

**City of Gladstone  
Energy Optimization Annual Report for 2009  
MPSC Case No. U - 15861**

**Introduction**

Pursuant to 2008 Public Act 295 (PA 295), the City of Gladstone is filing this annual energy optimization (EO) report with the Michigan Public Service Commission (MPSC). This EO annual report consists of three sections:

- Section 1 will address the requirements under PA 295 Section 97, Subsections 1-3 and Section 71, Subsection 3 (i).
- Section 2 will summarize the EO programs implemented in 2009.
- Section 3 will provide additional information and goals for 2010 programs.

**SECTION 1: PA 295 SECTION 97 SUBSECTIONS 1-3 REQUIREMENTS**

***Section 97 (1) Each provider shall submit to the commission an annual report that provides information relating to the actions taken by the provider to comply with the energy optimization standards.***

The City of Gladstone has taken the following actions to comply with the EO standards:

- Filed a 3-year Energy Optimization plan with the MPSC on April 3, 2009 as required by PA 295.
- The EO plan, a collaborative partnership with other Upper Peninsula municipal utilities and the Michigan Electric Cooperative Association (MECA), was approved by the MPSC on July 1, 2009. In an effort to better serve its customers and the community, the City elected to form a new collaborative with five Upper Peninsula municipalities (Baraga, Crystal Falls, L'Anse, Negaunee and Norway), utilizing assistance from its wholesale electric supplier, WPPI Energy. This change was made in December, 2009. Additional information on this change can be found Section 3.
- Offered energy efficiency programs for all customer classes during 2009.
- Administration and implementation of the EO programs were the responsibility of City of Gladstone personnel, with assistance from WPPI Energy.
- Education for both Residential and Business was implemented by City of Gladstone in-house personnel, with assistance from WPPI Energy.

***Section 97 (2) Annual reports under subsection (1) shall include the following: (a) The number of energy optimization credits that the provider generated during the reporting period. (b) Expenditures made in the past year and anticipated future expenditures to***

**comply with this subpart. (c) Any other information that the commission determines necessary.**

In the fall of 2009, the MPSC staff approved an interim report format for all the municipal utilities in Michigan. That interim report details the energy optimization credits generated, expenditures and surcharges collected from customers in the past year. The end of year interim report for 2009 can be found in Attachment A. Future expenditures for 2010 are expected to follow the amended EO Plan filing that was submitted in May of 2010.

***Section 97 (3) Concurrent with the submission of each report under subsection (1), a municipally-owned electric utility shall submit a summary of the report to its customers in their bills with a bill insert, to its governing body, at its office and on its website.***

The City of Gladstone will submit a copy of this annual report to its City Commission and make it available at its office and on its website. A summary will be provided to customers through a bill insert no later than July 30, 2010.

***Section 71 (3)(i) Include a process for obtaining an independent expert evaluation of the actual energy optimization programs to verify the incremental energy savings from each energy optimization program for purposes of section 77.***

WPPI investigated the cost of independent evaluation from third party firms on its members' behalf, and discovered that the cost for an independent evaluation would significantly exceed the amount allowed (maximum of 8% of the costs of implementing an EO program) under draft MPSC rules governing EO programs. In an effort to comply with Section 71 (3)(i) and accommodate the Draft Rules, the City of Gladstone utilized the following approach in determining the energy impacts achieved for 2009:

1. Energy savings claimed for mass market (prescriptive) programs use deemed values from the Michigan Energy Master Database (MEMD);
2. Incentives for custom energy efficiency projects adhere to cost-effectiveness tests prepared for the 3-year EO Plan submitted to the MPSC on April 3, 2009, which are also consistent with the guidelines developed by WPPI Energy and used throughout the WPPI Energy system by its 51 members. WPPI retained Summit Blue Consulting to conduct an impact evaluation of its energy efficiency programs. That study determined that the verified kWh savings for its custom incentive projects were within 98% of the claimed amount. The energy savings from commercial sector custom incentives included in this report reflect this "net kWh savings" adjustment. [Reference: "Impact Evaluation of WPPI's Energy Efficiency Programs"]

## **SECTION 2: SUMMARY OF EO PROGRAMS IMPLEMENTED IN 2009**

### **Residential Low Income Services**

The City of Gladstone was unable to contract with any local agencies in 2009, but has established a partnership with Michigan Energy Options for 2010. Additional details on this partnership can be found in Section 3.

The energy savings goals and the budget allocations from the 2009 Low Income program will be added to the goals for the 2010 program.

### **Residential Sector (Mass Market) Programs**

The following programs were available to all residential electric customers during 2009:

#### ENERGY STAR Appliance Rebates

Customers received financial incentives when they purchased qualifying ENERGY STAR refrigerators, clothes washers, dishwashers, room air conditioners and dehumidifiers. Over one hundred customers participated in this program during the year.

