

Energy Optimization Programs

DTE Energy, Consumers Energy, and
Lansing Board of Water and Light

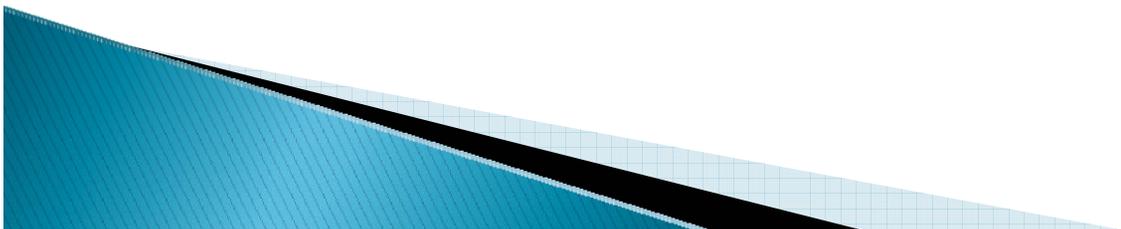
(Sponsored by Rebuild Michigan – Michigan DELEG)

Commercial and Industrial
Program

February 4, 2010 – Lansing

Today's Presentation Goals!

- Want You To Take Away The Following:
 - What is Energy Optimization
 - Michigan Utilities have money available for both electric and gas energy efficiency improvements
 - How the Energy Efficiency programs work
 - How to contact us to apply for the incentives and have your questions answered



Why are the Utilities Promoting EO?

October 2008 - New Energy Bill
Michigan Public Act 295 (PA295)
Requires “Energy Optimization” Programs

WHO

Investor Owned Utilities
Municipalities
Rural Electric Cooperatives

PURPOSE

LOWER CUSTOMER BILLS

Reduce overall energy demand throughout Michigan
Help the environment

Key Energy Optimization (EO) Elements of Michigan Legislation

Targets

- Programs began May 26 (CE), June 3 (DTE), and April 1 (LBW&L)
- Requires electric programs to ramp up to 1% annual savings by 2012
- Requires natural gas programs to ramp up to 0.75% savings by 2012

Compliance Options

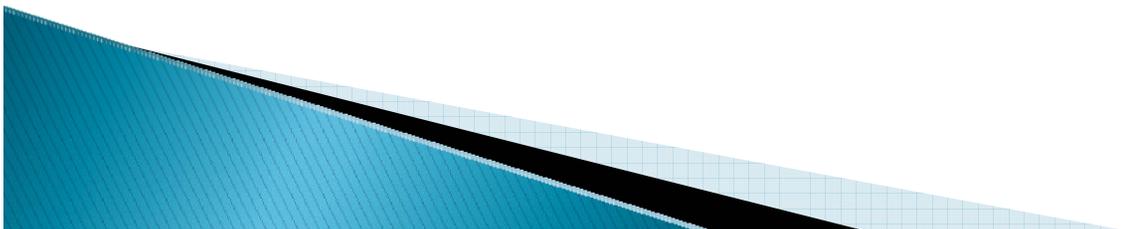
- Includes energy efficiency and conservation
- Providers (utilities) can operate compliance programs or fund a state program
- Large electric customers may self-administer (2MW or 10 MW aggregate)

Funding

- Legislation limits annual spending for Energy Optimization (“EO”) via a customer surcharge
- Funds received from a customer class must be spent on that class
- All classes will contribute toward low income residential programs

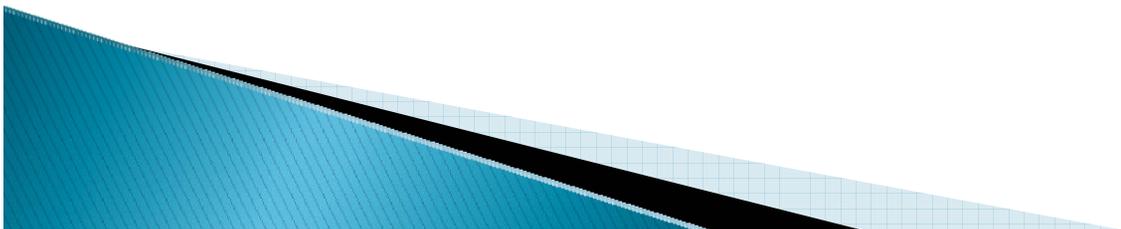
How Can Energy Optimization Benefit You?

