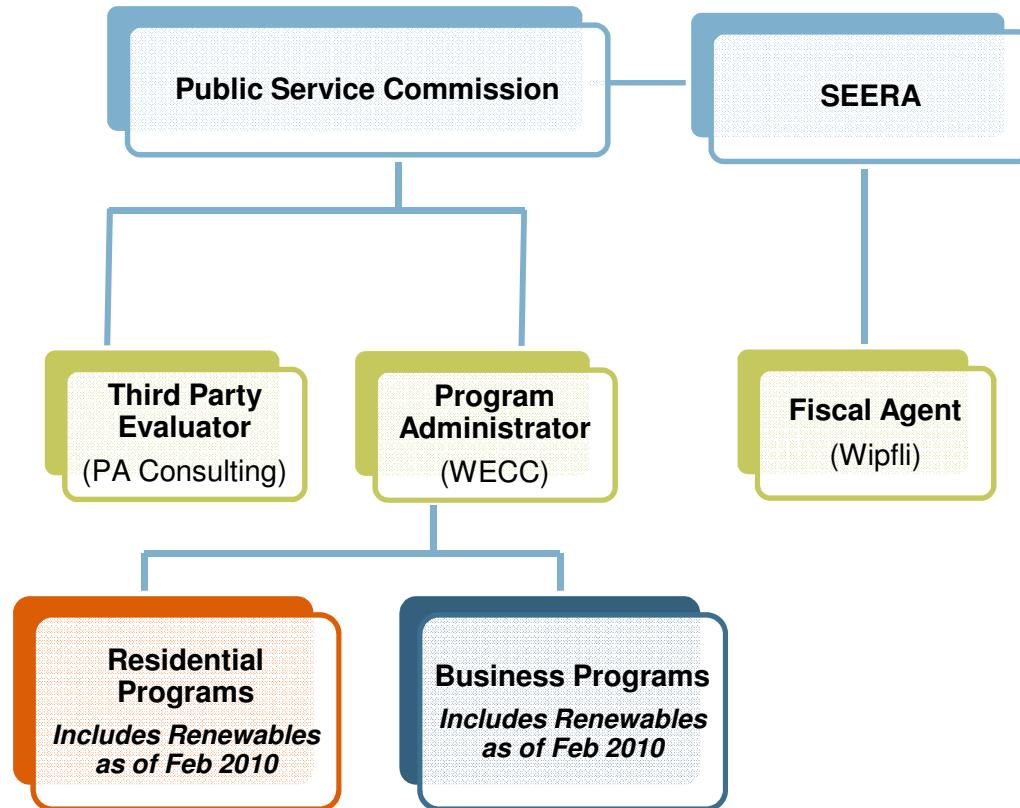
A Brief History, *continued*

- Big changes in 2005 through Act 141; took effect July 1, 2007
 - Oversight by Public Service Commission
 - Transitioned to calendar year programming
 - Funds come from both electric and gas side; now 1.2% of IOU revenues and per-meter charge for munis and cooperatives
 - Funds now held in a trust by independent fiscal agent and protected from diversions

Focus on Energy's Structure

SEERA =
*Statewide Energy
Efficiency and
Renewable
Administration*

This non-profit
board works with a
Fiscal Agent to
manage the
program funds for
the Public Service
Commission



Services delivered around the state by subcontractors and qualified market providers

Focus on Energy Offers...

- Business Programs for commercial, industrial, agricultural, and school/government buildings
- Residential Programs for single and multifamily homes
- Education, technical expertise and financial assistance

Savings Achieved

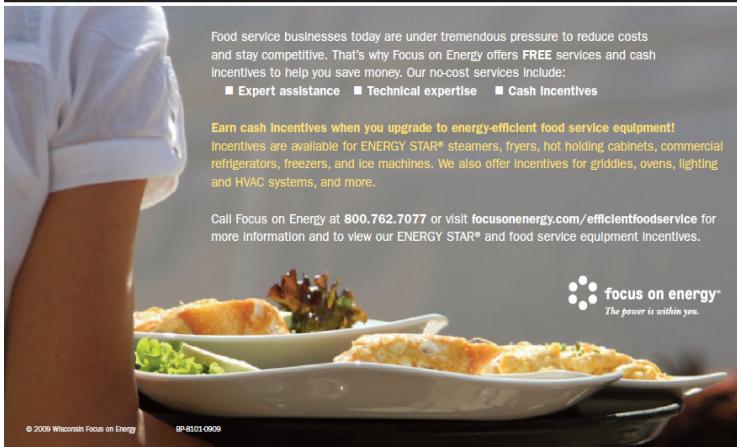
FOCUS ON ENERGY BENEFIT DISTRIBUTION BY SECTOR July 1, 2001 – June 30, 2009

	Business	Residential	Renewable Energy	Total
Electricity Kilowatt-hour Savings	1,268,756,769	628,205,427	61,808,354	1,958,770,550
Natural Gas Therms Savings	76,772,052	14,946,810	5,541,512	97,260,374
Annual Dollar Value of Energy Savings	\$ 172,670,755	\$ 84,648,115	\$ 11,257,939	\$ 268,576,809

Focus Participation

- Customer eligibility based on their electric and/or natural gas utilities
 - Eligible for measures that save electricity if served by a participating electric utility
 - Eligible for measures that save natural gas if served by a participating gas utility
- Utility participation as of Jan. 1, 2010
 - 102 participating electric providers
 - 9 participating natural gas providers

Serving up savings in a tough economy



Food service businesses today are under tremendous pressure to reduce costs and stay competitive. That's why Focus on Energy offers **FREE** services and cash incentives to help you save money. Our no-cost services include:

- Expert assistance
- Technical expertise
- Cash Incentives

Earn cash incentives when you upgrade to energy-efficient food service equipment!
Incentives are available for ENERGY STAR® steamers, fryers, hot holding cabinets, commercial refrigerators, freezers, and ice machines. We also offer incentives for griddles, ovens, lighting and HVAC systems, and more.

Call Focus on Energy at 800.762.7077 or visit focusonenergy.com/efficientfoodservice for more information and to view our ENERGY STAR® and food service equipment incentives.

focus on energy
The power is within you.

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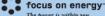
ENERGY QUESTION #37

"I own a business. Can I earn financial rewards for making energy-efficient upgrades?"

 ...AND THE ANSWER

Ask Focus on Energy!

Find answers to all your energy questions at AskFocusonEnergy.com.

YOUR LOGO HERE  focus on energy
The power is within you.

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I want to be a high producer just like Mom!

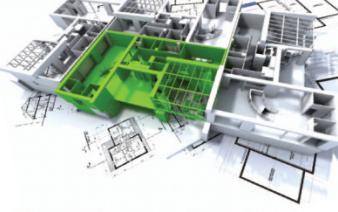
Now's the time for an energy efficient milk pasteurizer

More and more Wisconsin dairy farmers are installing energy efficient milk pasteurizers, which are great for calves and your bottom line.

- Help cut the rising cost of milk replacement
- Reduce pathogens found in waste milk
- Increase calf health and weight gain
- Save energy and money compared to standard models

Talk to a Focus on Energy advisor today
To learn more about the benefits of an energy efficient on-farm pasteurizer and the financial grants available for installing one, call Joann Kaurich at 608.273.0382, ext. 24.

800.762.7077 focusonenergy.com
©2008 Wisconsin Focus on Energy SP-8058-0008



High-Performance Green Building Meets Cash-Back Rewards

Last year, Focus on Energy provided more than \$970,000 in cash incentives to help businesses with their new construction projects.

Compared to conventional buildings, high-performance green buildings can reduce energy costs by up to 40 percent and provide a superior indoor environment that improves employee productivity and morale. In fact, in 2008, Focus on Energy saved Wisconsin businesses more than \$840,000 in energy costs at their new sites!

