

Project Narrative

Michigan Retrofit Ramp-up Initiative Proposal

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I. Project Objectives

Overall, our goal is to create a vibrant, growing and sustainable market for high quality, deep energy efficiency retrofits on residential, commercial, industrial and public buildings across Michigan. To support this goal, we will use the retrofit ramp-up program to achieve the following objectives.

Objective 1: Create 2,063 energy efficiency focused jobs and reduce energy consumption in Michigan by 1.2 TBTUs.

Action: Through Michigan Retrofit Ramp-up Initiative (MRRRI) we will deliver outreach and energy efficiency education to 11,340 homes, including conducting audits and install basic energy efficiency measures in 6,480 homes, stimulating the uptake of homeowner-paid deeper retrofits in 3,240 homes, and completing deep energy retrofits in over 2,700 low income homes. In the commercial, industrial and public sectors we will deliver energy efficiency education and outreach, conduct audits, and complete energy efficiency retrofits in 131 commercial buildings in downtown Detroit.

Objective 2: Pilot a well-informed model program that will drive economies of scale and large-scale uptake of significant energy efficiency improvements across entire neighborhoods/communities.

Action: The “neighborhood retrofit” approach employed in MRRRI will drive significant economies of scale. Neighborhoods are proactively targeted for energy efficiency retrofits within a pre-defined period of time allowing for: (1) reduced per-building administrative and outreach costs, (2) bulk purchase of materials and labor, and (3) maximization of dollars spent on energy efficiency measures. In addition, the targeted marketing of neighborhood retrofits allows for a diversity of traditional and non-traditional outreach approaches to drive deeper uptake. Finally, our investigative approach—applying multiple variations of outreach/marketing and financing/incentives across sectors—is designed to maximize uptake over the three-year project period while improving our understanding of what drives uptake in different sectors and community types, allowing for more effective programs in the future.

Objective 3: Strengthen our existing MI Saves financing program to ensure a strong private sector market ready to invest in energy efficiency loans in Michigan and a deep pool of energy efficiency incentives and credit enhancements in perpetuity.

Action: Michigan has created an innovative new program called Michigan Saves (MI Saves). Endowed with an initial trust fund of \$6.5 million from the Michigan Public Service Commission (MPSC), this program eliminates the up-front costs of energy efficiency installation for residential and business customers and provides a streamlined process for securing financing at preferred rates. To do this, MI Saves leverages capital with innovative credit enhancements including loan loss reserves and interest rate buy downs. By linking customers to lender and investor capital sources, MI Saves facilitates investment in cost-effective energy efficiency upgrades for homes, businesses, and institutional buildings and creates a funding model that will sustain the program beyond the grant period.

MRRRI will utilize MI Saves to leverage investments in the residential program, while strengthening the program in four distinct ways. First, MRRRI will encourage additional third-party lending for investment in energy efficiency by increasing MI Saves’ pool of funds available for credit enhancements by \$10 million. Second, it will encourage additional third-party capital investment in the secondary market by creating a large-scale coordinated program with consistent loan servicing and underwriting. Third, the lessons learned from the MRRRI neighborhoods will provide valuable lessons and information as well as administrative funds to improve and sustain its operation. Finally, the outreach and education provided by MRRRI will increase public awareness of energy efficiency and the MI Saves program itself, thereby driving sustained uptake of this new program. The MRRRI funds contributed to the MI Saves program will persist well beyond the grant period and allow for energy efficiency incentives and credit enhancements in perpetuity.

Objective 4: Create a critical mass of growing awareness about the benefits of energy efficiency and the means to achieve it in residential, commercial, industrial and public buildings.

Action: At a community level, the sustained focus on energy efficiency in our MRRI communities will leverage the strengths and community relationships of our partners to engage and educate the public as well as establishing the skills and knowledge for ongoing education, providing persistent, pervasive consumer awareness. In addition, lessons learned coupled with the training received by statewide outreach groups, such as Michigan State University Extension, will allow for on-going, sustainable delivery of the energy efficiency message into new communities across Michigan. At a state level, both the residential and commercial centers programs will create high-profile energy retrofit impacts that will develop support amongst community leaders, public decision makers, commercial real estate players, and institutional leaders generating top-down leadership on energy efficiency. Finally, MRRI will help create brand awareness for the MI Saves program that will lend credence and generate demand for the program as it expands through use of “recycled” funds into new communities. All of these elements will combine to drive critical mass in awareness of energy efficiency programs, certifications (Energy Star, home labeling), and whole-home audit options, ultimately generating the market demand to sustain on-going energy efficiency implementation.

Objective 5: Kick start an energy efficiency qualified contractor infrastructure that is strong and growing.

Action: Consistent delivery and results of work performed by certified contractors will build increased consumer confidence in energy efficiency measures. In addition to the nearly 200 existing energy efficiency-certified construction professionals in Michigan, the State has over 40,000 unemployed residential and commercial construction professionals who can be re-trained to conduct energy efficiency retrofit work. To ensure access to training, we will partner and leverage with existing training programs and institutions including “No Worker Left Behind,” the Building Science Academy, Northwestern Michigan College, and work with Ferris State University, Detroit Workforce Development Department and Henry Ford Community College to expand their programs. In addition, we will partially subsidize the training and certification of 125 energy efficiency professionals to BPI, RESNET or equivalent, and upgrade the skills of 25 Detroit commercial/ institutional/ public facilities managers and operations personnel. Together, these measures will help ensure the qualified contractor base to provide high quality energy efficiency retrofits in Michigan.

Objective 6: Develop an informed knowledge base about what drives uptake of energy efficiency improvements across numerous customer segments.

Action: Lessons from each of our neighborhood retrofits will be captured through a variety of means, including consumer level surveys designed to characterize market segments, consumer motivations to undertake retrofits, and the effectiveness of sweep, public sector, and utility company programs in driving awareness and uptake. We will also track actual energy saved and the persistence of savings. Finally, we will use data collected from the auditing, measurement and verification, and financing programs run by our partners as sources of insight. In the spirit of continuous improvement, the extensive data collection and analysis will allow us to evaluate the effectiveness of different approaches to driving energy efficiency retrofit uptake. We will use the accumulated data to successively refine our marketing and financing approaches in an attempt to create a successful and scalable national model.

Objective 7: Develop and amplify nascent policy and voluntary programs such as the PACE program and home labeling in order to enhance their efficacy in driving consumer awareness and uptake.

Action: Several of the Michigan collaborative partners have initiated policy initiatives that hold great promise to increase customer awareness and uptake of energy efficiency upgrades. Programs such as Property Assessed Clean Energy, home labeling, and Qualified Energy Conservation Bonds will be explored and tested in our program and we will engage community partners in learning about and implementing these initiatives.

For a number of reasons, Michigan is uniquely positioned to implement a program of this size and scope and to gain substantial economic benefit from the outcomes. First, the State has a largely older building stock and an extreme climate creating a substantial energy efficiency opportunity of ~450 TBTU per year in reduced energy consumption in residential, commercial and public buildings, in

addition to the sizable industrial opportunity. Second, with a high unemployment rate and substantial decrease in the traditional manufacturing base, the State has launched an aggressive strategy to transition workers to the green economy and to realize energy efficiency and renewable energy as a means to put our labor force back to work and create new business and investment opportunities. Third, under a Governor who has been an outspoken leader on the need to transition to a clean energy economy, Michigan has generated strong momentum toward capturing this energy efficiency potential. In 2008, the State legislation established energy efficiency targets and required utilities to launch energy optimization programs to achieve those targets. In 2009, the State created the exemplary MI Saves program to provide sustainable innovative financing for energy efficiency retrofits and renewable generation installations. Finally, in recent years, the State has examined and strategically aligned organizations and programs to focus on energy efficiency measures and developed a cohesive, innovative collaboration among state and local agencies, nonprofits, universities, utilities and the private sector that has laid the groundwork for the kind of collaboration illustrated by the MRRI proposal. The DOE Retrofit Ramp-up Program is an exciting opportunity to accelerate the substantial momentum Michigan has already achieved by enhancing energy efficiency penetration, attracting significant private investment, exponentially increasing consumer awareness and coalescing multiple partners around our State's ultimate goal of a successful transition to a green economy.