1. Allows an organization to upgrade or replace equipment or fixtures at a reduced capital cost
2. Provides long term energy savings
 - Lower electrical and natural gas bills compared to less efficient equipment
3. Reduces your carbon footprint
 - Helps you to be greener, sending a positive message to your customers and employees



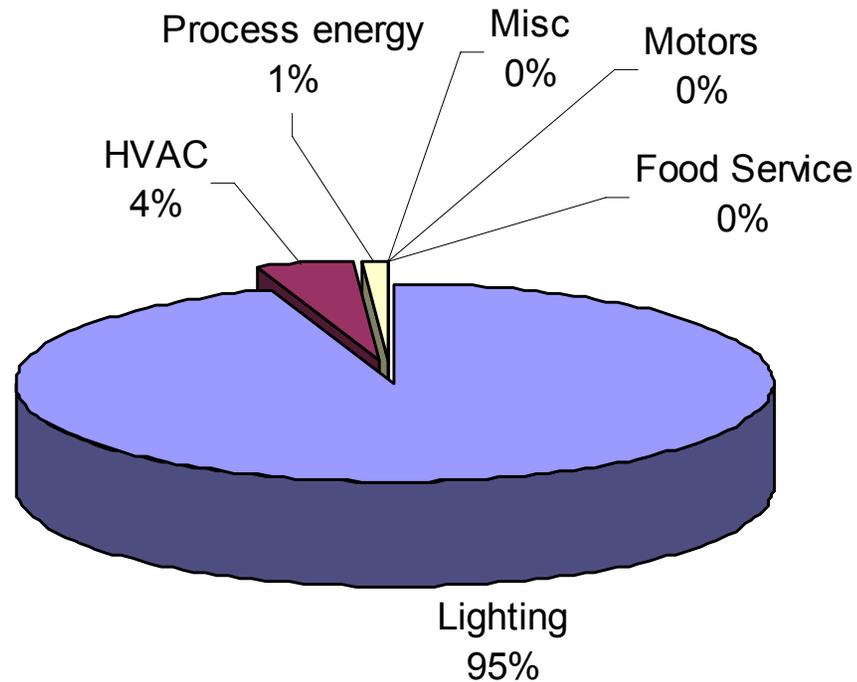
2009 Summary

- ▶ Programs launched mid-year for the major utilities
- ▶ Aggressive launch schedule and energy savings goals for short programs
- ▶ All programs met their energy savings goals and were within budget



DTE 2009 Incentive Summary

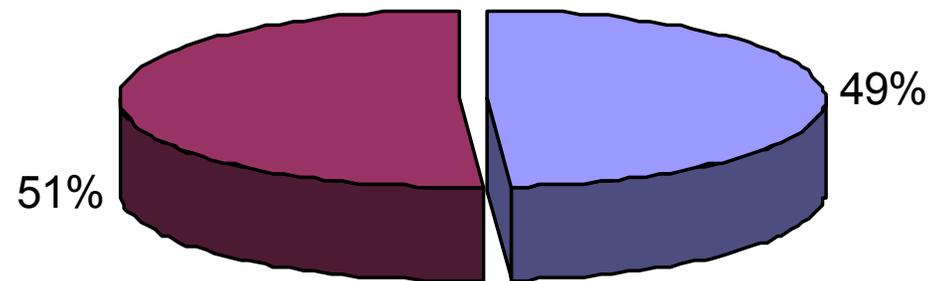
DTE Energy Savings Summary



- ▶ Electric Savings
 - Lighting is the big savings
 - Typical of first year programs

