DTE Energy®
Know Your Own Power®

# Welcome

to our

# Building Management Systems Technical Training

Oct. 16, 2014

# Safety First

Exits

Restrooms

Other site features

# AGENDA

**8:30 ➢ Opening Remarks**

- **Paul Maximuk**: DTE Energy Partnership & Services

**8:35 ➢ Industrial Manufacturing BMS Systems**

- **Feras Karim:** Leidos Engineering, LLC
- **Darren Roney:** Leidos Engineering, LLC

**9:30 ➢ Break:** Technology Displays and Networking

**10:00 ➢ Commercial BMS Systems**

- **Sandra Nelson:** Johnson Controls
- **Tom Neidermann:** Optimum Energy

**10:55 ➢ DTE Energy Incentives**

- **Troy Simmon**: Energy Efficiency Program for Business

**11:25 ➢ Closing Remarks**

- **Paul Maximuk**

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# Paul Maximuk

## DTE Energy Partnership & Services

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# Feras Karim

# Darren Roney

Leidos Engineering, LLC

# Industrial Building Management Systems

**Presented By:**
**Feras Karim – Leidos Engineering, LLC**
**Darren Roney – Leidos Engineering, LLC**

leidos

# Real-Time Commissioning and Sustainment

- Total plant about 64 million square feet
  - Assembly plants about 4 million square feet each
  - Other plants (powertrain, metal casting) about 2 million square feet each
- Energy load variable by plant and season
  - 15.5 million kWh in fan energy alone in February 2011
  - Heating energy of 65 million kBTUs for all plants for the same month, which is about 115.85 BTU per square foot

| Action | Observed Savings |
|---|---|
| Installation of meters | 0 to 2% (the “Hawthorne effect”) |
| Bill allocation only | 2-1/2 to 5% (improved awareness) |
| Building tune-up | 5 to 15% (improved awareness, and improvement) |
| Continuous Commissioning | 15 to 45% (improved awareness, identify simple O&M improvements, project accomplishments, and continuing management attention) |

Source: Guidance for Electric Metering in Federal Buildings. DOE/EE-0312 February 3, 2006

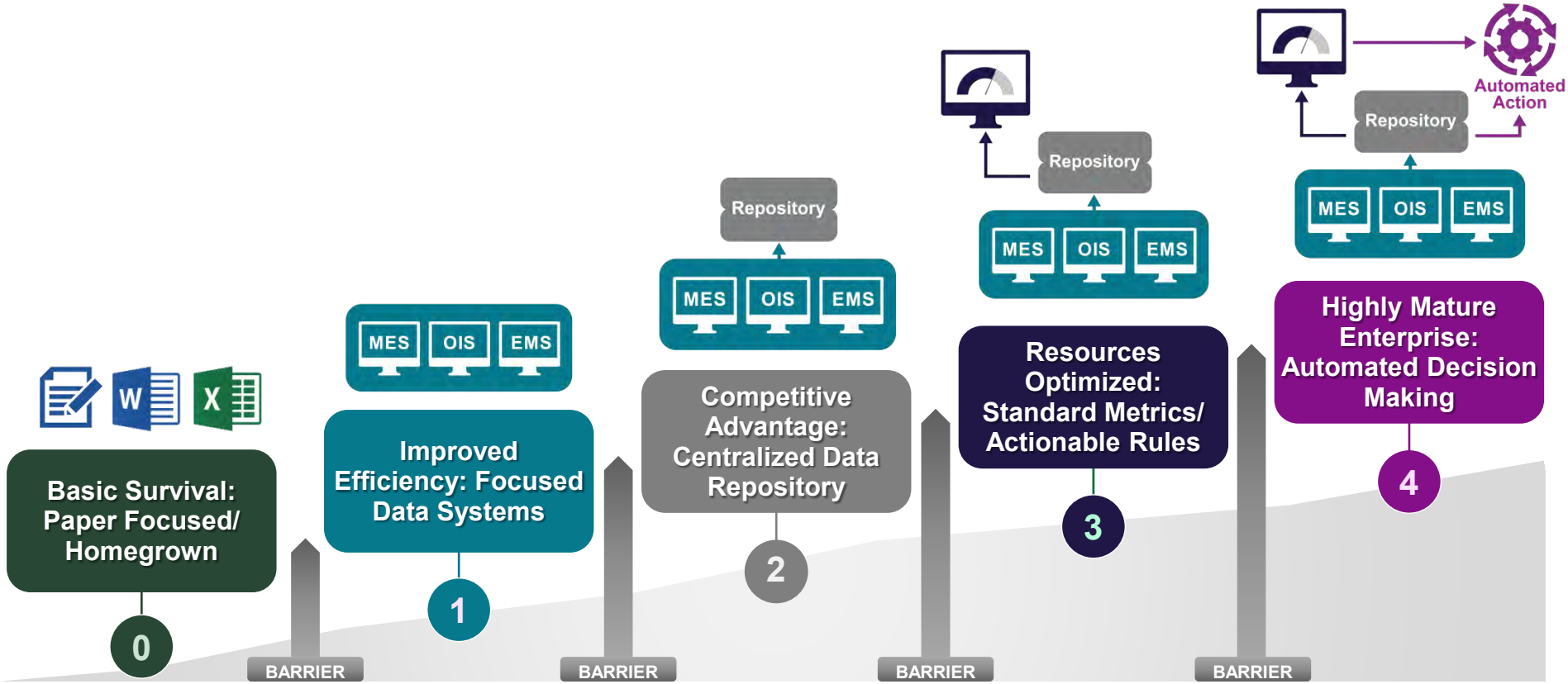
- Plant X (automotive assembly): 12-month savings of $1.25 million
  - HVAC equipment scheduling
  - Controlling area temperatures based on occupancy schedules
- Plant Y (engine assembly): 12-month savings of $500,000
  - HVAC temperature set point enforcement
  - Air supply balancing and building pressurization control
- Plant Z (automotive assembly): 12-month savings of $1.15 million
  - Implementing HVAC economizer “free cooling” modes
  - Equipment schedule tightening
  - HVAC temperature setpoint reduction