### **Commercial Programs**

The following programs were utilized by City of Gladstone commercial customers during 2009:

#### Commercial and Industrial Custom Incentive Program

Efficiency Improvement Incentives help businesses implement cost-effective energy efficiency projects that otherwise would not be completed. Qualifying projects receive incentive payments based on the technology and amount of on-peak demand and energy they reduce. The incentives are distributed upon verification of project completion.

Study grants and project implementation incentives are available to help customers identify and cost-effective energy efficiency projects that otherwise would not be completed.

Custom-prepared incentives for projects are determined based on a calculation of utility peak demand reduction, energy savings and customer payback for the specific proposed project.

### **2009 Program Results**

The table below summarizes the energy savings for the City's 2009 EO programs. The net shortages and eligible excess energy goals and the budget expenditures from the 2009 programs will be applied as applicable to the 2010 program goals.

| <b>Market Sector</b> | <b>kWh Goals</b> | <b>kWh Achieved</b> | <b>Difference</b> | <b>Carry over to 2010</b> |
|----------------------|------------------|---------------------|-------------------|---------------------------|
| Residential Programs | 38,778           | 8,119               | (30,659)          | 30,659                    |
| Low Income Program   | 4,309            | 0                   | (4,309)           | 4,309                     |
| Business Programs    | 54,174           | 398,989*            | 344,815           | (113,789)                 |
| <b>Totals</b>        | <b>97,260</b>    | <b>407,108</b>      | <b>309,847</b>    | <b>(78,821)</b>           |

\* Reflects adjusted "net kWh" savings

### **SECTION 3: ADDITIONAL INFORMATION AND 2010 EO PROGRAMS**

This section provides additional information to 2009 programs and a summary of the 2010 Energy Optimization programs.

#### ***Recovery of Costs from Customers***

The City of Gladstone began levying surcharges for the Energy Optimization programs in September, 2009. Those surcharges are shown in the table below:

| <b>Levelized Surcharges</b> |           | <b>2009-2011</b> |
|-----------------------------|-----------|------------------|
| Residential                 | Per kWh   | \$ .00160        |
| Commercial                  | Per meter | \$5.54           |

#### **Coordination of Energy Optimization Programs**

The City of Gladstone will continue to collaborate with the five municipal utilities listed in Section 1 in implementing its EO programs. The City also participates in the EO Collaborative meetings hosted by MPSC through its membership in the Michigan Municipal Electric Association (MMEA). In addition, WPPI Energy assists the City with EO marketing and program administration.

#### **Summary of Energy Optimization Programs for 2010**

The City of Gladstone will implement the following additional programs in 2010. These programs will be added to the portfolio of programs that were offered to customers in 2009.

#### **Residential Low Income Services**

The City established a partnership with Michigan Energy Options (MEO) to implement a Low Income Assistance program, beginning in 2010. The program is designed to reduce the electricity use of income-eligible homeowners through targeted efficiency improvements at no cost to them.

Upon determination of income eligibility, weatherization specialists conduct an energy assessment of the home to determine savings opportunities and install selected low-cost items during the visit. Installed measures may include:

- Up to 5 CFL light bulbs in each home
- One LED nightlight
- Low-cost water-saving devices (aerators and shower heads, blankets and pipe wrap) in homes with an electric water heater
- In addition, field staff evaluate eligibility for replacement of mechanical systems (e.g., furnace, water heater, etc.) under other MEO programs

#### **Residential Sector (Mass Market) Programs**

##### **ENERGY STAR Lighting Incentives**

This program encourages purchases of ENERGY STAR CFLs, LED nightlights and LED holiday lights with rebates for qualifying lighting product purchases at participating local retailers.

### Responsible Appliance Recycling Program

This program provides pickup and recycling services for customers with older inefficient appliances. The target market is residential customers who have "second" or back-up units in their garage or basement. All units must be operable to participate in this program and each customer will receive a \$30 incentive in addition to the free disposal. The cost for pick up and recycling is paid for by the utility. A maximum of two appliances is allowed per customer.

In addition to reducing the customers' energy costs, this program reduces landfill use through the recycling of useful refrigerator and freezer parts and recovery of dangerous PCBs and ozone-damaging CFCs. Recycling includes the recovery and disposal of the ODS foam blowing agent. The program meets the Environmental Protection Agency's (EPA) Responsible Appliance Disposal (RAD) Program requirements.

Appliance Recycling Centers of America (ARCA) is the implementation contractor for this program.

### HVAC Incentives

The Residential HVAC Incentives program is designed to encourage residential customers to improve the efficiency of their existing HVAC equipment or purchase energy efficient products when they replace old, worn-out equipment. This program is limited to existing homeowners. Eligible measures include:

- Existing Air Conditioner Tune-up

A \$25 rebate is available for the target market: air conditioning units of less than 5 tons, which have not received a tune-up within the last three years. Qualifying inspections and tune-ups must include a 12-point inspection performed by a professional heating and cooling service technician.