DTE 2009 Incentive Summary

DTE Gas Savings Summary

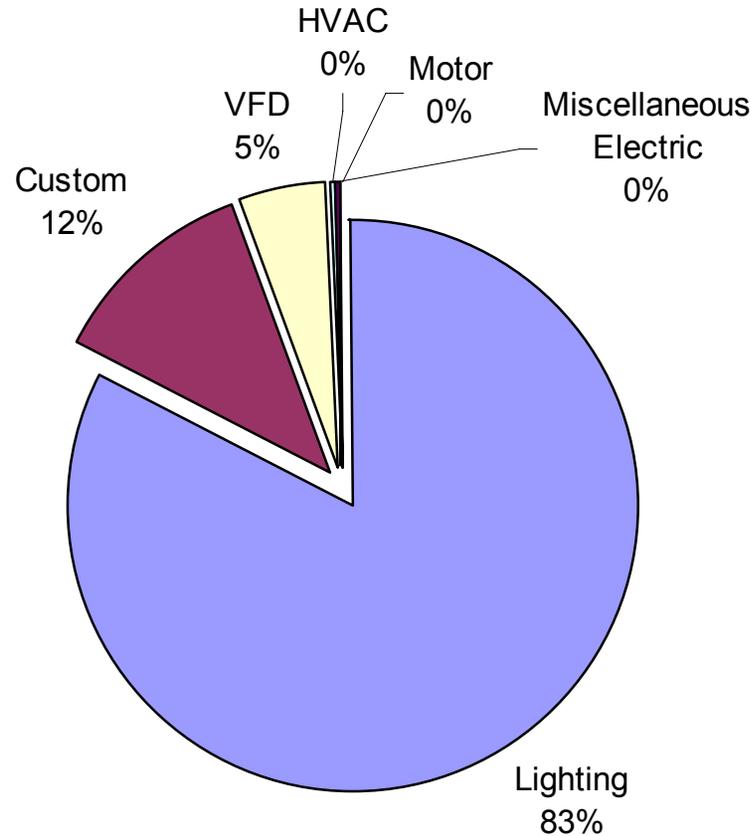


■ Gas Misc ■ HVAC

▶ Gas Savings

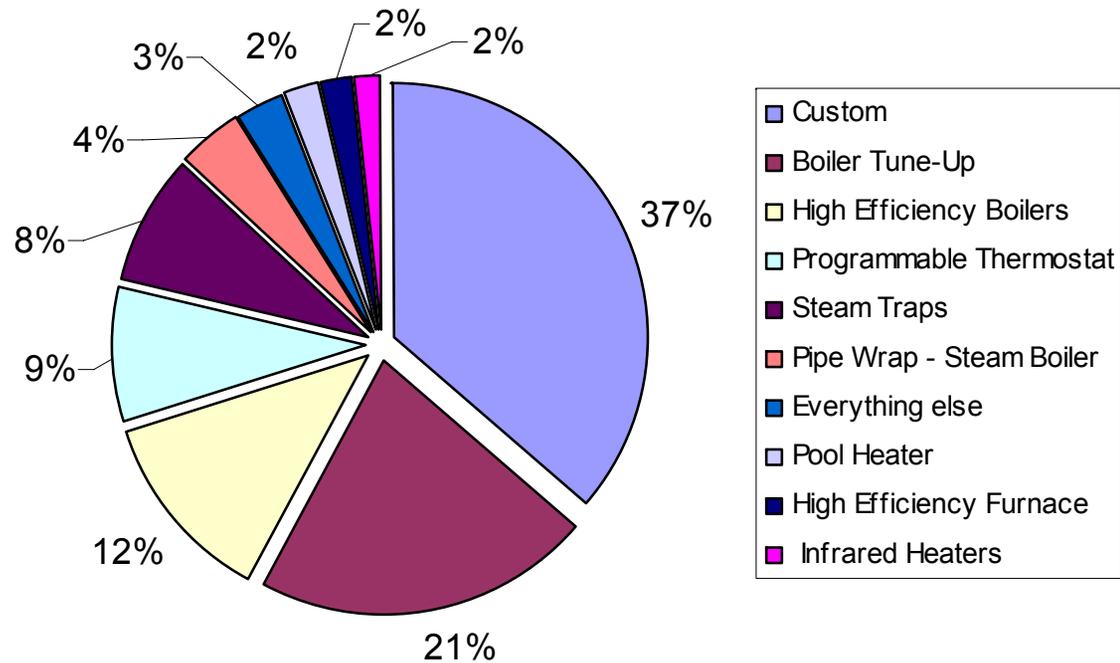
- Savings are mixed between custom projects and HVAC

Consumers Energy 2009 Incentive Summary



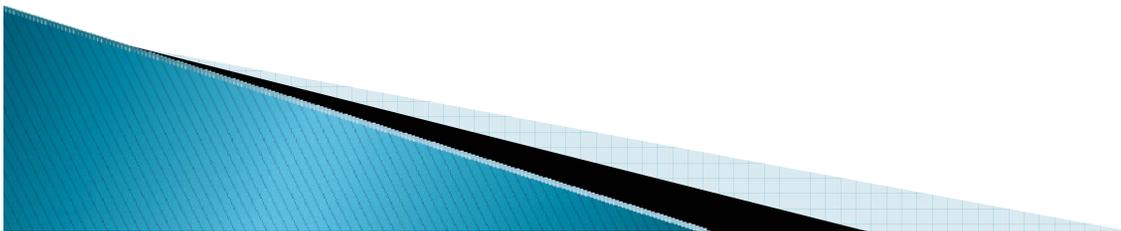
- ▶ Electric Savings
 - Lighting is still big