Contact us today at focusonenergy.com/newconstruction or 800.762.7077 to tap into free customized solutions, financial incentives and technical expertise.

focus on energy
The power is within you.

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Business Programs

Business Programs Target Audiences

- Agriculture & Rural Business
- Commercial
- Industrial
- Schools & Government



Business Programs Organization

- Program Administration - WECC
 - Traditional administrative functions (business planning, budget, contracting)
 - Program design
 - Engineering /Quality
 - Marketing
 - Fulfillment
 - Channels
 - Evaluation coordination

Organization, *continued*

- Implementation - Contractors
 - Sectors
 - Agribusiness
 - Commercial
 - Industrial
 - Schools & Government
 - Cluster specialization
 - Sector staff
 - Sector manager
 - Energy advisors

Services

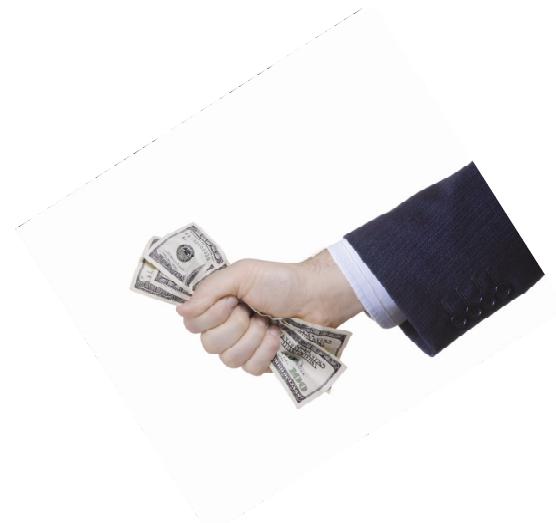
- Audits
- Low/no cost energy savings and maintenance tips
- Information & education



Program Delivery

- Energy advisors
- Market providers/trade allies
- Call center
- Web tools/self service
- E&T

Incentives



- Energy efficiency
 - Lighting
 - HVAC
 - Whole building systems, e.g. retrocommissioning, whole building lighting
 - Variable frequency drives
 - Information systems, e.g. server virtualization, thin client conversions
 - Food service
 - Commercial refrigeration
 - New construction

Incentives, *continued*

- Renewable Energy
 - Solar electric
 - Solar thermal
 - Wind
 - Biogas
 - Biomass
- * Incentive tier for implementing efficiency measures first



Incentives, *continued*



- Prescriptive
 - Set amount for specific measures, e.g., one to one replacement of lighting fixtures
 - Customer or market provider submits directly
- Custom (Tier 1 and Tier 2)
 - Requires preapproval
 - Guidelines regarding payback, % of project cost, maximum incentive



**SAVE ENERGY.
STRETCH YOUR BUDGET.**

With services and financial incentives from Focus on Energy.

Did you know? Customers of XYZ Utility and other participating utilities are eligible for energy-saving services and money-saving offers from Focus on Energy, Wisconsin's energy efficiency and renewable energy initiative.

Let Focus show you how to:

- Save energy and money and improve the comfort of your home or business.
- Find energy incentives for installing smart energy solutions.
- Harness clean, green, renewable energy from the sun, wind and biomass.

Start saving today. Call 800.762.7077 or visit focusonenergy.com to see how easy it is to save energy and stretch your budget further!

YOUR LOGO HERE  focus on energy™ The power is within you.

©2009 Focus on Energy RES-2444-0409

 CHANGE FOR THE BETTER WITH ENERGY STAR

CFLs are expensive. MYTH

For a limited time, ENERGY STAR® qualified CFLs are on sale at participating retailers!



ENERGY STAR qualified light bulbs:

- Use up to 75% less energy
- Last up to 10 times longer
- Save \$30 or more in energy costs over the bulb's life

Now that this myth is busted, it's time to save. Visit focusonenergy.com/changetolight for details.

YOUR LOGO HERE  focus on energy™ The power is within you.
800.762.7077 focusonenergy.com/changetolight

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ENERGY QUESTION #54

"I'm remodeling my home. Why should I schedule a home energy assessment before I begin?"

 ...AND THE ANSWER

Ask Focus on Energy!

Find answers to all your energy questions at AskFocusOnEnergy.com.

YOUR LOGO HERE  focus on energy™ The power is within you.
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Now more than ever, it pays to be energy efficient.

Cash-Back Rewards + federal tax credits = BIG savings!

Looking to save some green? The combination of cash incentives from Focus on Energy and residential tax credits from the federal government can save you big money on smart energy improvements for your home.

- **Energy efficiency upgrades.** Earn tax credits of up to 30%, plus Focus incentives, on insulation, heating and cooling equipment, water heaters, and more.
- **Renewable energy systems.** Save up to HALF the total costs of a solar electric, solar hot water, or wind system.

Contact Focus on Energy to learn more!
800.762.7077 focusonenergy.com

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IS "PHANTOM LOAD" HAUNTING YOUR HOUSE?

Save energy and money by scaring those ghosts away!

"Phantom load" is the electricity that appliances and electronics use even when turned off. Features such as clock displays, remote controls and indicator lights.

This wasted energy accounts for 4 to 7 cents of every dollar you spend on electricity and takes a hefty toll on the environment.

It's easy to bust those energy ghosts!

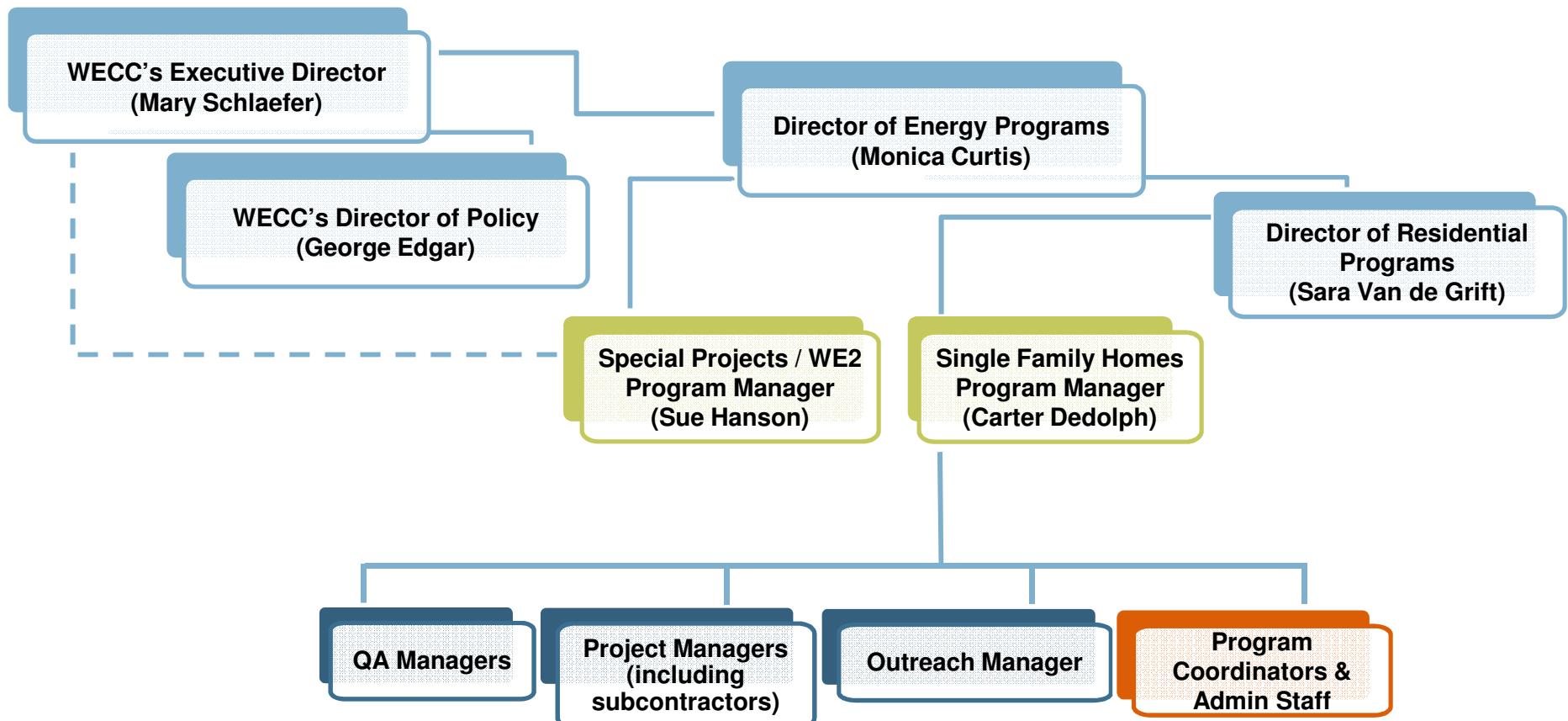
1. Unplug household appliances and electronics when not in use.
2. Purchase energy-saving ENERGY STAR qualified appliances and electronics.