II. Merit review criterion discussion

1. Leveraging and Sustainability

1A. Extent to which the proposed activity leverages EECBG grant dollars.

With MI Saves as a central tool, the MRRI has created a strong model to leverage EECBG grant dollars with non-EECBG dollars from multiples sources by more than 1:5.

The **Residential Neighborhood Retrofit Program (RNRP)** will leverage \$20 million FOA dollars with another \$160 million in outside leveraged funds. By carefully deploying competitive EECBG dollars in targeted neighborhoods, we will be able to draw down additional dollars from private financial institutions (\$17 million), utility rebates (\$7.3 million), the Weatherization Assistance Program (\$13.5 million), and customer contributions (\$4 million). Using EECBG and other dollars to buy down interest rates and provide loss reserves for loans, we will further draw upon \$25.6 million in third-party capital.

In addition to traditional leverage sources such as utility rebates and existing program funds (e.g., WAP), this effort includes an innovative approach to finance a large portion of the retrofit work using the MI Saves program. MI Saves has conducted extensive research and consulted with representatives from more than 30 different financial institutions including Comerica Bank, Morgan Stanley, Fifth Third Bank, ShoreBank, other Community Development Financial Institutions (CDFIs), and various credit unions to develop this program. Using existing grant funds from the MPSC as well as EECBG funds, MI Saves will offer a loan loss reserve to third-party lenders. In turn, these lenders will provide low-cost capital for energy efficiency upgrade loans.

To increase lender interest, MI Saves is working to cultivate a secondary market for lenders including developing a loan product that meets certain conforming product specifications (interest rate, credit score, security) and energy efficiency standards.

The **Detroit Commercial Centers Program (DCCP)** will be leveraging FOA dollars to enhance financing for commercial center energy efficiency retrofits. A total of \$9 million in competitive EECBG grant funds will allow institutional, commercial, and public actors to complete \$48 million in energy-efficient projects by funding predevelopment costs, acting as a loan loss-reserve, or buying down interest rates for performance contracts or other financing for these projects. Coupled with the direct investment of \$2 million of the City of Detroit's noncompetitive EECBG funds into public projects, these funds will create a critical mass of improvements that will incorporate an ongoing energy-efficiency agenda into the facilities operations of public and institutional actors. In addition,

\$1 million of FOA funding will be matched with \$2 million in New Markets Tax Credits, bank and foundation investments to create a new revolving Green Fund to generate an additional \$6 million in energy-efficiency upgrades for commercial projects yielding \$30 million in total development costs. With a seven-year payback period, the revolving Green Fund will be a sustainable financing tool that will allow the DCCP eventually to target areas outside of the initial three commercial centers.

1B. Extent to which the proposed project will create meaningful and sustainable market transformation, particularly after grant monies are exhausted.

The MRRI is strategically designed to build on existing initiatives to create the financial resources, skill base, and program focus to ensure sustainable market transformation well beyond the expenditure of ARRA funds.

- **Ongoing financing of energy efficiency upgrades through MI Saves and other innovative financing programs** DOE and other funding dollars channeled into MI Saves from the MRRI will provide loan enhancements and a Detroit-focused revolving loan fund that will significantly leverage bank investments, foundation grants, and tax credits. Transforming the lending market is a key goal of the MRRI. Currently, only a few financial institutions have participated in energy efficiency or renewable energy lending programs, and these tend to be specialty lenders or investors such as AFC First in Pennsylvania. In addition, these few lenders either hold on to the loans to maturity or have a specialty secondary market (such as the Pennsylvania Treasury) to which they sell. To move energy efficiency financing to scale, more participation from lenders and investors is necessary. MI Saves is addressing this challenge by working to attract low-cost outside capital using a loan loss reserve to secure payment. Default rates for these types of loans are typically less than 1 percent, so we do not anticipate quick depletion of the funds in the loan loss reserve, but we are planning to require contractor contributions and raise other funds to ensure adequate funding of the reserve and operations.
- **Increase the number of and market for qualified home retrofit contractors and commercial facilities managers** A key objective of the MRRI is to build a strong network of energy efficiency retrofit professionals in Michigan. In addition to providing qualified professionals to meet market demand, growing the energy efficiency contractor base in Michigan will support the efforts of the MPSC to rollout a statewide Home Performance with Energy Star program (see MPSC letter of support). Through the MRRI we will help generate demand for certification by requiring all auditors and contractors employed by the MRRI have BPI or equivalent certification along with quality assurance. MI Saves adopted similar contractor qualification requirements so programs can develop and access the same base of contractors. We also will subsidize the cost of training, and plan to support the development of 1-2 more accredited providers, in addition to WellHome, through provision of consistent work and a policy framework that supports accreditation.
- **Integration into utility Energy Optimization programs** Michigan's electric and natural gas utilities operate Energy Optimization (EO) programs to deliver energy efficiency to their customers throughout the state. These programs will continue well past the conclusion of the MRRI. We will integrate these EO programs into the MRRI sweeps, providing leverage for the sweeps and insight for the EO program operators. Once the sweeps are completed and evaluated, the EO programs will sustain the successful approaches throughout Michigan as elements of their ongoing EO efforts.
- **Integration of energy efficiency initiatives into State, community and nonprofit programs** The MRRI is working closely with communities, foundations and government agencies throughout Michigan. Our partnership with communities will ensure that local decision makers develop awareness about the real costs and quantitative benefits of energy efficiency for their constituents. Foundations have long been aware of the importance of energy efficiency to utility bill reduction, and have engaged in several small neighborhood sweeps within the State, but direct experience with the MRRI will help solidify their understanding of how to design and implement these programs on a community-wide basis. Finally, at the government level we will be partnering in a number of ways: (1) integrating the efficiency programs of natural gas and electric

utilities with MI Saves and other grantees of the State's Low Income and Energy Efficiency Fund (LIEEF) to leverage tools and funds supporting energy efficiency improvements for all customer classes; (2) supporting the repurposing of the Michigan State University Extension for energy efficiency education and outreach; (3) collaborating with the Michigan State Housing Development Authority (MSHDA) to incorporate energy efficiency into their neighborhood and community revitalization programs; (4) training interagency staff of Michigan Economic Development Corporation to arm economic development professionals with energy efficiency incentives and tools to attract and retain businesses; and (5) collaborating with the Bureau of Energy Systems (BES) community and local government network in programs such as the Green Communities Challenge. Through these collaborations, the retrofit ramp-up will strengthen our partners' commitment to energy efficiency-focused programs both during and beyond the three years of the retrofit ramp-up.

2. Project impact

2A. Extent to which the project achieves the goal of benefiting from economies of scale and critical mass in a focused building retrofit program, while mitigating risks of increased mortgage defaults.

With the use of MI Saves as a financing tool, smaller loan volumes result in no increased risk for defaults given backing from the loss reserve. Large financing projects administered through DEGC for the Detroit Commercial Centers Program also benefit from a loss reserve and other credit enhancements, thereby reducing the need for security in the form of property liens.