Consumers Energy 2009 Incentive Summary



- ▶ Gas Savings
 - HVAC is the driver for gas savings

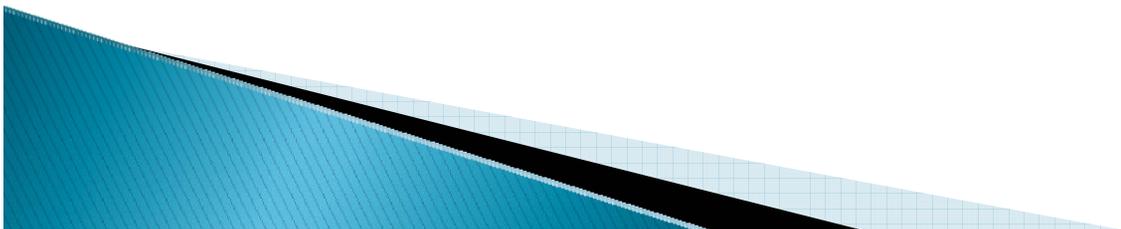
Energy Optimization Measures



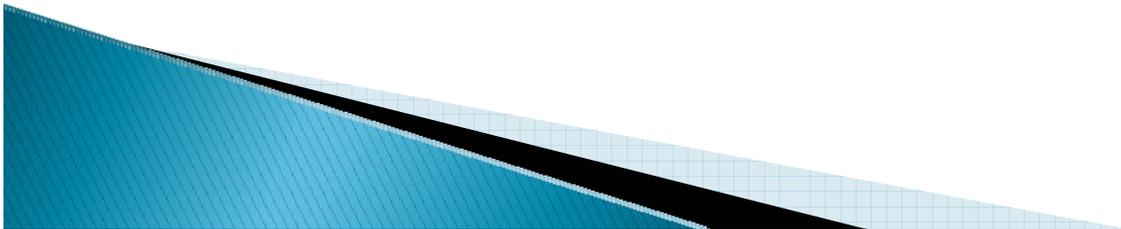
C&I Program/Measures

There are two types of Incentives:

- Prescriptive Incentives
 - Think “**off the rack**,” get it and go
 - You install energy efficient equipment and achieve energy savings and pre-determined incentive levels
 - Incentives typically average 20% to 50% of the incremental cost of purchasing qualifying technologies
- Custom Incentives
 - Think “**tailored**,” custom fit to your business
 - Incentives are determined on a case-by-case basis
 - Must have a greater than one-year payback period and less than eight years



Prescriptive Measures



C&I Prescriptive Program

- **Lighting**
 - T12 to T8 retrofits
 - High bay lighting retrofits with occupancy sensors
- **Motors/ Variable Frequency Drives**
 - NEMA premium motors
 - VFDs for HVAC fans and pumps
- **HVAC equipment**
 - High efficiency air conditioning systems
- **Refrigeration and other misc. equipment**
 - Anti sweat heaters
 - Vendor equipment controllers
- **Gas Measures**
 - Boiler tune-ups
 - Steam trap testing and repair

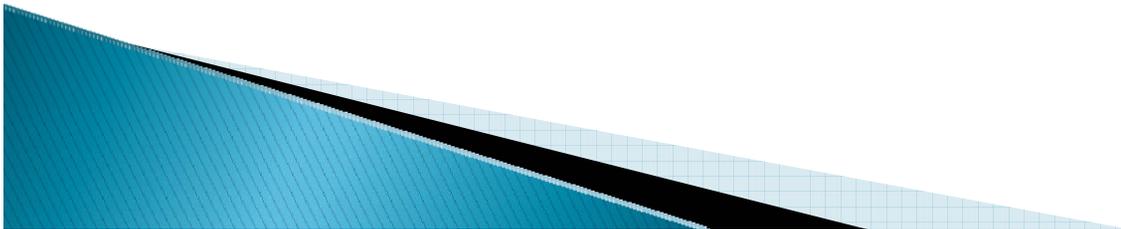


T-12

T-8



Lighting Measures



Compact Fluorescent Lamp (CFL)

- Up to 75% Savings
- Up to 10 times the life of standard incandescent bulbs
- < 6 month payback
- Needs to be ENERGY STAR® qualified
- MAX: 30 Watts allowed



T12 to T8 or T5 Lighting

- 30% to 40% Savings
- Incentives range by fixture
- More light (higher lumens per Watt)
- Better quality
- Available for 2, 3, 4, and 8-foot lamps
- Higher CRI's offer better lighting



High Bay Lighting Retrofits

- Interior HID to T8 or T5 HO fixtures
- 25% to 30% energy savings
- Instant on and off
- More likely to be turned off when not used
- Fixture can have integrated occupancy sensor