For more energy-saving ideas for home and work Call Focus on Energy at 800.762.7077 or visit focusonenergy.com today!

YOUR LOGO HERE  focus on energy™ The power is within you.
©2009 Focus on Energy RES-2444-0409

Residential Programs

Homes Programs Organizational Chart



Residential Programs

- **Lighting**
 - ENERGY STAR qualified CFLs, lamps, fixtures, recessed can LEDs
 - LED holiday lights (seasonally)
 - CFL recycling at participating retail sites
- **Appliances**
 - Mostly awareness & education
 - Incentives on water heaters
 - ‘*SEARP*’ appliance rewards federally funded by ARRA: focusonenergy.com/recovery

Residential Programs, cont.

- **Efficient Heating and Cooling**
 - Heating systems with electricity-saving ECM fan
 - Boilers
 - Central air (mini split, ductless, or installed with qualifying furnace)
 - Geothermal / ground source heat pumps
- **Apartment & Condo Efficiency Services**
 - For buildings with 4 or more units
 - Audits, direct install and incentives for existing
 - Design assistance and incentives for new construction

Residential Programs, cont.

- **Home Performance with ENERGY STAR®**
 - Independent consultants conduct thorough evaluations of existing homes for a fee
 - Focus offers incentives for completing eligible recommendations
 - Promotional Web address: getcomfortablewi.com
- **Wisconsin ENERGY STAR Homes**
 - Offers builder incentives for hiring consultant to test and certify new homes, plus other upgrades
 - Promotional Web address: www.buildsmartwi.com

Residential Programs, cont.

- **Targeted Home Performance with ENERGY STAR**
 - Pays 90% of project cost for customers who fall within 60% – 80% of state median income
 - Because of whole-house improvement approach, home must be served by *both* participating electric and gas utilities
- **Pilots**
 - Rental Housing Energy Evaluation Program, Mobile Home Duct Sealing, etc.

Residential Programs, cont.

- **Renewable Energy Site Assessments**
 - \$100 toward solar electric (PV) assessments
 - \$200 toward wind assessments
- **Renewable Energy Installation Incentives**
 - Includes solar electric, solar hot water and wind
 - Based on estimated first year energy production
 - Increase incentives by doing efficiency projects first
 - Calculated per kWh or per therm
 - Up to 25% of project cost; maximum amounts vary by technology and size of system



Home Performance with ENERGY STAR®

Background

- Implemented in partnership with the EPA's national program
- 1,950 Home Performance with ENERGY STAR *completed* projects in 2009
- 75% of homeowners completing work installed 3 or more recommended measures

Program Features

- Home evaluation services
- Quality assurance
- Consumer education
- Cash-Back Rewards

Benefits for Consumers

- Quality assurance from independent professionals
- Peace-of-mind knowing you're taking care of your investment
- Education and guidance in optimizing your home's performance
- Professional evaluation
- Network of experts at your service
- Better resale value
- Access to Cash-Back Rewards

Who the Players Are

- Consultants
 - Approximately 70 around the state
- Performance Contractors
 - 6 with limited statewide coverage
- Trade Allies
 - Either installers or referrals

Consultants

- Perform a full energy evaluation of your home
 - Includes performance testing of ventilation and mechanical systems, combustion safety testing, building tightness, and insulation levels
- Provide a written report outlining suggested changes and help determine next steps
- Will suggest contractors that do the work to the Program's standards
- After the work is complete, consultant returns to provide independent verification the work was done correctly and re-test for combustion equipment if necessary

Performance Contractors

- May also perform a full energy evaluation with performance testing
- Will do some or all of the necessary work the homeowner wants done
- Do not provide a written evaluation report or have their work verified by an independent consultant
- Have been trained to Home Performance with ENERGY STAR's installation practices and standards

Trade Allies

- Must sign a Home Performance with ENERGY STAR Trade Ally Agreement
- Partner with independent Consultants
 - Do not provide any written report
 - Are not able to directly provide Cash-Back Rewards
- Contractor and Non-Contractor trade allies
- Receive Referral Bonus
- Have gone through some building science training

How It Works

- Primary focus is on building shell to deliver whole-house building performance
- Service includes pre and post evaluations
 - Blower door
 - Diagnostics
 - Combustion safety
- Delivered for fee through network of independent accredited professionals



Why Building Science is Stressed

- Good intentions don't cut it
- Laws of physics trump talk
- Know what installations are cost-effective
- Results are expected
- We can test, inspect, and document quality work



What to Expect

- A typical evaluation takes 2 to 4 hours
- A written report and work order will be provided, and tailored to each home's needs
- A list of qualified contractors / trade allies will be provided
- Cash-Back Rewards for which the homeowner is eligible will be outlined
- Post-testing of critical home performance elements and inspection of performed work is included in consultant's initial fee
- Consultant will handle all Cash-Back Rewards paperwork processing

Options

- Assessment
 - Comprehensive energy evaluation
- Rating
 - Comprehensive energy evaluation using home modeling software (REM/Rate)
 - Provides a Home Energy Rating System (HERS)
 - Costs more to have done

Cost

- Why doesn't Home Performance with ENERGY STAR pay for the evaluation?
 - Customers generally do not value free stuff
 - Homeowners are less likely to act
 - It's beneficial to work with market providers
- Costs vary by:
 - Partnering consultant / qualified contractor
 - Homes size
 - Rating vs. no Rating
 - Distance
 - Add-on services

Home Performance Current Cash-Back Rewards

Home Performance with ENERGY STAR®
Cash-Back Reward Eligibility Summary
January 1, 2010 to December 31, 2010

Cash-Back Rewards apply to single family, 1-3 unit rental building, or townhome (per individual unit) structures. All Cash-Back Rewards are based on receipt of information from a Partnering Consultant or Qualified Contractor. Customers must meet eligibility requirements to qualify for Focus on Energy incentives. See page 3 for eligibility details or call Focus on Energy at 800.762.7077 for more information.