Reaching economies of scale will be critical to the success of the MRRI; we approach this concept from both a financial and programmatic perspective. Financially, the MRRI will benefit from: (1) attracting private capital, (2) leveraging that capital through innovative use of DOE dollars, (3) promoting innovative approaches to financial and incentive offerings and measuring their impact on uptake, and (4) working with other existing state and local energy efficiency programs. Programmatically, our partners will utilize existing policies, practices, and procedures to remove duplication and allow a race to scale much faster than if we had created new forms, documents, and procedures. By utilizing the same application form from lenders, the same underwriting standards for loans, and the same identification and application process as existing programs, the MRRI will be operational much faster than if starting with a new program design. Plus, as many of these policies and procedures are already in place, lessons learned from the MRRI can be immediately translated into scalable projects statewide.

2B. Expected quantitative impact of the project in terms of energy saved and emissions avoided and the reasonableness of projections of number of buildings retrofitted and average utility savings.

During the three years covered by the ARRA funds in this proposal, we expect to address 11,340 residential buildings and at least 131 commercial and public buildings across Michigan, avoiding 1.2 TBTUs of energy consumption and 19.6 tons of greenhouse gas emissions per year and creating \$13 million in utility savings per year by the end of the program.

While outreach to this number of buildings is simple to guarantee, we do not have the means to accurately predict uptake or the levels of retrofit building owners will install. Our residential models assume 80% uptake of our highly subsidized base package and 30% uptake of homeowner-paid deeper retrofits, while energy savings are based on the energy needs of two model homes (one built before 1970 and one built after 1980) and assumptions about the age of Michigan's housing stock in small neighborhoods. Our Detroit commercial model estimates savings using savings and other information for specific buildings that will be targeted for retrofits, as well as per square footage estimates of costs and savings for retrofits of typical commercial buildings using benchmark figures. Experience suggests that uptake and energy capture in commercial, public and industrial buildings is highly variable. As a result, our predictions rely on best estimates; only rollout of these programs will

provide the accurate data to test these assumptions. Please see Appendix G for assumptions and other data.

2C. Extent to which the program or project strategy can be adopted or replicated by other communities.

The MRRI was specifically designed to encompass a diverse range of representative communities to ensure insight into the drivers of uptake across a wide variety of consumers. In addition, the initiative focuses on increasing public awareness, developing a skilled contractor base, and piloting a sustainable financing mechanism for energy efficiency retrofits—the three essential elements to replicating a retrofit program in any state. Given the elements of the approach, we are confident that this program is fully replicable and can be adopted for nationwide rollout.

3. Project approach

3A. Soundness of the project’s management strategy, including specifics of the outreach/marketing strategy, the funding structure, the implementation/delivery plan, the monitoring/verification plan and the strategy for feedback and continuous improvement of the program during its operation.

Overall approach

Michigan’s unique proposal leverages an adaptive experimental approach across residential, commercial, industrial and public buildings to ensure continuous improvement and increasing uptake of energy efficiency programs.

Our residential program is designed to drive uptake of energy efficiency measures in contiguous groups of buildings in largely residential neighborhoods. By providing energy efficiency education and implementation to groups of homeowners at a time, we will be addressing several traditional barriers to non-low income residential uptake including: (1) limited understanding of energy use and the measures required to reduce it; (2) transaction barriers involved in researching, contracting and scheduling qualified energy efficiency experts; (3) limited availability of contractors; and (4) incorrect installation and use of energy efficiency measures¹. Remaining barriers that are not automatically addressed by such a program are largely financial including elevated hurdle rates (shortened expected payback periods), ownership transfer issues, and competing uses for capital in constrained budgets. We intend to test potential solutions to these barriers by varying outreach/marketing and financing/incentives across neighborhoods to look at the impact of specific packages and delivery mechanisms on uptake.

To this end, we will implement two neighborhood retrofit sweeps each year for three years in each of our primary partner communities (Detroit, Grand Rapids and SE-MI). Non-entitlement communities will have two sweeps in year 1, four in year 2, and three in year 3. This will result in a total of eight sweeps in year 1, ten sweeps in year 2, and nine sweeps in year 3 (see project plan and timetable section for additional information). Sweeps within a region will be designed to test the impact on uptake of variations in outreach/marketing and financing/incentives and will be accompanied by extensive surveys and data collection. At the end of each year, data collected will be analyzed and used to design the sweeps for the following year. This model will leverage and build on existing initiatives in Michigan and create a multi-stakeholder effort including foundations, utilities, universities, public and private sector. At the end of the three year period, the data collected from the 27 sweeps in Michigan will provide the DOE the essential understanding of what drives residential energy efficiency uptake in communities across the Midwest.

Our Detroit commercial program will drive uptake of energy efficiency retrofits in three neighborhoods consisting largely of commercial, industrial and public buildings. These building types present a different set of barriers to uptake than residential buildings, but again these barriers are

¹ McKinsey and Company, 2009. Unlocking Energy Efficiency in the US Economy.

largely financial¹. These actors face up-front financing challenges and a lack of understanding about the benefits of energy-efficiency improvements and the optimal role of performance contractors. Given Detroit and SE-MI's depressed real estate climate and low rents available, it is often difficult to finance energy efficiency improvements. Public and institutional actors are challenged in sustaining long-term energy efficiency agendas because these savings are often utilized to address other budgetary needs. Suggested solutions to these barriers most often involve tiered financial incentives, loan guarantee programs designed to facilitate third party financing, and involvement of energy service companies. As a result, our program is specifically designed to test the impact of different financial packages on uptake of energy efficiency measures in these buildings and to facilitate participation of performance contracting.

In each of the three neighborhoods, we will conduct targeted outreach to the key public, institutional and commercial real estate actors, offering four financing packages (1) interest rate buy-down, (2) pre-development cost absorption, (3) utilization of loan-loss reserve to enhance other financing, and (4) energy company asset program (through the Green Fund). While each package will cost the program no more than 10%-15% of the total loan, the impact on interest rate, loan period and required upfront investment will vary. Differing uptake of the four packages will allow us to test the efficacy of these different incentive packages. Financing will be accompanied by education, both for key organizational decision makers and facilities staff in order to ensure program sustainability. Again, extensive data collection will accompany this program in order to inform the DOE on the effectiveness of the various financial packages and education strategies in overcoming traditional financing and awareness barriers for large commercial, institutional, and public stakeholders.

The following is an overview of the management strategy for (1) the Residential Neighborhood Retrofit Program (RNRP) and (2) the Detroit Commercial Centers Program (DCCP), including specifics of the outreach/marketing strategy, funding structure, implementation/delivery plan, monitoring/verification plan and strategy for feedback and continuous improvement for each.

Residential Neighborhood Retrofit Program

I. Overview of implementation/delivery plan

All RNRP sweeps will follow the same basic model.

- **Outreach** will be led by our community partners that serve the role of a Regional Coordinator. This phase is designed to drive uptake of the highly subsidized base package (see funding structure below) as well as prime homeowners for purchase of deeper retrofit packages. Homeowners will also be informed of the prerequisites for participation: (1) access to utility bills one year pre and post, (2) commitment to participate in two sets of surveys, and in some sweeps (3) \$50-100 contribution to base package based on voluntary income disclosure. Specific outreach methods will vary across sweeps (see outreach/marketing strategy below).
- **Delivery of energy efficiency services** will be provided by our service providers including WellHome (see also project objective #5). Working closely with the Regional Coordinator, service providers will schedule delivery of the base package to individual homes with all implementation to occur within an eight week period. Service providers will also be responsible for oversight and implementation of additional energy efficiency upgrades services contracted by homeowners beyond the base package.
- **In-home marketing** will be carried out by trained service provider marketing staff/auditors. At the completion of the audit and base package installations, marketing staff will sit with homeowners to discuss work completed, additional energy efficiency measures needed in their home, the energy savings potential, the cost to install, financing options, and eligibility requirements for various programs. Specific marketing messaging will vary across sweeps to test for impact on uptake (see Outreach/marketing strategy below).
- **Financing** details of the packages offered to homeowners are outlined under "Retrofit offerings and funding structure" below. The impact on uptake of variations in uptake will be tested across sweeps.