Exterior Lighting

- ▶ Energy efficient upgrades
- ▶ Up to 60% energy savings
- ▶ Long life means less maintenance
- ▶ Light output remains constant over the life of the bulbs

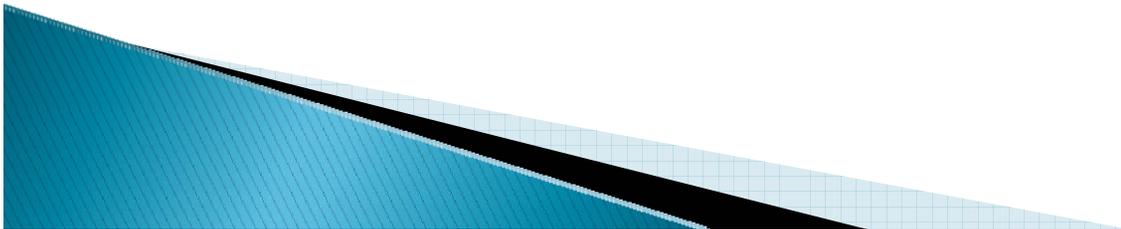


Lighting Occupancy Sensors

- 20% to 60% Savings
- 1 to 2 Year Payback
- Provide inventory of controlled fixtures (wattage and qty)



HVAC Measures



Unitary and Split Air Conditioning Systems and Heat Pump Systems

- Up to 75% Savings
- AC Systems
- Air Source or Water Loop Heat Pump
- Must meet ARI Standards and be UL Listed
- Measures that qualify for **custom only**
 - Evaporative coolers



Chillers (Air & Water Cooled)

- ▶ 10% to 40% savings
- ▶ 2 to 5 year payback
- ▶ Better Comfort
- ▶ Maintenance Savings



Programmable Thermostat

- 1% to 2% savings
- Six month payback
- Better Control & Comfort
- See www.energystar.gov



Steam Traps

- 5% to 10 % Savings
- ≤ 1 Year Payback
- Failed open steam traps can waste \$400 a month
- Savings achieved through prevention of steam loss
- Repair incentive available for malfunctioned traps only (leaking steam)



Boiler Tune-Up

- 2% - 5% Savings
- 1.5 year payback or less
- Savings achieved through optimizing the combustion air-to-fuel ratio for improved efficiency
- Boilers used for space heating
- Available once in 24-month period
- Minimum burner size is 110,000 Btu/hr

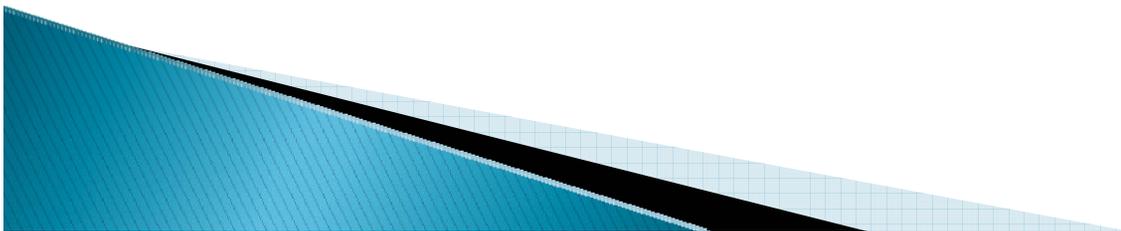


Variable Speed Drives (HVAC)

- Up to 75% Savings
- Could have less than 1 Year Payback
- Better Control
- Eligible:
 - VSDs on HVAC fans and pumps
 - VSD's <50HP for process apps
- NOT Eligible:
 - VSDs on new equipment
 - Non-HVAC motors >50hp (see Custom)



Custom Measures



What are Custom Measures?

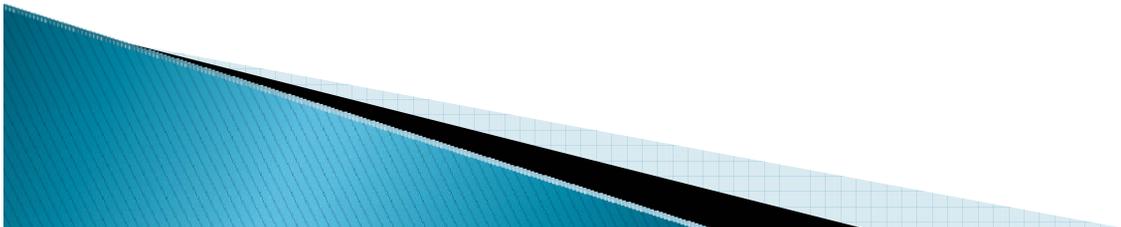
- ▶ Capital investment measures that increase energy efficiency that are not eligible for a Prescriptive incentive may qualify as a Non-Prescriptive measure.