	Home Performance with ENERGY STAR Measure	Technical and Eligibility Criteria Refer to <i>Instructions and Descriptions</i> section for additional information	Reward Amount (Per Home)	Fuel Source Requirement			Federal Tax Credit
				Electric Heat*	Gas Heat	LP/Oil/Wood	
BUILDING SHELL	Air Sealing – 400 cfm reduction	Reduce by 400 cfm or 25% of pre-test	\$75	X	X		X
	Air Sealing – 1000 cfm reduction	Reduce by 1000 cfm	\$125	X	X		X
	Air Sealing – 1600 cfm reduction	Reduce by 1600 cfm	\$175	X	X		X
	Attic Insulation	Install to recommended R value	\$100	X	X		X
	Floor Insulation	25 sq. ft. minimum	\$75	X	X		X
	Foundation - Exterior Insulation	Rigid extruded polystyrene	\$150	X	X		X
	Foundation - Interior Insulation	Rigid extruded polystyrene, fiberglass, or spray foam	\$200	X	X		X
	Knee-wall Insulation	Knee-wall	\$100	X	X		X
	Sidewall - Cavity Insulation	Closed or open	\$200	X	X		X
	Sidewall - Foam Insulation R3 – R4	700 sq. ft. minimum	\$100	X	X		X
ADDITIONAL REWARDS	Sidewall - Foam Insulation R5 or greater	700 sq. ft. minimum	\$150	X	X		X
	Sill Box Insulation	Must be air sealed prior to insulation installed	\$50	X	X		X
	Completion Reward	3 recommended complete shell insulation measures in addition to air sealing if applicable	\$300	X	X		
	Completion – LP/Oil/Wood Reward	3 recommended complete shell insulation measures in addition to air sealing if applicable - Customer receives no Rewards for the actual measures	\$300			X	
	New Customer Referral	Referral customer must complete a post blower door test	\$50	X	X	X	

<http://www.focusonenergy.com>



Information & Education

- Huge library of literature online and in hard copies
- Presentations and/or exhibits at community events
- Residential market provider training sponsorships: ecw.org/university
- Classes to help business customers learn how to make their facilities more energy efficient (Ex: Practical Energy Management, Energy Efficient Restaurants): focusonenergy.com/training

Referring Customers

- Toll-free Information Center:
800.762.7077
- Web site: **focusonenergy.com**
 - Info, incentive forms, fact sheets and case studies, videos and much more
- Expansive network of market providers and other technical experts

Other Places to Find Focus

- **AskFocusonEnergy.com:** Get quick, simple answers to hundreds of energy efficiency and renewable energy questions
- **LiveEfficientlyWithFocus.com:** Complete an online assessment of your home's energy use and get an efficiency ranking with tips for improvements
- Follow Focus on Facebook and Twitter
- Watch videos on YouTube or Vimeo

Commercial Energy Efficiency Financing

Todd Conkey
Energy Finance Development Director

BetterBuildings/DOE/ARRA

- Grant application submitted by WECC on behalf of Cities of Milwaukee, Madison, and Racine
- The Milwaukee, Madison, Racine award was one of 25 nationally
- Hundreds of applications totaling \$3.5B for \$452M of available funds
- Final grant award is \$20M across all three Partner Cities
- Goal is to leverage \$120M investment in energy efficiency

Commercial Financing

- Small Business Energy Efficiency Loan
- Cash Collateral Product
- Property Assessed Clean Energy (PACE)
- Interest Rate Buy Down

Small Business Energy Efficiency Loan

- Goals (on all products, really)
 - Improved loan terms for energy efficiency projects such as lower interest rates, longer loan tenors.
 - Financing of 100% due to program support and Focus on Energy incentives and rebates.
 - Improved borrower cash flow and increased property value due to energy efficiency project benefits.

Small Business Energy Efficiency Loan

- Benefits
 - Credit decision supported by program funds from City of Milwaukee.
 - Streamlined underwriting by Summit Credit Union. Contract to be finalized in about 2 weeks.

Small Business Energy Efficiency Loan

- Target Market
 - Businesses that lease their office space.
 - Smaller non-profit organizations.
 - Owner-occupied buildings with companies seeking improved building performance.
 - Companies with fewer than twenty (20) employees.
 - Project sizes of \$5,000 to \$20,000.

Small Business Energy Efficiency Loan

- Features
 - May be used for energy efficiency leasehold improvements.
 - Favorable loan interest rates with terms out to seven (7) years depending on life of the measure installed and project.
 - Program accessibility is dictated by verified energy efficiency savings of project.
 - Low application and program maintenance fee of \$100 of loan originated.

Cash Collateral Account

- Benefits
 - New deposits to FIs either \$100,000 or \$250,000 for initial funding of Reserve Account.
 - Cash Collateral Account equal to 20% of the total loan.
 - Credit decision is based on existing financial institution policies.
 - Projects supported by Focus on Energy.

Cash Collateral Account

- Goals
 - Same as Small Business Energy Efficiency Loan.
 - Loosen credit by financial institutions.
 - Provide collateral on transaction.

Cash Collateral Account

- Target Market
 - Commercial and Industrial businesses when owner pays utilities
 - Universities, K-12 Schools and Hospitals along with non-profit organizations.
 - Owner-occupied buildings with companies seeking improved building performance.
 - Energy-use intensive buildings.
 - Project sizes of \$10,000 to \$1,000,000.

Cash Collateral Account

- Features
 - Simplified master loan agreement.
 - Cash Collateral Account accessible to financial institutions for debt service reserve and/or loan loss reserve.
 - Cash Collateral Account is maintained at the financial institution for the life of the loan.
 - Underwriting is conducted by financial institutions.

Cash Collateral Account

- Features Continued
 - Program accessibility is dictated by verified energy efficiency savings of project.
 - Low application and program maintenance fee of 1% of loan originated.

PACE- General

- Property Assessed Clean Energy districts
- Local government program allowing property owners to finance EE and RE
 - Property owners opt-in to receive long term financing
- Repaid through an Special Charge on their property taxes
 - Similar to sidewalk and water line replacements.

PACE

- Targeting new Ordinance in early July.
- Special Charge equal to 12 months P&I placed on property.
- Financing provided by FIs.
- Targeted customer who has tenants.
- Eliminates split incentive issue.

Interest Rate Buy Down

- Spur activity in the market.
- Limited time, initial allocation of \$500,000.
- Up to 3% of interest rate bought down depending on project.
- Project size of \$10,000 to \$500,000.

Summary

- Small Business loan is stand-alone.
- All others can be combined.
 - CCA, PACE and IRB for example as beneficiaries could be different.
- Marketing collateral will be created over the next 30 days.

Additional Resources

- PACE Now: www.pacenow.org
- BetterBuildings:
<http://www1.eere.energy.gov/buildings/betterbuildings/>
- Database of State Incentives for Renewables & Efficiency (DSIRE): www.dsireusa.org
- Me²: <http://www.smartenergypays.com/>
- Green Madison: <http://www.cityofmadison.com/greenmadison/>
- City of Racine: <http://www.cityofracine.org/>

Q&A and Contacts

Timm Heck

Trade Ally- Milwaukee and Racine

(414) 333-2368

Todd Hanson

Trade Ally- Madison

(608) 513-9420

New Hire within 30 days

Commercial Finance Implementation Manager

Todd Conkey

Energy Finance Development Director

(608) 249-9322 x123



Green Madison Program Contractor Roll-out Training

February 28, 2012



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Agenda

- Green Madison Program Overview
- Me2 Program Overview
- Racine Energy Efficiency (Re²)
- Project Process
- Rules of Compliance
- Comments and Questions



Project Sponsors



Sister programs for Milwaukee and Racine



Program Overview

Green Madison is a federally funded program to help **homeowners** and **business owners** make energy-efficiency improvements.



Program Overview

Green Madison helps you *finance* energy efficiency projects to improve your net income and cash flow from day one.