- **Data collection** will be centrally managed by DELEG. Details are outlined in the “Monitoring/verification plan” below.
- **Program oversight** will be conducted by the project manager, under the direction of the principal investigators and with input from project staff and a steering committee of core partners. At the end of each year of sweeps, the data collected on energy savings, uptake, drivers of uptake, etc. will be collected and synthesized by DELEG and presented to the steering committee. Using these data, the committee will decide on the design of the sweeps for the subsequent year and any additional necessary changes. In addition, the committee will be available to consult on solving any roadblocks encountered.

II. Neighborhood selection

Neighborhoods within each of the four regions selected represent the varying income distributions, mixes of building type, and home ownership levels found across Michigan, and each region is expected to require variations on the outreach and financing models to drive the desired uptake.

- **Detroit (Region 1):** inner city with significant challenges of low income, high rental, and a building mix including multifamily residential.
- **SE-MI (Region 2):** large city suburbs in seven-county Southeast Michigan region, with diverse mix of incomes, high home ownership and strong regional collaboration.
- **Grand Rapids (Region 3):** mid-sized city with vibrant downtown area, traditional neighborhoods, and a mix of owner-occupied and rental properties.
- **Other Non-Entitlement Communities (Region 4):** highly diverse mix of rural, semi-rural and small city communities with highly diverse building and income mix and strong community partnerships characterized by local government involvement. DELEG will select the non-entitlement communities using a competitive process.

Community representatives for entitlement communities will serve as Regional Coordinators that will lead the selection of neighborhoods of ~420 homes, accounting for a broad range of factors, such as capacity of local partners, income distribution, and building mix. The SEMI Regional Energy Office (SMREO) will manage RNRP sweeps in Detroit (Region 1) and Region 2. SMREO will identify communities along public transportation corridors and within the major employment centers of SE-MI to align with existing efforts to create transit-oriented, environmentally sustainable communities. Sweeps in Region 3 will be managed by the City of Grand Rapids, which will target “traditional” neighborhoods within the central city. In choosing the non-entitlement communities that make up Region 4, DELEG will consider rural and semi-rural communities as well as smaller towns. Together these communities represent the breadth and diversity of Michigan’s population allowing us to test uptake and cost effectiveness of retrofit ramp-up models across the range of community types found in Michigan.

III. Outreach/marketing strategy

Outreach led by Regional Coordinators involves the initial education of the neighborhood about building energy efficiency and the availability of the neighborhood-wide energy efficiency program. Basic outreach will include fliers, community meetings, and door to door information sessions to address any homeowner questions or concerns. However, individual communities will leverage different partners in this outreach and have slightly different approaches. For example, the SMREO plans to create a branded identity for neighborhood-wide energy awareness and improvements, and to leverage internet-based outlets, such as viral email campaigns, Metromodemedia.com, and Greenovation.tv, a local government web portal. Meanwhile, Grand Rapids will deploy “energy outreach organizers” to work with residents and business owners to raise awareness, interest and participation in the MRRI.

In addition, within regions we will be testing the efficacy of less conventional tools. Within a neighborhood residents may be provided with information on their energy consumption per square foot relative to neighboring homes for 3 months prior to any other outreach. In addition, prior to the

retrofit rollout, we may advertise that prizes will be awarded for the ten greenest homes in a neighborhood one year after the retrofit. In-home marketing occurs post-audit to educate individual homeowners on the specific opportunities in their homes and the financing opportunities and financial incentives available if they choose to purchase deeper retrofit packages. Marketing will be carried out by our service providers with in-home sales training according to recommendations of our steering committee. Thus, the exact messaging around financing options, including a description of the rebates, tax incentives, and preferential rates, will be carefully designed and standardized within a sweep but will vary between sweeps to allow for insight into what homeowners respond to and why.

In addition, studies of barriers to uptake suggest that other than education and financing incentives homeowners often require: (1) proof and guarantees of savings achieved; (2) a mechanism to reflect energy efficiency upgrades in home value at time of resale; and (3) flexibility around the “whole home” approach. As a result, we will test the following marketing ideas to determine their importance in uptake:

- **Energy savings guarantee** offered on all work completed above the base package provides a money-back guarantee on projected energy savings for one year following installation of upgrades and is designed to overcome homeowners’ doubts about the efficacy of energy efficiency measures.
- **Home labeling** has the potential to drive increased energy efficiency uptake through increased consumer awareness, and reflection of upgrade investments in property prices and rental rates. As a result, we will be testing the impact of this tool in marketing (e.g., to show homeowners where their house ranks and where it could rank with investment). In addition, we are open to partnering with the DOE to test the design of specific labeling programs across our sweeps.
- **Custom retrofit packages** will be available to homeowners who would like to install select measures only. While the intention of MRRI is to drive uptake of whole-home retrofits, marketing staff will work with homeowners when requested to provide customized installation packages.

IV. Retrofit offerings and funding structure

Homeowners will be offered four tiers of assistance to retrofit and weatherize their homes. The source of funds offered in these packages will be extremely simplified in its presentation to the homeowner.

- **Base package** A highly subsidized audit plus direct install of low cost measures based on individual home needs. Cost to the program is expected to range between \$1,000-1,300 depending on the home and the sweep, and will be covered by (1) leveraging all available utility and government rebates/incentives, (2) in at least some sweeps, requesting a \$50-100 contribution from upper income homeowners (based on voluntary disclosure), and (3) covering the remainder of the cost with sweep program funds. The average expected annual energy savings is \$300-450.
- **Full cost savings package** Installation of energy efficiency measures in order of cost effectiveness as identified by the audit to a total generating a monthly loan repayment roughly equal to the projected energy cost savings (i.e., cost neutrality). The measures installed and total investment per home by the homeowner will vary depending on the needs of the home and the financial package offered, but is expected to range between \$5,000-5,500 and capture an average annual energy savings of \$550-1,100 including the base package savings. The cost of this package will be covered by (1) leveraging all available utility and government rebates/incentives, and (2) loans to the homeowner through MI Saves. When possible, the option to repay the loan on property tax bills under a PACE program or through utility bills will be offered.
- **Deep retrofit package** Installation of energy efficiency measures totaling a cost that may have a payback period beyond the life of the loan and/or require a monthly payment that exceeds projected energy cost savings achieved on the utility bill. Overall, the whole installed package will be cost effective (net present value positive) over the lifetime of the measures installed. Again, the measures installed and total investment per home by the homeowner will vary depending on the needs of the home and the financial package offered, but is expected to range between \$8,000-14,800 and capture an average annual energy savings of \$700-1,600 including

the base package savings. Similar to the previous package, the cost of this package will be covered by leveraging any remaining utility and government incentives and through loans to the homeowner through MI Saves. The intention at this level of investment is to encourage uptake through further reduced interest rates and/or an enhanced loss reserve compared to the full cost package.

- **Zero energy home package** Installation of measures that may not be cost effective, but may help the home achieve a zero energy home status. This level of investment is beyond the scope of our sweep, but for those rare homeowners who would like to take their homes to this level, we will provide information on financing available through third party lenders (e.g., Energy Star loans). Homeowner investment in these homes is expected to range between \$20,000-30,000 and capture an average annual energy savings of \$900-2,000 including base package savings.