- New Equipment Incentives

Rebates from \$50 to \$250 are available for qualifying central air conditioners, electric water heaters and high efficiency furnaces which include an ECM.

## **Commercial programs**

### Prescriptive Incentives

The Prescriptive Efficiency Incentive Program provides financial incentives to business customers for the installation of proven technologies that effectively reduce demand and energy use.

Incentives will be offered on the following equipment:

#### **Lighting Equipment**

- Compact Fluorescent Fixtures and Lamps (CFLs)
- High Performance T8 Fluorescent Lighting Systems - (CEE Qualified Lamps and Ballasts)
- Reduced Wattage T8 Fluorescent Lighting Systems
- High Bay Fluorescent Fixtures
- Other Efficient Lighting Technologies
- Pulse Start Metal Halide fixtures
- Occupancy Sensors
- LED Exit Signs

### **Non-Lighting Equipment**

- Central Packaged and Split System Air Conditioning and Air Source Heat Pumps (including Rooftop Units)
- Air and Water-Cooled Chillers
- Variable Frequency Drives
- High Efficiency Premium Motors
- Miscellaneous Equipment
- Vending Equipment Controllers
- ENERGY STAR® Refrigerators and Ice Machines
- Pre-rinse Sprayers

### **RFP for Energy Efficiency**

The RFP for Energy Efficiency targets large efficiency projects that reduce annual total energy consumption by 150,000 kilowatt-hours or more, or reduce the on-peak electrical demand by at least 25 kilowatts from 1PM to 4PM during the months of June, July, and August. The program is designed to encourage investment by large commercial and industrial utility customers in energy efficient improvements.

The program is structured around a request-for-proposal format, enabling large commercial and industrial customers to bid for funds and secure their own level of funding needed to advance selected efficiency improvement projects. The Program allows customers the flexibility to determine how best to meet their financial requirements while maintaining their eligibility for other incentive programs.

### **Shared Savings Program**

The Shared Savings Program provides up-front capital to advance energy efficiency improvements. Customers may receive a loan of up to \$50,000 for qualifying energy efficiency improvements, which are then repaid through installments on the monthly utility bill. Often the payments are less than the energy cost savings, resulting in a positive cash flow for the customer. Funding can range from \$2,500 to \$50,000, based on the cost and energy savings potential of the project.

Projects may include any new electrical energy-saving or demand-reducing measure that results in lasting impacts for the facility.

### **New Construction Design Assistance**

The New Construction Design Assistance program seeks to capture energy savings by encouraging the design and construction of buildings as integrated systems. The program provides assistance from energy efficiency consultants to improve the energy efficiency of non-residential new construction projects before they are built. Opportunities for energy savings are identified by simulating incremental efficiency improvements in lighting, HVAC and other building systems. The program is also open to education, manufacturing, municipal buildings, institutional buildings, retail, owner-occupied offices and owners interested in LEED certification.

## **SUPPORT PROGRAMS**

The following programs are administered by WPPI Energy and supported through WPPI's wholesale power rates. They are available to all customers served by WPPI member utilities, thus augmenting our EO Program.

### **Home Energy Suite**

Residential customers look to their energy providers for information on energy efficiency and energy savings, and view their energy providers as the expert.

Home Energy Suite is an online interface that includes the Home Energy Calculator, Residential Energy Systems Library, Kids Korner, specialty calculators and more. HomeEnergySuite gives customers the opportunity to conduct a self analysis on their home and review scenarios that will help them save energy and money. The online analysis is free to customers.

### **National Theatre for Children**

The National Theatre for Children is a live-performance school program designed to educate young people on electrical safety, energy conservation and renewable energy.

National Theatre for Children is a Minneapolis-based performance troupe presenting live theatre in schools on behalf of sponsoring organizations. The organization is dedicated to educating young people on important and timely energy-related topics. Combined with printed curriculum materials and teacher guides, their imaginative and customized presentations effectively reach the students, teachers and parents.

The NTC tour takes place annually throughout WPPI Energy member communities.

### **The Local Circuit**

Many customers have an interest in saving energy. The Local Circuit newsletter is a bi-annual publication that keeps customers informed on current energy issues. The publication is distributed free to customers in WPPI Energy communities twice yearly in May and September.

### **eco@home**

eco@home is a free, digest-sized, 12-page bi-annual publication that encourages readers to consume energy more efficiently, saving money and benefiting our environment. Each article informs, inspires and motivates households to action with practical ideas, often at low or no cost.

### **GreenMax Home Program**

The GreenMax Home initiative encourages homeowners to build or remodel homes that use reliable, sustainable energy systems. The target market is residential customers who are in the planning stage of building a new home or remodeling an existing home. The home designs and occupant lifestyles required to achieve net zero energy use must be replicable and appropriate for a mass market, community-based setting.