Green Madison financing offers:

- Lower interest rates
- No money down financing



Energy Efficiency: A Smart Investment

- Improved occupant comfort
- Improved indoor air quality
- Improved lighting quality
- Improve reliability of building systems
- Market the “green features” of your property
- Potential tax benefits



Energy Efficiency Economics

Year	Finance Payments	Utility Savings	Annual Positive Cash flow	Cumulative Cash flow
1	\$5,401	\$6,667	\$1,266	\$1,266
2	\$5,401	\$6,834	\$1,433	\$2,699
3	\$5,401	\$7,005	\$1,604	\$4,302
4	\$5,401	\$7,180	\$1,779	\$6,081
5	\$0	\$7,359	\$7,359	\$13,440

Example: \$20k project, 20% utility savings, 0% down, 4% interest rate, 4 year term, 2.5% annual utility increases



Eligible Properties

- Most non-residential property located in the City of Madison
 - Restaurant and hospitality
 - Offices / Commercial properties
 - Multi-tenant buildings
 - Grocery and convenience stores
 - Industrial
 - Healthcare
 - Churches and non-profits
- No casinos, golf courses, or swimming pools



Technologies

- Lighting
- HVAC and controls systems
- Commercial refrigeration
- Industrial processes
- Steam systems
- Renewable and water saving improvements when done in conjunction with energy efficiency



Financing Products

- Small Business Financing
- Smart Security Financing



Small Business Financing

Term	3 Yr	5 yr	7 yr
Interest rate (Energy Efficiency measures)	5.25%	5.75%	6.25%

- **Project size: \$5,000 to \$20,000**
 - No money down in most cases
 - No property lien
 - Low interest rates, fixed for term of loan



Smart Security Financing

- **Project size: \$10,000 to \$250,000**
 - Best fit when property owner pays utilities
 - Work through your own lender
 - Green Madison deposits collateral so the customer doesn't have to
 - Allows customers to finance 100% of project costs or other improved terms



Participating Contractor Benefits

- Marketing programs
- Promotional placement
- Use of logo
- Listing on website
<http://www.cityofmadison.com/GreenMadison/>
- Mentoring and training
- Program support



Participating Contractor Requirements

All projects must be installed by Participating Contractors

- Request for Qualifications
- Licensing
- Training
- CWA – Wage Rule
- Resident Preference Program



15% Saving Rule

- The project must save 15% of all utility use within effected floor area
- Effected floor area is that area that is effected by new systems
- 15% rule based on designed savings



15% Saving Rule: Example

- Chiller upgrade would need to offset 15% of total load within chiller loop service area
- Outdoor lighting only has to offset lighting load or any other outdoor load
- Elevators work!



Other Partners

- Not listed on the Website
- Still partnered with the program
- Can use credit enhancements to finance projects
- Must use Participating Contractors to install project upgrades



Outreach

Goal: 109 plus projects before May 31, 2013

- End User outreach
- Ally outreach
- BID, Non-Profits, and Trade Associations
- Energy Programs



Milwaukee Energy Efficiency

- Also called Me²
- Me² is similar to Green Madison
- Main Contact: Timm Heck



Racine Energy Efficiency

- Also called Re²
- Only Smart Security and Small Business
- Not launched as of yet
- Info to come soon!



Green Madison: The Process

1. Work with a Participating Contractor or Green Madison Representative to develop a potential energy efficiency project
2. Submit preliminary Green Madison Commercial Interest Form (must be signed by the customer)
3. Refine scope of work with contractor and Green Madison staff
4. Submit Green Madison Commercial Application Form
5. Green Madison staff approves project
6. Bank approves project with Green Madison credit enhancements
7. Close financing
8. Complete project



Compliance

Cindy Moubry

WECC

Grant and Compliance Analyst

608.729.6833

cindym@weccusa.org



Use of Subcontractors

- General Contractors must be approved as a Participating Contractor
- Any subcontractor performing work on a Green Madison project must be listed on the Participating Contractor list.
- Using non-Participating Contractors may jeopardize project financing
- Customer (business owner) is ultimately responsible to ensure that all contractors and subcontractors on the job are listed on the Participating Contractor list for the portion of the project being financed with EECBG funds.



Wages

- Participating Contractors shall pay wages according to the City of Madison CWA
 - \$17.00 per hour
 - Wage plus deferred compensation/pension
 - Report total hourly rate



Reporting

- Participating Contractors are required to submit the hours worked by all employees through Key Survey
 - Employee Name
 - Hourly Wage
 - Job Classification
 - RPP Hours
- Hours must be reported within 10 days of project completion



Application Process

- Submit Completed RFQ with required documentation to Cindy Moubry
- Background Check Performed
- Follow up request for additional documentation
- Once approved, you may begin advertising your participation in the program



Historic Preservation

- Historic Preservation
 - DOE requires that any building listed on the National Registry be reviewed and reported
 - Cindy Moubry determines if a property is listed on the National Registry at the time the commercial interest form is received
 - Contractors are held responsible for submitting their scope of work to be reviewed and approved by Cindy Moubry who will initiate a Section 106 review if necessary



Thank you

www.cityofmadison.com/GreenMadison/
greenmadison@cityofmadison.com
877.399.1204

City of Madison
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Agenda

- **New Green Madison Incentives**
- **40% Grants or Rebates! How do you get there!**
- **Target Areas and who you should be talking to.**
- **Best Practices in different areas**
- **Lighting Project Development**
- **Small Commercial Financing Product**
- **Streamlining your application**
- **Your comments and questions**



Project Sponsors



Sister programs for Madison and Racine



Green Madison Program

Green Madison is a federally funded program to help homeowners and business owners make energy-efficiency improvements.



Energy Efficiency: A *Smart* Investment

- Energy efficiency projects can help cut your utility expenses
 - Improves your net operating income
 - Increases your monthly cash flow
 - Low risk investment





Energy Efficiency: A *Smart* Investment

- Improved occupant comfort
- Improved indoor air quality
- Improved lighting quality
- Improve reliability of building systems
- Potential tax benefits
- Market the “green features” of your property



What is Green Madison ?

Green Madison helps you finance energy efficiency projects to improve your net income and cash flow from day one.

Green Madison financing offers:

- Lower interest rates
- No money down financing





Eligible Properties

- Program is designed for projects that save at least 15%
- Non-residential property located in the City of Madison
 - Offices and other commercial properties
 - Multi-tenant buildings
 - Industrial
 - Healthcare
 - Restaurant and hospitality (small business)
 - Grocery and convenience stores (small business)
 - Churches and non-profits (small business)
- No government buildings, casinos, golf courses, and swimming pools



Financing Products

- Small Business Financing; or
- Smart Security Financing

AND

- NEW: Cash Back Rebate



Small Business Financing

Project size: \$5,000 to \$20,000

- [Summit Credit Union](#)
- Low interest rate
- No money down in most cases
- Streamlined application process



Smart Security Financing

Project size: \$10,000 to \$3m

- Use your own lender
- 20% of loan amount deposited into financial institution → no down payment from you
- Allows you to finance 100% of project



Energy Efficiency Economics

Example: \$400k project, 20% utility savings (\$50k), 0% down, 4% interest rate, 10 year term, 3% annual utility increases

Year	Finance Payments	Utility Savings	Annual Positive Cash flow	Cumulative Cash flow
1	\$49,316	\$50,000	\$684	\$684
2	\$49,316	\$51,500	\$2,184	\$2,868
3	\$49,316	\$53,045	\$3,729	\$6,597
4	\$49,316	\$54,636	\$5,320	\$11,917
Etc.	\$49,316	\$56,275	\$6,959	\$18,876





Residential Incentives

- **Tiered cash incentives for homeowners. The more energy saved, the more cash incentives earned.**

Action	Incentive
Achieve 15-24% energy savings in the home	\$1,000 cash incentive
Achieve 25-34% energy savings in the home	\$1,500 cash incentive
Achieve 35+% energy savings in the home	\$2,000 cash incentive



Small Commercial Incentives

- Project must be \$50,000 or less
- Customer must be at 100kW or less demand.

Action	Incentive
Achieve 10-14.9% energy savings	20% of project costs*
Achieve 15+% energy savings	40% of project costs*



Commercial Incentives

Customers over 100kW of Demand

- **\$0.10 per kWh**
- **\$300 per kW**
- **\$1.00 per Therm**

Goal of achieving 15% energy savings.