Variations on the financing packages outlined above are envisioned both between sweeps as well as over the course of the three year program. Some ideas we are currently considering include:

- Extending the preferred loan to other energy-related home upgrades that are not included in the existing MRRI energy efficiency model
- Differential incentives depending on the depth of retrofit chosen (e.g., free energy star refrigerator for homes achieving 20% savings, plus a free energy star appliance of their choice for 30% savings)
- Testing the “cash for caulkers” idea by increasing current utility rebates to determine what level of rebate is necessary to drive uptake at each level of investment

Low income homeowners typically are unable to invest in energy efficiency retrofits, yet are the most likely to benefit from reduced utility bills. Within the sweep neighborhoods, occupants with incomes at or below 200% of the federal poverty guidelines will receive energy efficiency upgrades worth up to \$5,250 free of charge. We will be partnering with utility low-income energy optimization programs, various foundations, the Weatherization Assistance Program, and the Low Income Energy Efficiency Fund to determine customer eligibility for these programs and to cover these expenses. Additional grant funds may also be available for customer education, weatherization improvements for customers up to 250% of the federal poverty guidelines, and building improvements (health and safety, roofs) to address structural deficiencies that would otherwise disqualify a home from being weatherized through WAP or other federal programs.

Rental properties are a widely recognized challenge to energy efficiency uptake due to the principal-agent issue (i.e., tenants have no incentive to make long-term investments in a short-term rental, and landlords have no incentive to invest in upgrades because they do not pay the utility bills). As a result, this subgroup will require additional outreach and financial incentives to the extent that rental properties are included in the neighborhoods selected for sweeps. To address this challenge, we may provide (1) additional outreach/education for the landlords of rental properties, (2) base package audit results to both tenants and landlords, and (3) landlords contracting energy efficiency work with certificates of work completed and estimated impact on utility bills for use in marketing to future renters.

Commercial and public buildings are not the focus of the RNRP, but the Regional Coordinators will make information about existing commercial energy efficiency programs and other funding sources available to owners and occupants of small commercial, industrial, municipal or state owned buildings within the neighborhoods in which we run sweeps. Depending on the location, these programs and funding sources may include utility programs, EECSBG programs managed by local governments, financing programs like MI Saves, energy saving performance contractors, and grant programs funded by the LIEEF, USDA, and other sources that can provide technical assistance, financing, and direct funding or rebates for audits and/or building retrofits.

V. Monitoring/verification plan

Data about the RNRP will be collected through utilities, contractors, financial institutions servicing the loans, and surveys. All building owners will be required to sign a waiver allowing the program to

collect utility information for one year before and one year after installation of energy efficiency measures, and agreeing to participate in follow-up surveys. Pre- and post-installation audits will be completed and the following recorded: (1) occupancy; (2) conditioned and unconditioned square footage; (3) measures implemented; and (4) financing options chosen (if any). Finally, at the end of the neighborhood retrofit, MSU will survey property owners for any changes in the above data, satisfaction with the program implementation and results, feedback on what drove or prevented uptake of packages offers, attitudes toward energy efficiency, and additional perceived benefits such as home comfort and safety.

DELEG will collect all information and coordinate with utilities to gather utility bill information. Energy usage pre- and post- energy efficiency upgrades will be normalized based on (1) heating/cooling degree days in each year; (2) increase/decrease in occupancy, and (3) changes in the square footage of the building. Greenhouse gas emission reductions will be determined for electricity reductions by assigning a carbon intensity factor to the Midwest grid. Greenhouse gas emission reductions for other fuel types (e.g., natural gas, propane) will be calculated using EIA carbon intensity levels.

VI. Strategy for feedback and continuous improvement

The entire adaptive management model of the MRRI is designed to capture and incorporate feedback. From the extensive surveys and data collection conducted on each sweep, to the regular communication amongst the steering committee, to the annual refinement of the sweeps, our proposal builds on the principles of continuous improvement to drive learning about what motivates uptake of energy efficiency retrofit programs. This process will be ensured by our steering committee of stakeholders providing continuous program oversight, redesign, and issue resolution.

Detroit Commercial Centers Program

I. Overview of implementation/delivery plan

The Detroit Economic Growth Corporation will manage the implementation of the DCCP using a similar framework to the MRRI residential program.

- **Outreach** to initial major property owners is already underway. This finite group of larger users requires one-on-one contact with facilities managers and other organizational leadership to engage their participation. Once initial projects have been identified, additional outreach will be conducted to the broader commercial real estate community, as described in the Outreach section below. Throughout the program, public and institutional decision makers at both leadership and staff levels will be targeted for outreach in order to strengthen their commitment to the program. As the program generates successful projects, a broader marketing campaign will be initiated to raise awareness and public understanding of the role of energy-efficiency retrofits in Detroit's redevelopment strategy.
- **Assessment** of commercial, institutional, and public sector project retrofit needs will be conducted, either utilizing existing contractors working with these organizations or through program service providers. These assessments will either be funded directly through FOA grants or indirectly absorbed as part of project buy-downs.
- **Financing** of these projects will be conducted through Detroit-specific financing programs such as the new Green Fund. These Detroit-specific financing components are intended to significantly leverage private/public financing or tax credits. The financing program is described in the Funding Structure section below
- **Data Collection** will be monitored directly by DEGC due to the manageable number of projects that the program will handle and is outlined in the "Monitoring/verification plan."
- **Program oversight** will be conducted by our steering committee of stakeholders. DEGC will annually report data collected on energy savings, uptake, drivers of uptake, etc. to the steering committee and make recommendations for program modifications. The steering committee will

approve program modifications, provide guidance to program implementation, and be consulted and updated on a regular basis throughout each of the three years.

II. Neighborhood selection

The DCCP complements the transit-oriented, sustainable development strategy also tested in the RNRP. Three adjacent commercial centers will be selected along the Woodward new mass transit Corridor, but which vary in building mix and market: (1) Central Business District, characterized by a larger volume of commercial buildings and public buildings, with significant development activity focused on a smaller number of larger buildings; (2) Midtown, characterized by many smaller commercial buildings, many of which are slated for redevelopment, and containing the highest concentration of institutional properties; and (3) New Center, characterized by a more even distribution of sized and number of commercial, public and institutional buildings.

III. Outreach/marketing strategy

Outreach to businesses in our three commercial centers is being carried out in four phases by DEGC. Outreach and education strategies will be fine-tuned over the program duration to test different strategies and to incorporate lessons learned.

- **Initial Outreach to Stakeholders** DEGC has already approached the City of Detroit, several key institutional stakeholders, and major commercial property owners about participating in the DCCP. More formal discussions will take place with facilities managers to screen and phase potential projects to ensure maximum leverage and to ensure that the experimental design of the program is supported. One-on-one outreach will be made to other key stakeholders that have not already been approached to gauge interest in the program.
- **Implementation of Broader Outreach Strategy** An outreach program primarily targeted to the commercial real estate community will be implemented in each of the three target areas to generate a 6-year pipeline of projects. This outreach strategy will include (1) utilization of DEGC's existing business retention channels, (2) existing community organizing activities underway in the targeted neighborhoods, (3) informational meetings in the targeted areas for property owners and developers, and (4) one-on-one outreach with specific developers and property owners.
- **Implementation of Leadership Education Program** DEGC will begin the process of educating key leadership at participating organizations (i.e. governing boards, department directors, elected officials) in order to ensure long-lasting support for energy-efficient and sustainable approaches.
- **Marketing/Public Awareness Campaign** A broad marketing campaign will be conducted to promote high profile retrofit projects that raise awareness and public understanding of the role of energy-efficiency retrofits in Detroit's redevelopment strategy and to encourage widespread community support for such efforts. Community support will help bolster efforts to change the disposition of key organizational leadership, especially among public and institutional actors, toward energy-efficiency retrofits and sustainable development practices.