Eligible Measures

- ▶ Process improvements
- ▶ New technology applications
- ▶ Air compressor controls and end use reduction improvements
- ▶ Refrigeration
- ▶ Chiller plant optimization
- ▶ Cooling tower optimization
- ▶ Building envelope improvements
- ▶ Heat recovery projects

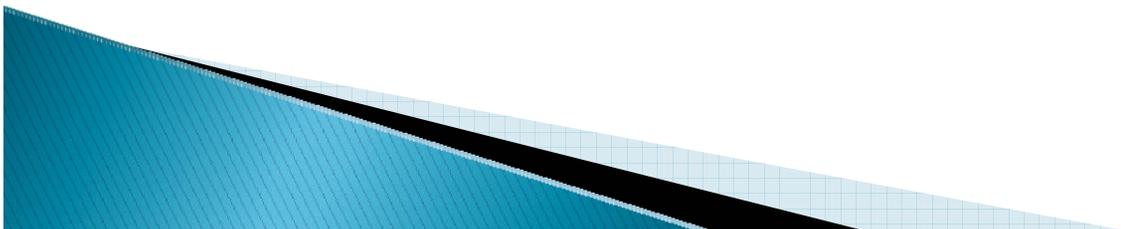
Ineligible Measures

- ▶ Fuel switching
- ▶ Renewable generation
- ▶ On-site generation
- ▶ Peak shifting



Custom Incentives

- Incentives based on annual energy savings on a per-kWh or per-MCF basis
- This program addresses almost any energy efficiency measures excluding those eligible for prescriptive incentives
- 1.0 year minimum and 8.0 year maximum project payback
- Capped at 50% of project cost



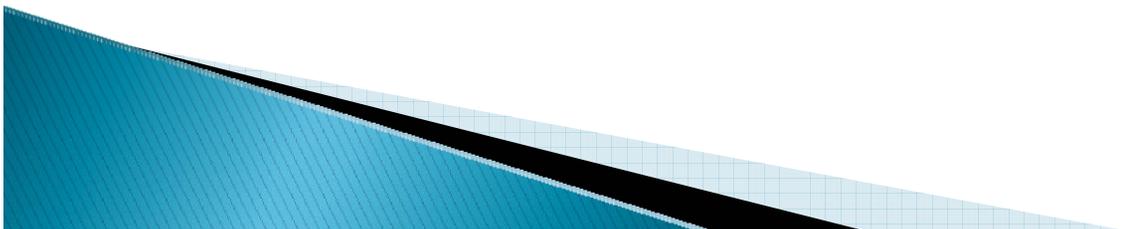
Project Payback Period

$$\text{Payback Period} = \frac{\text{Incremental Measure Cost}}{\text{Annual kWh Saved} \times \text{Cost per kWh}}$$

Example

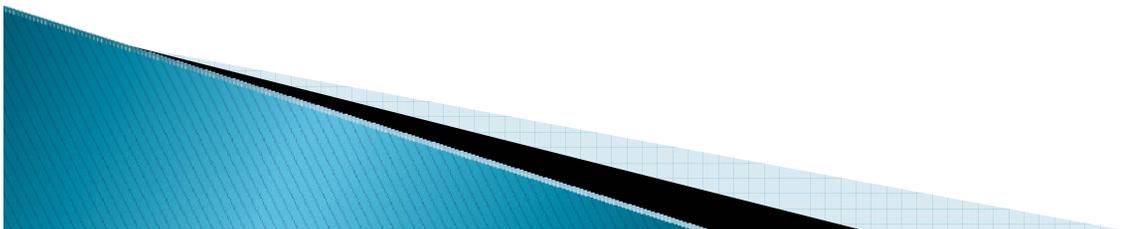
- Annual kWh saved = 500,000 kWh
- Incremental Measure Cost = \$60,000
- Electricity rate = \$0.07 per kWh

$$\begin{aligned}\text{Payback Period} &= \frac{\$60,000}{500,000 \text{ kWh} \times \$0.07/\text{kWh}} \\ &= 1.7 \text{ years}\end{aligned}$$



Custom Requirements

- **Pre-notification required**
 - Submit pre-notification application
 - Existing equipment should be operational
 - Pre-measurements may be required
- **Submit savings estimate**
 - Provide the methods used to determine estimate
 - Consumers Energy will review methods and may recalculate estimate using its own methods