kWh = kilowatt hours  BTU = British thermal units
kBTU = One thousand (1000) British thermal units
HVAC = Heating, Ventilation and Air Conditioning
O&M = Operation & Maintenance

# What is a Building Management System

- BMS – Building Management System
- EMS – Energy Management System
- EMCS – Energy Management and Control System
- EIS – Energy Information System
- Head - End System

# Maturity Model



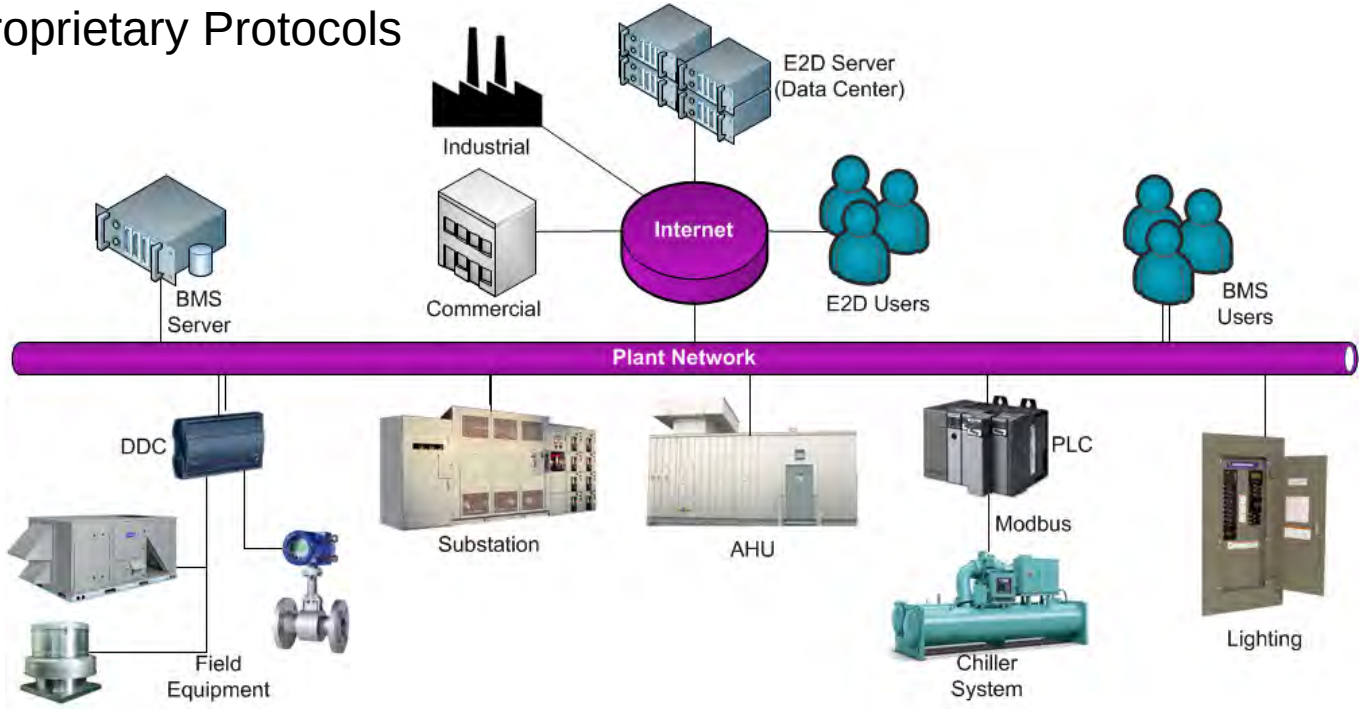
# BMS Components

- Controls - PLC, DDC, DCS
- Data collectors (and gateways)
- Utility meters, sub meters and Smart Grid
- Infrastructure
- Communications (multiple protocols)
- Servers and application software
- Database/historian
- User HMI/visualization (Web)
- Web-based software tools
- Integration with other systems