Incentives – Key Points

- Percentage is only on the Energy related portions of project.
- Green Madison program reserves all rights
- Program will validate all estimates of savings
- Must use participating contractors
- Percentage of Savings is based on “effected space”



Participating Contractors

- Participating contractors must meet program requirements
- Contractors are committed to meeting federal wage Davis Bacon Act payroll requirements
- Most major contractors are currently participating, with open enrollment of new contractors



Benefits of Green Madison Financing

- Streamlined Credit Underwriting
- Loan Loss Reserve
- Return on Investment not Payback
- If savings are greater than payments, they are Positive.



Benefits of Green Madison Financing

- Summit Credit Union
- 3,5 or 7 year terms
- Streamlined underwriting
- If we pay for 40% of Small Commercial project, you can finance the rest.



Green Madison Financing

- Online Tools and Calculators
- Easy to understand rates
- <http://www.summitcreditunion.com/calculators/SimpleLoan.html>
- Accessibility



Summit Credit Union

- If tenant, the lease term *may* be a factor in determining maximum loan term. Type of improvement and energy savings will also impact term



Summit Credit Union

Debt Service Coverage Ratio (Annual Business Cash Flow divided by Annual Business Debt Payments)

- 1.2 or greater
- Not limited to the Project Cash Flow



Summit Credit Union

- Preferred Customer FICO Score >680



Summit Credit Union

Common Items needed by Summit

- Completed application that includes requested loan amount, purpose, collateral offered, existing debts of the business, etc.
- Existing Businesses - Most current two (2) years of tax returns for business and guarantors.
- New Businesses – Copy of Business Plan, 2 Years of Financial Projections, and Verification of Other Household Income.
- Current Personal Financial Statement.
- Energy Assessment outlining expected cost savings.



Summit Credit Union

Collateral

- **UCC-1 on all purchased and installed equipment**
- **General Business Security Agreement**
- **(Other collateral may be requested for special circumstances, such as start up businesses)**



Summit Credit Union

Closing

- Establish membership with Summit Credit Union.
- Deposit at least \$5.00 into a savings account.
- Provide information for payment set up (ACH or automatic transfers preferred).
- Proof of insurance for collateral offered.
- Energy Assessment /approval by program if not collected previously.
- Loan documents signed by all borrowers and guarantors.
- \$100 Closing Fee



Summit Credit Union

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Summit Credit Union

http://www.summitcreditunion.com/money/loans/milwaukee_energy_efficiency_loans/me2_small_business.html



Process

- Commercial Project Interest Form
- Validate Project (Focus on Energy, WE Energies, Me2 Auditor)
- Secure Financing
- Program Application
- Start construction



Application

- Commercial Project Interest Form
- Proof of Savings
- Utility Release
- Financial information
- Program Application
- Signed Proposals
- Grant from Focus on Energy if Applicable



Defensible Savings

**Me2, Re2 and Green Madison must be
able to prove savings to the
Department of Energy**

- Focus on Energy or WE Energies grants
- Audit Resources



Audits

- **Ashrae Levels 1, 2, or 3**
- **COMNET**
- **DOE2**
- **eQUEST®**
- **TRACE**
- **EnergyPlus**

http://apps1.eere.energy.gov/buildings/tools_directory/



Audits

eQUEST®

- Building Energy analysis Tool
- Free Ware
- DOE2 combined with EEM Wizards

<http://www.energydesignresources.com/resources/software-tools/equest.aspx>



Project 1

- \$32,000 Project (Boiler)
- Small Commercial Customer
- 15 percent savings
- 7.5 year payback
- Does it work?



Return on Investment (1)

Year	Payments	Utility Savings	Positive Cash Flow	Cumulative Cash Flow
1	\$3372	\$4346	\$974	\$974
2	\$3372	\$4346	\$974	\$1948
3	\$3372	\$4346	\$974	\$2922
4	\$3372	\$4346	\$974	\$3896
5	\$3372	\$4346	\$974	\$4870
6	\$3372	\$4346	\$974	\$5844
7	\$3372	\$4346	\$974	\$6818



Return on Investment

- After Grant Project costs \$19,200 (based on 40% grant)
- 7.5 year payback (\$32,000) translates to \$4346 in savings approximately
- Payback becomes 5.7 years after grant
- 7 Year loan based on 6.25% APR*



Return on Investment

- Return on Savings CD for 7 years - \$1816
- Total Return on Energy Project - \$6818

At the end of year ten... CD - \$2,628 return
Energy Project=

\$19,856 Return on Investment



40% Rebates!

- **Work on Best Practices**
- **Make sure you coordinate with others on projects**
- **Isolate the best chance for reductions**
- **Target customers that will present an opportunity**
- **Deeper Retrofits!**



Target Areas

Small Commercial

- Always worried about cost.
- Project \$50K or less
- Green Madison pays 40%
- Remaining 20K can be finance NO MONEY DOWN!



How do you get to 15%

- Start Selling Best Practices for other technologies
- Work with a partner
- Develop networks
- Identify Common opportunities
- Look around
- Value added to your service



Common Opportunities

HVAC

- Heating and Cooling Systems are the Single Largest user of energy in Commercial Buildings
- More than 50% of building's energy use
- Optimize or replace



Common Opportunities

Condensing Unit Heaters

- Jump in Seasonal Efficiency from <65 to ~91%
- Savings of up to \$1500 per year depending hours of use.
- Tie in with High Bay Lighting opportunities in Warehouses.



Source: JP Heating



Common Opportunities

Warehouse Example

- **High Bays in Warehouse = 50% savings to go from HID to Fluorescent**
- **Condensing Unit Heaters = 25% savings plus compared to non-condensing**
- **Dock Door Technologies**
 - LED Lighting
 - Doors and Levelers
 - High Speed Doors



Source: JP Heating



Common Opportunities

Boilers

- **No Money Down Financing Helps to make Boiler Replacement Make Sense NOW!**
- 15 year old boilers are estimated to be 65% efficient
- Calculate the cost and calculate the savings for ROI





Common Opportunities

Laundromat

- **Lighting in Facility = 15% plus**
- **High Efficiency Washers = 50% savings**
- **Water Heater = 25% savings**
- **Outdoor lighting = 30% savings**





Common Opportunities

Rooftop Units

- Replace now, do not wait until equipment failure
- Combine with other technologies to “jump a tier”





Common Opportunities

Light Commercial

- **Interior Lighting** = Look for T12 to replace with T8
- **Exterior Lighting** = Replace HID with Fluorescent or LED
- **HVAC** = RTU or Boiler replacement
- **Water Heating**



Common Opportunities

Water Heating

- **Laundromats, Salons, Motels, Nursing Homes have high Water loads**
- **Tank Storage Water heaters over 10 years old estimated to be 50% efficient.**
- **Savings depend on load**





Common Opportunities

Variable Frequency Drives

- Retrofit Air Handling Units
- Motors, Pumps and Fans!
- 63% load means 75% savings!
- Equipment life, and Demand





Common Opportunities

Food Service

- **Can save 30 percent if implemented correctly**
- **Increased reliability in kitchens with ENERGY STAR equipment = Varies**
- **Controls for Kitchen Hoods with VFD = up to 15% TOTAL!**
- **Lighting inside and out!**



Common Opportunities

Compressed Air

- Optimize the system (leak detection and repair) Save 20-50%
- VSD Compressors
- Air generation can account for 30% or more of electricity consumed.
- Financing options



Common Opportunities

Parking Lots

- Total load in space will usually be just lighting
- Reduction in energy from HID to Fluorescent or LED is often over 15%
- 40% Grant for Qualifying customers!