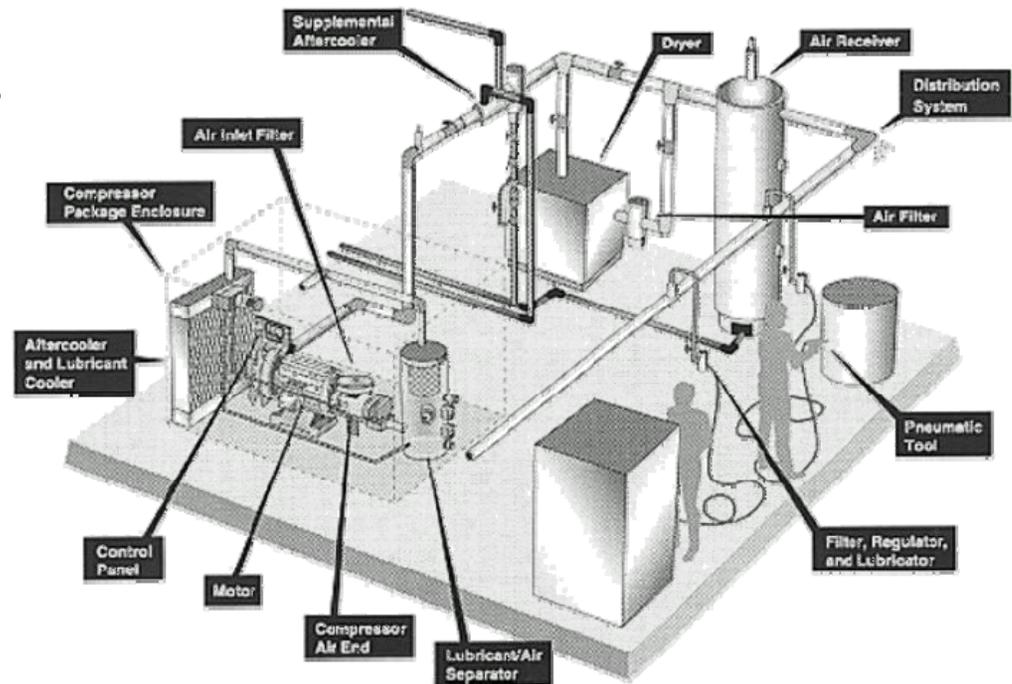
Process Improvement

- Paint mix process improvement
- Overventilation exists from old paint processes
- Reduced ventilation requirement to meet current needs
 - Reduced air changes from 12 to 6 per hour
- Up to 50% energy savings in heating costs



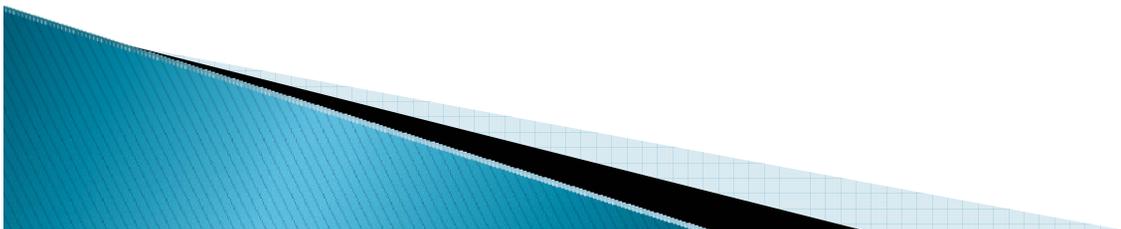
Compressed Air Systems

- A/C audit for 2,600 scfm system
 - Identified distribution leaks
 - Inappropriate uses
 - Installed engineered nozzles
 - Optimized cycle times/loading
- 25% energy savings
- 18 month payback



New Construction/Remodeling Program/Measures

- ▶ DTE and Consumers Energy are offering programs
- ▶ Provides design assistance and custom incentives to customers for building/remodeling more efficient buildings
- ▶ Installing energy-efficiency equipment and controls that are not required by building energy codes and exceed ASHRAE 90.1-2004



**YOUR
ENERGY
SAVINGS**

YourEnergySavings.com

DTE Energy



DTE Energy

Program Details





Energy Optimization Incentives

For DTE Energy, approximately \$31 million will be spent on incentives to install both electric and gas EO measures for 2009 - 2011

Energy Optimization Customer Incentives per Year

Program Year	2009	2010	2011
Energy Reduction Targets - Electric - Gas	63,000 MWH 79,000 MCF	107,000 MWH 207,000 MCF	180,000 MWH 509,000 MCF
Program Incentives (Electric and Gas)	\$5,000,000	\$9,000,000	\$17,000,000