IV. Funding structure

Once thoroughly screened by program staff, retrofits will be funded through the Detroit-specific financing programs operated by DEGC, with funds held by its custodian (MI Saves) until expended by DEGC. FOA grant funds will be used to buy down up front costs and/or interest rates for performance contracts or other financing for these projects, especially testing the uptake in different methods of financing these kinds of projects. Primarily intended to enhance the financing available to public and institutional actors, these funds will also benefit commercial real estate projects. In addition, \$1 million of the FOA grant will be invested in the Detroit-specific Green Fund, which will be passed through a New Markets Tax Credit structure to provide enhancement of 20-25%. These funds will be primarily used to create a new Energy Investment Company model, which will take possession of the applicable energy-efficient systems, holding and managing these assets for seven years, at which time they are sold back to the project. The Green Fund will also be enhanced by other

energy tax credits, allowing projects to utilize renewable energy systems as part of their energy efficiency retrofits. With discussions already underway, additional private investments in the Green Fund will be secured. The Green Fund will provide commercial project financing, either directly to projects or by offering a loan-loss reserve to help backstop private financing. This fund will especially test uptake among commercial users for the Energy Investment Company model.

V. Monitoring/verification plan

Data about the DCCP will be collected through utilities, contractors, financial institutions servicing the loans, and surveys. All building owners will be required to sign a waiver allowing the program to collect utility information for one year before and one year after installation of energy efficiency measures, and agreeing to participate in follow up surveys. Pre- and post-installation, audits will be completed and the following recorded: (1) occupancy; (2) conditioned and unconditioned square footage; (3) measures implemented; and (4) financing options chosen (if any). Finally, after the retrofits, DEGC will survey property owners for any changes in the above data, satisfaction with the program implementation and results, feedback on what drove or prevented uptake of packages offers, attitudes toward energy efficiency, and additional perceived benefits such as productivity and comfort.

DEGC will collect all information and coordinate with utilities to gather utility bill information. Energy usage pre- and post- energy efficiency upgrades will be normalized based on standard EM&V protocols for large commercial-scale projects. Greenhouse gas emission reductions will be determined for electricity reductions by assigning a carbon intensity factor to the Midwest grid. Greenhouse gas emission reductions for other fuel types (e.g., natural gas, propane) will be calculated using EIA carbon intensity levels.

Results will be monitored to institute process or programmatic improvements by DEGC in consultation with the steering committee and other partners.

3B. Extent to which the proposal contains clear goals, well-defined tasks and methods, objective deliverables, and realistic milestones.

We believe that the tasks and methods outlined above will lead to a clear set of outcomes. Over the three years of the program, we expect to accomplish the following deliverables and milestones.

- **Deliver energy efficiency education to 11,340 homes and 131 large businesses across Michigan** We will complete neighborhood-wide outreach in 27 sweeps of ~420 homes per sweep in neighborhoods across Michigan, and 131 large businesses within Detroit.
- **Conduct audits and install basic energy efficiency measures in 6,480 homes** We anticipate an uptake of 80% for our base package which includes audits and basic energy efficiency measures.
- **Stimulate uptake of homeowner paid deep retrofits in ~3,240 homes** Through community education, free audits, in-home marketing, and attractive financing packages we hope to generate uptake of deeper retrofit packages in ~30% of homes involved in the sweeps.
- **Complete deep energy retrofits in ~2,700 low income homes** Partnering with foundations and government initiatives we plan to cover 100% of the costs of deep energy efficiency upgrades in low income households within our sweep neighborhoods.
- **Subsidize the training and certification 125 auditors and contractors, and 25 facilities management staff** Through the provision of consistent work in the energy efficiency retrofit industry, as well as generous subsidization of training and certification programs, we plan to create a strong and maturing professional contractor base.
- **Complete energy retrofits in 131 significant commercial, public and institutional buildings in Detroit** This work will impact 13.8 million square feet of commercial, institutional, and public space.

3C. Extent to which institutional, regulatory, or market barriers have been identified and the project includes reasonable approaches to overcoming those barriers.

In designing the MRRI we considered market barriers as identified in *Unlocking Energy Efficiency in the US Economy* (McKinsey and Company) and the *CEQ Recovery Through Retrofit Ramp Up* (Middle Class Task Force) reports. The design of this program considers a number of the market barriers and their solutions (see Overall Approach under Project Approach section).

We were able to overcome several regulatory barriers through creative problem solving. For example, the State Historic Preservation Office (SHPO) has agreed to collaborate on expedited means of historic reviews on a neighborhood-wide basis. See 3.D below for additional creative solutions.

Finally, we examined several institutional barriers and found that collaboration amongst state agencies can turn barriers into mutual program solutions. For example, Michigan State Housing Development Authority has a Personal Improvement Property loan, so that the MRRI program can help lower-income households access those funds for energy efficiency retrofit loans in addition to MRRI loans. Such collaborative relationships built amongst the state and local agencies will continue to serve as a means to find additional creative solutions for institutional barriers.

3D. Plan to address environmental, health and safety, permitting, and compliance issues, sufficient to support DOE's review and analysis in accordance with the National Environmental Policy Act.

DELEG has a NEPA specialist and a SHPO Specialist that will assist this program. They will oversee the work and conduct monitoring to assure compliance. Our NEPA specialist also serves as the liaison with the State's Department of Environmental Quality, to assist in ensuring health and safety, and environmental compliance. The "Standard Bounded Categories Template" as provided by DOE for the EECBG program is included with the NEPA summary in this application. It provides the full plan for meeting these requirements. Compliance with the State Historic Preservation Act will be managed by our SHPO specialist, consistent with the Interagency Agreement (IA) that DELEG has signed with the Michigan SHPO Officer. The IA is included with the NEPA summary in this application.

4. Partnership structure and capabilities

4A. Extent of involvement from a broad range of entities/organizations representing government agencies, private sector entities, and other organizations.

Primary applicants: These are a collaborative group of Michigan entities including DELEG and MI Saves (which represents the City of Detroit through the Detroit Economic Growth Corporation, Southeastern Michigan through the Southeast Michigan Regional Energy Office, and the City of Grand Rapids.)

Steering committee: This is a core group of stakeholders who have made significant contributions to this proposal and will play important roles in executing the work by serving on a steering committee.

Additional stakeholders: Through the course of implementation of this proposal we may draw on additional stakeholders including:

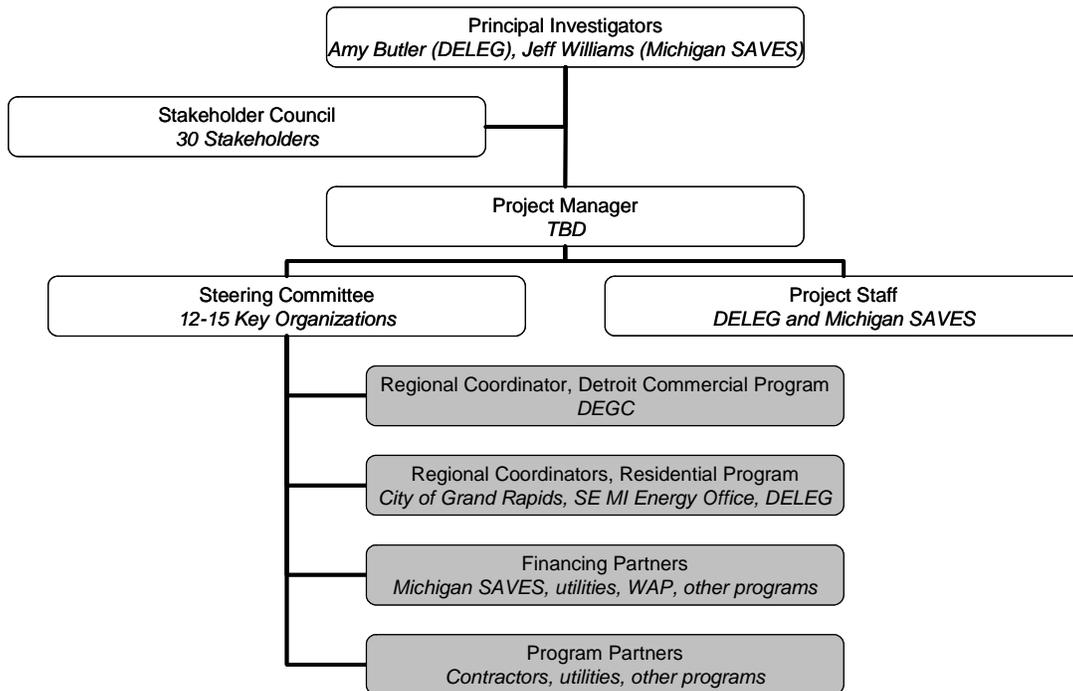
- *Neighborhood outreach partnerships:* Kresge Foundation, Skillman Foundation, LISC Detroit, West Michigan Environmental Action Council, SE-MI Council of Governments, Energy Works Michigan, Community Development Advocates of Detroit, MSU Extension, University Cultural Center Association.
- *Contractor workforce development including training/ certification of contractors:* Building Science Academy, Northwestern Michigan College, and Ferris State University, DELEG Bureau of Workforce Transformation, Michigan Association of Homebuilders/Green Built Michigan, WARM Training Center, Henry Ford Community College.

- Leveraging of funds:** Michigan’s Weatherization Assistance Program in the Department of Human Services, Michigan State Housing Development Authority, Michigan Public Service Commission, State Energy Program, Wayne State University, Henry Ford Health System, Detroit Medical Center, Detroit Institute of Arts, Detroit Wayne Joint Building Authority, Cobo Regional Authority, Sterling Group, Farbman Group, and Community Foundation for Southeastern Michigan.

4B. Extent to which roles and responsibilities of each team member are identified and reasonably match their ability to successfully manage and implement the proposed project.

The MRRI project management structure and roles and responsibilities of the team are outlined below. Please see section 4c for the qualifications of the team members.

MRRI Project Management Structure



Role	Description
Principal Investigators	Set and enforce schedule, policies, procedures, and reporting of the MRRI program; distribute and track program funds to program partners; serve as liaison with U.S. DOE
Stakeholder Council	Large inclusive stakeholder body that meets 2-4 times per year to provide input, counsel, and external support to the MRRI program
Project Manager	Maintain day-to-day supervision of the MRRI program, partners, and activities; coordinate work of project staff; serve as chair of steering committee
Steering Committee	Core group of stakeholders that provides counsel on policy and tactical issues such as neighborhood selection, program design, implementation schedule, contractor requirements and quality assurance
Project Staff	Provide project-level technical assistance and support functions for legal, accounting, reporting, communications, branding, etc.
Regional Coordinator, Detroit Commercial	Select and oversee all aspects of retrofit projects for Detroit commercial centers program, including customer/ project screening, contractor selection and oversight, project financing, and evaluation and reporting

Center Program	
Regional Coordinator, Residential Neighborhood Program	Manage logistics and operations of sweeps including scheduling, communications, outreach and marketing, and coordination with contractors and other partners
Financing Partners	Provide rebates, grants, incentives, and financing and related support for participants in the Residential Neighborhood Retrofit Program
Program Partners	Provide support for MRRP program, including contracting, outreach and marketing, and evaluation

4C. Ability of the project team to complete the work successfully.

Our team has substantial experience in managing large complex projects. Please see the attached resumes for additional details, as well as Section 4B above.

- Bureau of Energy Systems/State Energy Office (BES) at DELEG** includes the Public Service Commission, Bureau of Workforce Training, Bureau of Construction Codes; Bureau of Statistics and the State Energy Office, and additional energy efficiency and renewable energy programs, and is directed by the State's Chief Energy Officer. BES serves as the State Energy Office and administers the ARRA Energy funds. Key Personnel: *Amy Butler* (Bureau Director), *Pat Hudson*, *Robert Jackson* (Senior Engineer Manager) (see resumes).
- MI Saves, Inc.** is a nonprofit organization established as part of a grant from the MPSC to administer the MI Saves program for financing of energy efficiency and small-scale renewable energy. Key Personnel: *Jeff Williams* (Project Director), *Julie Metty Bennett* (Financial Manager), *Sally Talberg* (Operations Manager). Michigan Saves staff is currently provided through a staff augmentation contract to Public Sector Consultants. (see resumes).
- The SE-MI Regional Energy Office (& Michigan Suburbs Alliance)** is a unique partnership between the Michigan Suburbs Alliance, WARM Training Center, the Michigan Municipal League and SEMCOG, the SE-MI Council of Governments, as well as numerous local governments across the seven-county metropolitan Detroit region. The Michigan Suburbs Alliance manages the partnership and will act as the fiduciary and administrative agent supporting the SMREO. Key Personnel: *Conan Smith* (Executive Director), *Sam Offen* (Director, SMREO), *Jacob Corvidae* (Warm Training).
- The City of Grand Rapids** is widely recognized for its energy efficiency projects and a development culture reflecting a commitment to sustainability in the building and manufacturing industries in the city and region. The city has met and collaborated with an extensive group of partners offering both leveraging to support the implementation of their sweeps and long term sustainable capacity to continue the effort beyond the duration of the initiative. Key Personnel: *Haris Alibasic*, *Landon Bartley* (see resume).
- WellHome** is a home performance company providing comprehensive assessments and a whole home energy savings limited guarantee. They offer a whole-house, objective approach to helping a home owner make their home more comfortable and energy efficient. Key Personnel: *Steve Toepfner* (see resume).
- The Detroit Economic Growth Corporation** has served as the lead implementing agency for business retention, attraction, and economic development initiatives in the city of Detroit since 1978. The DEGC/DEGA has helped businesses create new jobs and leverage private investment by providing technical, financial and development assistance to the business community, from the small developer to the multinational corporation. In addition, DEGC provides staff services to the city's public economic development authorities and has helped to catalyze and implement

significant public infrastructure and private development. Key Personnel: *Waymon Guillebeaux, Malik Goodwin, Will Tamminga, Ron Flies, Gary Brown, Olga Stella* (see attached resumes).

- **The Detroit Investment Fund (DIF)** is a \$52 million private capital fund created by Business Leaders of Michigan to provide financing for growing commercial and industrial businesses, residential real estate development projects and special projects that address strategic needs of the city of Detroit. The Fund views itself as a catalyst for investment in the city and funds projects that have the potential to stimulate economic development within Detroit. Key Personnel: *David Blaszkiewicz* (see attached resume).

III. Project Plan and Timetable

Expected impacts and outcomes for both the RNRP and the DCCP are listed in section 3B.

Residential Neighborhood Retrofit Program

Program oversight: The principal investigators will be responsible for program oversight, including ensuring final selection and approval of the target neighborhoods with Regional Coordinators, development of a centralized automated database for program reporting, synthesizing data and lessons learned from sweeps, convening and reporting to the steering committee and aligning stakeholders on redesign details for the following year, and coordinating with regional program coordinators on continuous progress (see section V). MI Saves and DELEG will coordinate reporting to the DOE. The major steps in the roll out of an individual sweep are summarized below.

- Select and define neighborhood
- Coordinate with program providers (community action agencies, utilities, contractor, etc.) on timing, marketing, and service delivery
- Conduct initial outreach (flyers, community meetings)
- Schedule base package roll out
- Coordinate roll out with local communities
- Roll out of base package sweep
- Installation of additional packages beyond base
- Conduct post-sweep satisfaction and participation surveys/interviews

The steering committee will provide input on the detailed timing and sequence of sweeps to be conducted each year.