Common Opportunities

Gas Station Canopies

- Total load in space is predominately lighting
- Reduction in energy from HID to Fluorescent or LED is quite often over 15%
- Better Security rendering
- Better look and feel for owners.
- Expand with Refrigeration in C-Store



Lighting Projects

LIESEL WHITNEY-SCHULTE

Liesel leads the design and implementation of commercial lighting programs, provides program development and technical guidance for residential lighting programs. She is Lighting Certified (LC) by the National Council on Qualifications for the Lighting Professions (NCQLP) and has been involved in a wide variety of energy efficiency programs since 1992.



No Endorsements

- This presentation does not represent endorsement of any specific manufacturer, product, contractor, or distributor
 - Photos are representative of technology only
- Not an endorsement of LED technology over other technologies



Calculating Savings

- Information needed
 - Existing quantity and Wattage
 - Hours of use and any controls information
 - Proposed quantity and wattage
 - Utility rate
- Back of the envelope:
 - $(\text{Existing Watts} - \text{Proposed Watts})/1000 * \text{utility rate}$



Example

Existing

- Restaurant with 25 recessed downlights with 75W Incandescent lamps
- Hours of use:
 - 6am to 9pm M-Sa
 - 9am to 3pm Sunday
 - 4992 annual hours
- kWh rate .09 avg
 - Total bill amount divided by kWh usage

Proposed

- Replace with 25 -12W LED Downlight retrofits
- No change to operating hours



Savings Calculation

- Existing: $25 \times 75W = 1875W$ atts
 - Convert to kW (divide by 1000) = $1.875kW$
- Proposed: $25 \times 12W = 300W$ atts
 - Convert to kW = $0.3kW$
- kW Difference = $1.575 kW$ (33% less)
- Multiply by annual hours to get kWh
 - $1.575 \times 4992 = 7862$ kWh savings
- Multiply by rate
 - $7862\text{kWh} \times \$0.09 = \$707.62/\text{year}$ savings



Lighting Opportunities

Look for opportunities while on site

- T12
- Incandescent A-lamps, Flood/Spot
- Unoccupied spaces (with lights on)
- Uncontrolled outdoor lighting
- Over lit areas



Troffers

- Parabolic
 - Throw light down
- Prismatic Acrylic
 - Glare everywhere
- Retrofit options 30% savings
 - HPT8 ballast & lamp
 - RWT8 ballast & lamp
 - T5 requires ballast, lamp and adapter





Replace instead of retrofit

- “Non-planar” Fixtures
 - Modern
 - Higher angle
 - Even illumination
 - HPT8, RWT8 or T5
 - Often less labor
- Retro-kits available
 - Modular retrofit





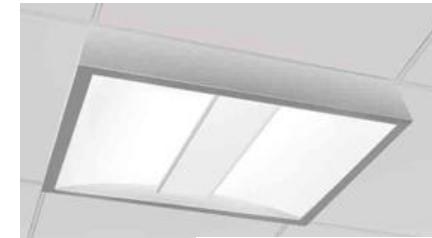
Troffer Savings

- 3L T8 parabolic troffer
 - 85W
 - approx 5544 lumens directed downward
- Change to 2L “non-planar” modular retrofit
 - High angle distribution
 - 55W
 - 4515 lumens



LED Troffers

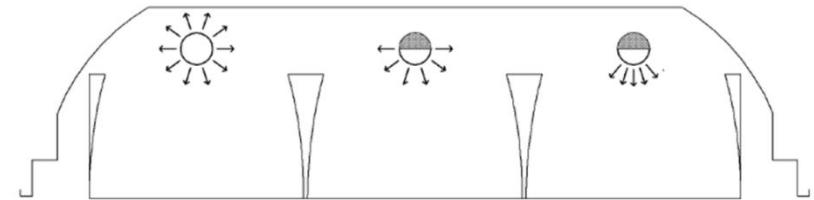
- Purpose designed fixtures are becoming competitive with fluorescent
 - Compared to new fixture
- Optics designed for use with LED source
- Similar savings to HPT8
- Some have integrated dimming
- 4300 lumens, 50W





LED Tubes

- Require careful consideration.
 - Same size/length
 - Different distribution than fluorescent
- Luminous intensity distribution (below) with two four-foot T8 fluorescent lamps (blue) vs. LED replacements (black)



<http://apps1.eere.energy.gov/buildings/publications/pdfs/ssl/led-t8-fluorescent-replacement.pdf>



LED Downlights

- Purpose-designed
 - Optimized for downlight
 - Up to 100% fixture efficiency
 - Nearly all light generated is directed out of the fixture
 - Built in optical control for even out light distribution
- 35 year rated life
- Interior or exterior use





LED Downlight Retrofits

- Purpose-designed
- Fits in existing “cans”
- 35 year rated life
- Optimized for downlight
 - Up to 100% fixture efficiency





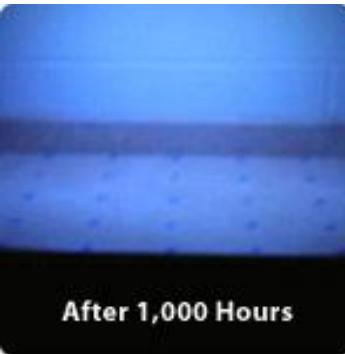
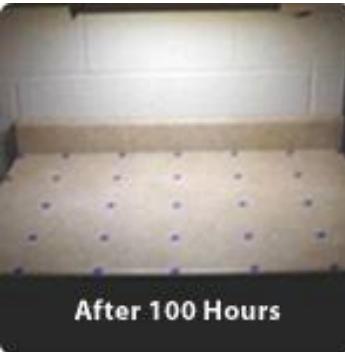
LED Replacement “Bulbs”

- A-19, Globe, Candle
- Replacement lamps with integral driver
- Many different forms
- Fit in existing Edison socket
- Look for similar light distribution to existing





Examples of Color Concerns



Color shift over time
(from EPA ENERGY STAR website)



Different shades of “warm white”



Distribution Comparison

Approx 450 lumens

- Base up position
- Left to right:
 - 8W “Snow-cone”
 - 9W Energy Star A19
 - 40W incandescent
- Distribution pattern similar to graph





Distribution Comparison

- Compared to 40W Inc (on left)
- Base down position
- All advertised as direct replacement





L Prize

DOE competition:

- 60W equivalent
- Exceeds Energy Star
- 900 lumens
- Less than 10W
- 90+ CRI
- 75% US manufacture
- Dimmable
- Winner announced
 - (competition closed)
 - Watch for info around Earth Day





Directional Replacement Lamps

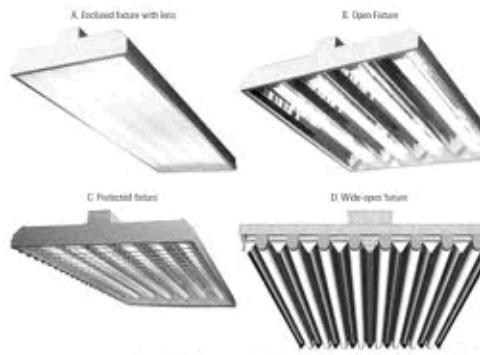
- Intense directional light
 - sparkle
- Compare to existing
 - Size, voltage, light output, *intensity*
- Many beam spread options
- Dimmability





HID replacement

- High bay fixtures
 - Metal Halide
 - High Pressure Sodium
- Warehouses, manufacturing & Gyms
- Replace with high bay fluorescent
 - Up to 50% more efficient than HID
 - May not be appropriate for unheated spaces or cold warehouse, pools-caustic, dirty, solvent, oily or dusty location