Easy Application Steps

• Step 1: Check Eligibility

- All commercial & industrial customers served by DTE Energy
 - **Customers who self-direct their EO Program cannot apply**
 - **Multi-family projects >5 units have a separate program**
- Projects must result in an improvement in energy efficiency
- Equipment must meet program specifications and requirements

• Step 2: Submit a Pre-notification Application

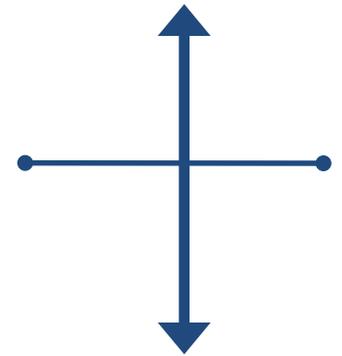
- Recommended for all measures
- Required for custom measures

• Step 3: Install Equipment or Perform Project Work

• Step 4: Submit a Final Application (Same Form as Pre)

- Submit all required supporting documentation
- Receive Incentive Payment (4 - 8 weeks)

Pre-approve
up to **90 days**
before project
completion



Submit final
Within **60 days**
of project
completion



YourEnergySavings.com



We'd Love To Hear From You!

Contact Us!

Email

YourEnergySavings@kema.com

Phone

1-866-796-0512

Fax

1-877-607-0744

Website

www.YourEnergySavings.com

(Download an application)

The logo for Consumers Energy, featuring the company name in a blue, sans-serif font, enclosed within a green, swoosh-like oval shape.

Consumers Energy

Consumers Energy

Program Details

Consumers Energy Saving Solutions
Everyone has the power to save.

Consumers Energy Business Solutions Targets and Budget

There is approximately \$32 million of incentive funds available for Consumers Energy customers through 2011

	2009	2010	2011
MWh Goal (thousands)	55	93	137
MCF Goal (thousands)	152	321	633
Approximate Incentive Budget (millions)	\$6	\$10	\$16

How Can I Participate?

- **Step 1: Check Eligibility**
 - Non-residential facilities served by Consumers Energy
 - Projects must result in an improvement in energy efficiency
 - Equipment must meet the specifications
- **Step 2: Submit a Pre-notification Application**
 - Strongly recommended, and required for all new T8/T5 fixtures, permanent lamp removal, and custom projects
- **Step 3: Install equipment or perform project work**
- **Step 4: Submit a Final Application**
 - Submit all required supporting documentation
 - Receive incentive payment (4 - 8 weeks)

Thank You!

Contact Us

- Email: ConsumersEnergyBusinessSolutions@kema.com
- Web: www.consumersenergy.com
- **Application available at:**
www.consumersenergy.com/eeprograms
- Phone: 877-607-0737
- Fax: 877-607-0738

LANSING BOARD OF
WATER&LIGHT



**Hometown
Energy Savers**

Get "Plugged"
Into Our Program!

BWL

Hometown

Energy SaversSM



BWL Goals & Spending

2009 – 2012 and after

Program Year	Savings (kWh)	Spending (\$)
2009	6,830,651	\$1,223,335
2010	11,305,823	\$1,663,661
2011	17,165,580	\$2,838,740
2012 +	22,858,661	\$3,836,431



Application Process

Step 1: Determine Eligibility: Equipment must be new and installed in a facility which is a Lansing Board of Water & Light electric customer.

Step 2: Install Equipment: New equipment must be installed and old equipment removed. Only new products which are exact product types listed in this form are eligible for prescriptive incentives. If the potential incentive is greater than \$5,000, call 877-NRG-LBWL (877-674-5295) for approval before installation.



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Application Process

Step 3: Complete and sign the application: Incomplete applications will cause delays in payment. Forms *must* be received within 30 days of installation.

Step 4: Include the following documentation with your incentive application:

- Itemized invoices including costs for equipment installed and installation labor.
- New equipment specification sheet(s)
- **Step 5: Mail completed paperwork to:**

Hometown Energy Savers
1219 Turner Street
Lansing, MI 48906



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Key Contacts

- Contact us with Questions
 - Program Manager - Tom Kovalak
 - Program Engineer - Frank Hayes

Toll Free: 877-NRG-LBWL
(877-674-5295)

Office: 517-316-7859

Fax: 517-317-9027



Incentive Applications

BWL Website:

www.lbwl.com/htes.asp

Submit:

tkovalak@franklinenergy.com

Fax: 517-316-9027



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