Program funding shares the incremental cost of building a Net Zero Energy Home or remodeling a home to bring it to net zero. WPPI Energy offers technical assistance and upon completion of

the project, monitors the home and its occupant's energy use for at least one year to ensure all energy consumption and production goals were met.

#### Renewable Energy Customer Incentives

The Renewable Energy Customer Incentive offers rebates of up to \$10,000 to customers who install qualifying wind, photovoltaic or solar domestic hot water systems. Rebates are available for the following technologies:

- Solar domestic hot water systems with electricity as the backup fuel, including installation of new systems or repair of existing systems that are inoperable
- Solar thermal systems where electricity is the primary heating fuel
- Photovoltaic (PV) systems
- Small-scale wind energy systems of less than 20 kilowatts (kW)

In addition, cash rebates are available for feasibility studies that will help customers determine whether a renewable energy system installed at their site will operate effectively. The program reimburses customers for 75 percent of the site survey costs, up to a maximum reimbursement of \$375.

#### Study Grants

This program helps offset the cost of studies that identify electrical energy savings and demand reductions. The goal is to encourage energy efficiency and conservation projects at customer facilities. Study grants provide funding for studies that provide customers with estimated project costs and estimated energy-saving benefits from the specified electrical efficiency improvements. An eligible study is conducted by a third-party contractor of the customer's choice. Examples of eligible studies include compressed air surveys, pump analyses, process evaluations, energy efficiency project feasibility studies and other specialized technology reviews.

### **Summary of Energy Optimization Programs for 2010**

The table below shows:

- a) applicable revisions/adjustments from the 2009 programs;
- b) 2010 Plan Filing goals;
- c) revised energy savings and expenditure goals for 2010 programs.

### **2010 Energy Optimization Program Portfolio**

| Program Portfolio                   | 2009 Revisions        |                  | 2010 Plan Filing Goals       |                 | 2010 Revised Goals           |                 |
|-------------------------------------|-----------------------|------------------|------------------------------|-----------------|------------------------------|-----------------|
|                                     | kWh Savings Revisions | Budget Revisions | Gross First Year kWh Savings | Program Budget  | Gross First Year kWh Savings | Program Budget  |
| <b>Residential Programs</b>         |                       |                  |                              |                 |                              |                 |
| Mass market Programs                | (30,659)              | \$0              | 104,169                      | \$ 13,016       | 134,828                      | \$ 13,016       |
| Low Income Services                 | (4,309)               | \$0              | 11,574                       | \$ 3,265        | 15,883                       | \$ 3,265        |
|                                     |                       |                  |                              |                 |                              |                 |
| <b>Commercial Programs</b>          | 113,789               | \$0              | 46,362                       | \$ 16,366       | -                            | \$ 16,366       |
|                                     |                       |                  |                              |                 |                              |                 |
| <b>Total Program Portfolio</b>      | <b>78,821</b>         | <b>\$0</b>       | <b>162,105</b>               | <b>\$32,647</b> | <b>150,711</b>               | <b>\$32,647</b> |
|                                     |                       |                  |                              |                 |                              |                 |
| Program Administration              |                       | \$0              |                              | \$1,100         |                              | \$1,100         |
| Program Evaluation                  |                       | \$0              |                              | \$2,935         |                              | \$2,935         |
|                                     |                       |                  |                              |                 |                              |                 |
| <b>Total Program Implementation</b> |                       |                  |                              |                 |                              | <b>\$36,682</b> |

## Attachment A

**City of Gladstone  
Annual Energy Optimization Report  
Reporting Year 2009**

**Revenue**

|                                    |          |
|------------------------------------|----------|
| Revenue from Surcharge Collections | \$17,000 |
|------------------------------------|----------|

**Program Expenditures**

|   |           |
|---|-----------|
| WPPI Efficiency Grants and Programs (excludes Low Income) | \$ 45,473 |
| Low Income Programs                                       | -         |

|                            |          |
|----------------------------|----------|
| Total Program Expenditures | \$45,473 |
|----------------------------|----------|

**Energy Optimization Credits Generated**

|                                     |            |
|-------------------------------------|------------|
| All Programs (excluding low income) | 78,821 kWh |
| Low Income Programs                 | -          |

|                                   |            |
|-----------------------------------|------------|
| Total Energy Optimization Credits | 78,821 kWh |
|-----------------------------------|------------|

**Surcharge Billed**

|                  |                   |
|------------------|-------------------|
| Residential      |                   |
| Collection basis | \$0.00160 per kWh |
|                  | \$8,607 collected |
| Commercial       |                   |
| Collection basis | \$ 5.54 per meter |
|                  | \$8,393 collected |
| Self Directed    | -                 |