Exterior

Parking

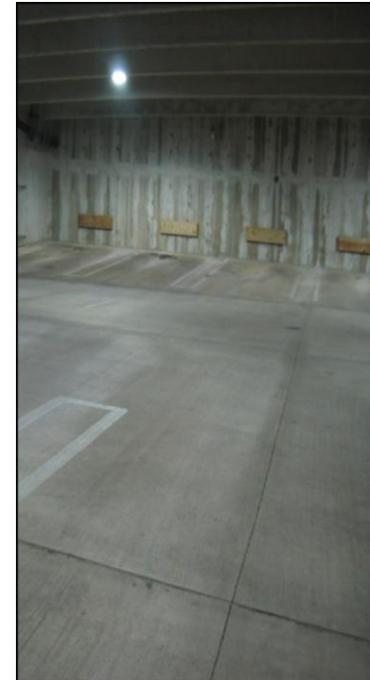
- Pole Mounted
 - Cobrahead
 - Shoebox
- Security Lighting
 - Wall Packs
- Petroleum canopy





Outdoor LED Applications

- Can be effective for:
 - Parking lots
 - Petrol canopy
 - Sign lighting
 - Parking ramp/garage
- Good, but not the only solution
 - Check cost effectiveness
- Stepped dimming for occupancy based control





Other Applications

Cove, task, step lights

- Small area to illuminate
- Short throw
- Low light levels
- Space constraints



Track Lights

- Directional
- Very little light loss within fixture



Outdoor Entry

- Instant on
- Operates well in cold





Conclusion

- No silver bullets
 - Lots of choices, but all products are not equal
 - Need to research
 - Verify light output, intensity, warranty
 - Know what your needs are and weigh the benefits of each individual solution
 - Is LED the best light source for the application?
 - Consider all alternatives
 - Have vendors provide documentation of product performance and layout for the space



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Thank You

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(877) 399-1204

City of Madison - Green Madison Program

We² Commercial Program

	Small Business	Commercial
Target	Tenants	Owner occupied, investment RE
Products	Term Loan supported by LLR	Debt Service Reserve, PACE and Interest rate buydown
Amounts	\$5,000-\$20,000	DSRF \$10,000-\$1,000,000 PACE \$20,000-\$5,000,000 IRB up to \$500,000
Bank	Summit Credit Union	Various
Term	3, 5 or 7 year	Various
Interest Rate	5.25%, 5.75 & 6.25% (Prime-indexed)	Various
Requirements	15% usage savings of impacted space	
Marketing Partners	Lenders, city staff, trade ally reps, utility reps, Focus on Energy advisors	





SmartEnergyPays.com (877) 399-1203



Agenda

- Intro presenters
- Benefits of an energy efficient business
- How Milwaukee Energy Efficiency (Me²) makes energy saving upgrades affordable
- Me² financing products
- Q&A and contact information



Presenters

- Erick Shambarger
 - Deputy Director, Milwaukee Office of Environmental Sustainability
- Chris Hackner
 - Me² Commercial Project Manager



Project Sponsors



MILWAUKEE
OFFICE OF ENVIRONMENTAL SUSTAINABILITY



Sister programs for Madison and Racine



Energy Efficiency: A *Smart* Investment

- Energy efficiency projects can help cut your utility expenses
 - Improves your net operating income
 - Increases your monthly cash flow
 - Low risk investment





Energy Efficiency: A *Smart* Investment

- Improved occupant comfort
- Improved indoor air quality
- Improved lighting quality
- Improve reliability of building systems
- Potential tax benefits
- Market the “green features” of your property



Energy Efficiency: A *Smart* Investment

Value of a Green Building ⁽¹⁾

Green buildings have rental rates and selling prices 3% and 16% higher, respectively.

(1) Source: Eichholtz, Piet, Kok, Nils, and Quigley, John M. "Doing Well By Doing Good? Green Office Buildings." UC Berkeley: Center for the Study of Energy Markets, (2009)



What is Me² ?

Milwaukee Energy Efficiency (Me²) helps you finance energy efficiency projects to improve your net income and cash flow from day one.

Me² financing offers:

- Lower interest rates
- No money down financing
- Potential to pass energy efficiency project costs to your tenants





Energy Efficiency Economics

Example: \$20k project, 20% utility savings, 0% down, 4% interest rate, 4 year term, 2.5% annual utility increases

Year	Finance Payments	Utility Savings	Annual Positive Cash flow	Cumulative Cash flow
1	\$5,401	\$6,667	\$1,266	\$1,266
2	\$5,401	\$6,834	\$1,433	\$2,699
3	\$5,401	\$7,005	\$1,604	\$4,302
4	\$5,401	\$7,180	\$1,779	\$6,081
5	\$0	\$7,359	\$7,359	\$13,440





Example Project

- MillerCoors installed new dock heaters to create air curtain between warehouse and trailers
- Project cost was \$417,000
- Projected annual utility savings of \$128,000 and maintenance savings of \$20,000



Technologies

- Lighting
- HVAC and controls systems
- Commercial refrigeration
- Industrial processes
- Steam systems
- Renewable and water saving improvements when done in conjunction with energy efficiency





Eligible Properties

- Non-residential property located in the City of Milwaukee
 - Restaurant and hospitality
 - Offices and other commercial properties
 - Multi-tenant buildings
 - Grocery and convenience stores
 - Industrial
 - Healthcare
 - Churches and non-profits
- No gambling establishments, aquariums, zoos, golf courses, or swimming pools unless explicitly allowed by USDOE program guidance





Me² Financing Products

- Small Business Financing
- Smart Security Financing
- Clean Energy Financing
- Interest Rate Buy Down



Small Business Financing

- Summit Credit Union
- No money down in most cases
- No property lien
- Low interest rates fixed for term of loan
- Efficiency project size: \$5,000 to \$20,000



Term	3 yr	5 yr	7 yr
Effective Interest rate (HVAC/lighting+)	5.25%	5.75%	6.25%



Smart Security Financing

- **Me² deposits 20% collateral to your lender so you don't have to!**
- Allows customers to finance 100% of project costs or other improved terms
- Efficiency project size: \$10,000 to \$1 million
- Best fit when property owner pays utilities
- Work through your own lender
- 1% origination program fee



Clean Energy Financing Program

- Gives property owners whose tenants pay the energy bills a reason to make energy improvements
- Energy efficiency loan repayments are deemed to be a municipal special charge of the City
- Allows property owner to pass on project costs to tenants, who must benefit from lower energy bills
- Efficiency project size: \$20,000 to \$5 million
- 12 months P&I guaranteed to bank and collectable on tax roll
- 0.50% origination fee





Interest Rate Buy Down

- Federal grant to “buy-down” bank interest rate by 2-3%
 - 2% for lighting projects
 - 3% for other technologies or lighting plus
- Can be used in conjunction with other Me² financing products
- Efficiency project size: \$10,000 to \$500,000
- Limited funds are available



Interest Rate Buy Down

Example:

Efficiency project Size: \$125,000

Standard Interest Rate 7% = \$2,475 monthly

Me² Interest Rate Buy Down = 3%

New Interest Rate 4% = \$2,302 monthly

Total savings over 5 years = \$10,385

\$500 customer fee



Me² Participating Contractors

- Participating contractors:
 - meet program requirements
 - are committed to employing city residents and meeting federal American Recovery and Reinvestment Act requirements
- Most major contractors are currently participating, with open enrollment of new contractors



Me² Participating Contractors

For most current listing, visit:

www.smartenergypays.com/contractors



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Whole House Insulation, Inc. - Tony Leiner
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wholehouseinsulation@yahoo.com

List shown last updated 9/26/2011



Program Steps

1. Work with a Participating Contractor or Focus on Energy representative to develop a potential energy efficiency project
2. Submit Me² Commercial Interest Form
3. Refine scope of work with contractor and Me² staff
4. Schedule meeting with Financial Institution
5. Submit Me² Commercial Program Application
6. Me² staff approves project
7. Bank approves project with Me² credit enhancements
8. Close financing
9. Complete project and enjoy the savings and a better building!



Thank You

For more information

www.smartenergypays.com

me2@milwaukee.gov

(877) 399-1203

Milwaukee Office of Environmental Sustainability
Erick Shambarger (414) 286-8556



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