Sweep rollout: The RNRP timeline envisions that—in each region—outreach and program oversight will be directed by the Regional Coordinators in partnership with community leaders and other MRRI partners. Outreach will occur at least two months before scheduling the base package retrofit rollout for each neighborhood. The Regional Coordinator then coordinates the rollout with the regional service provider, and installation of the base package will occur for all buildings in a neighborhood within a 2 month window. Service providers will be responsible to scheduling installation of deeper retrofit measures purchased by the homeowner and completing the work in a neighborhood within 4 months. MSU will administer post-retrofit surveys. In Regions 1 through 3, there will be two sweeps per region each year for the three-year period. In Region 4 (non-entitlement communities), two sweeps will occur in year 1, four in year 2, and three in year 3.

Training: The goal is to have 125 contractors and auditors trained and certified in BPI or equivalent within the first year. DELEG and Regional Coordinators will work with the service providers to ensure training occurs.

Detroit Commercial Centers Program

Program Oversight: DEGC will be responsible for program oversight, including creation of a local advisory committee to assist in program implementation, synthesizing data and lessons learned from sweeps, convening and reporting to the steering committee and aligning stakeholders on redesign details for the following year, and assisting in the preparation of regular reports to the DOE.

Program Implementation: DEGC will implement the program in three phases. First, it will work with DIF and other partners to finalize the Detroit-specific financing components, including the Green Fund. Second, it will establish the pipeline of major projects by (a) continuing outreach to major institutional, public, and commercial stakeholders and confirming the first round of potential, (b) offering appropriate financial packages for each major project within two months of program selection, (c) coordinating the roll-out of these packages within an additional month, (d) coordinating workforce development resources for facilities staff of major program recipients with Henry Ford Community College within 3 months of the project, and (e) meeting with organizational leadership to ensure satisfaction with program experience, educating them on the benefits of the retrofit program, and to solicit subsequent rounds of projects within 3 months of the project completion. This cycle will continue in Years 2 and 3. Third, DEGC will establish a pipeline of commercial real estate projects by (a) conducting outreach to the broader commercial real estate community to solicit the first round of projects during year 1, (b) with DIF, offering appropriate financial packages within 2 months of program application, (c) coordinating the roll-out of these packages within an additional month, and (d) coordinating workforce development resources for facilities staff of program recipients within 3 months of the project. This cycle will continue in Years 2 and 3.

Finally, DEGC will conduct formal program evaluation through surveys/interviews with all program recipients to assess program effectiveness and recipient attitudes satisfaction immediately after project completion and again one year after project completion. DEGC will also design and conduct a broad marketing/public relations campaign to promote retrofit projects as they are initiated and completed, to raise awareness and public understanding of the role of energy-efficiency retrofits in Detroit's redevelopment strategy, and to encourage widespread community support for such efforts (first wave of the strategy by Month 3, Year 2, and subsequent waves conducted in Year 2 and 3).

Annual Spending by Program

	Year 1	Year 2	Year 3	Total
Detroit Commercial	\$8,058,949	\$1,607,694	\$333,357	\$10,000,000
Residential	\$8,058,949	\$6,733,655	\$6,297,700	\$20,000,000
Leverage	\$49,144,537	\$58,129,423	\$52,546,265	\$159,820,224
Totals	\$64,172,131	\$66,470,772	\$59,177,321	\$189,820,224

Ensuring success: The MRRI program framework provides consistent monitoring, data collection, experienced management, well-organized outreach, and strong partners to ensure flexibility and expert guidance and ensure the success of the initiative (see section V for communications strategies.)

IV. Relevance and Outcomes/Impacts

The MRRI meets all of the objectives outlined in the funding announcement.

- **Deliver verified energy savings from a variety of projects in the local jurisdiction of the applicant, with a particular emphasis on efficiency improvements in residential, commercial, industrial, and public buildings** The combined approach of the 27 neighborhood retrofit sweeps across Michigan, plus the focus on 3 commercial centers in Detroit, will ensure

that we are able to deliver efficiency improvements in residential, commercial, industrial, and public buildings. The rigorous data collection and tracking of energy savings proposed in the MRRI ensures that savings are verified through multiple methods.

- **Leverage the participation and support of multiple local jurisdictions, regional planning agencies, and state energy offices** The MRRI combines collaborative efforts across four regions of Michigan and the State Energy Office, as well as numerous community organizations, foundations, academic institutions, and the private sector.
- **Achieve broader market participation and greater efficiency savings from retrofits** The MRRI will drive broad market participation across the residential, commercial, industrial, and public sectors. The RNRP will incorporate learning from one year to the next in order to drive increasing participation through continual refinement of the outreach/marketing and financing/incentives offered. In addition, the DCCP will influence the actions of significant public, institutional and commercial actors, setting high-level examples of exemplary energy-efficiency retrofit strategies and incorporating these strategies into broader messages about Detroit's revitalization successes.
- **Highly leverage grant funding in order to significantly enhance the resources available (i.e. goal of at least 1:5)** Through the coordinated use of a loan loss reserve, interest-rate buy down, and contributions from customers and project partners, our financial model projects that \$30 million of FOA funds will leverage \$159.8 million in activity from existing programs and lender or private capital achieving overall leverage of at least 1:5 in the MRRI project.
- **Sustain themselves beyond the grant monies and the grant period by designing a viable strategy for program sustainability** MI Saves' use of innovative credit enhancements including loan loss reserves, interest rate buy downs, and matching rebate assistance mean that as loans are repaid, funds continually become available to finance additional retrofits of homes, businesses, industrial, and institutional buildings. Meanwhile, the DCCP will jumpstart an innovative Green Fund that will integrate energy-efficiency and renewable energy into reinvestment efforts in Detroit. In addition, legislation currently in progress to authorize Property Assisted Clean Energy, lays the groundwork for community based financing programs.
- **Serve as sweep building retrofit programs that demonstrate the benefits of gaining economy of scale and serve as examples of comprehensive community-scale energy-efficiency approaches that could be replicated in other communities across the country** The MRRI is designed to test various neighborhood-wide retrofit designs to determine the optimal approach to community-scale energy efficiency rollout. At the end of three years, in addition to installing significant energy efficiency measures in these communities, we will have generated deep insight into what drives economies of scale and uptake of energy efficiency building retrofits in communities, including neighborhoods dominated by large commercial, institutional, and public buildings, providing all of the necessary information for a replicable, scalable approach that can be implemented across the country.

V. Roles of Participants

See section 4B and 4C for details on the roles of participants.

VI. American Recovery and Reinvestment Act Information

The MRRI will promote the direct goals of ARRA, specifically job retention/ creation; economic development; and energy savings (see 3.b). The MRRI is estimated to create/retain 2,063 direct jobs, assuming \$92,000 per job year. Job creation/retention will be monitored and reported and the State' Green Jobs Report will be updated biannually to examine the impact of ARRA funds on green jobs in Michigan. Economic development will be evaluated by looking at a four quantitative measures that will be captured throughout the MRRI:

1. Reduction in Energy Bills: As energy bills are reduced, more cash is available to homeowner. Through verification of energy savings, reduction in bills will be determined for various income levels.
2. Increase in trained/certified contractors: MRRI also will accelerate implementation of new residential and commercial energy codes currently in rules promulgation. These codes will complete promulgation process early 2010 in close proximity to this award date.
3. Increased availability of financing tools such as loans
4. Private investment in the program: Reaching the targeted leverage in the MRRI program will document economic development and further attract private and public investment.