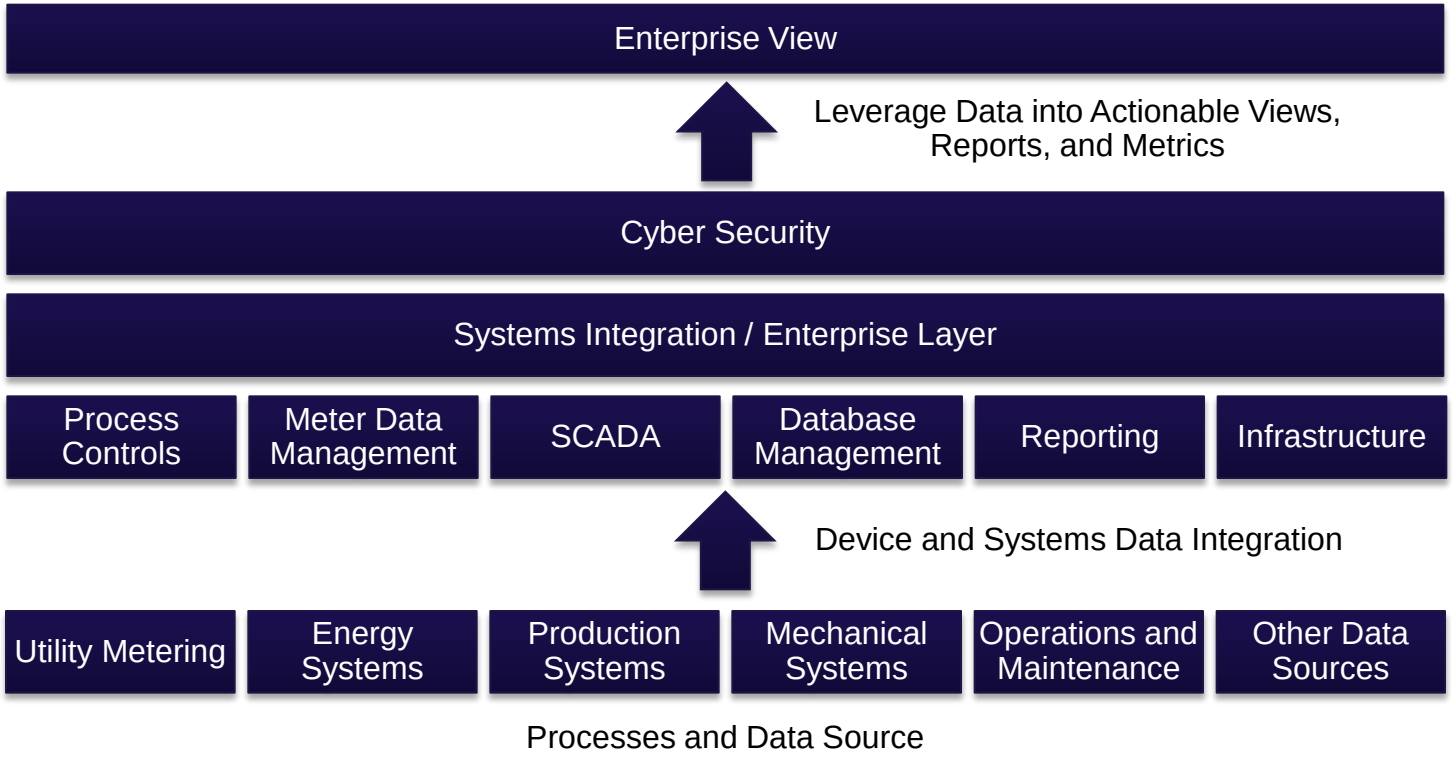
HMI = human-machine interface

# Building Management System Architecture

- System Architecture
  - Enterprise BMS vs. Single Workstation
  - Topology (Ethernet, wireless, twisted pair)
  - Ability to export or share data with central repository
  - Proprietary Protocols



# Technical Architecture and Data Flow




SCADA = supervisory control and data acquisition

Visualization

Users

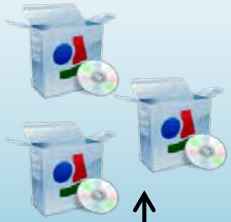
Web Applications

Access applications over HTTP (Internet or intranet)

Ethernet

Enterprise

Applications



Trends, reports, analytics, data export

Historical Data Storage

Database

HTTPS / FTP / Web Services

Data accessible to applications using open standard interfaces (third party single-point access)

Ethernet

Facility

Data Collector

Pulse Contact

Data Collector

Modbus RS485

**AcquiSuite®, JACE®, others provide data store and forward capability**



Meters

Steam

Gas

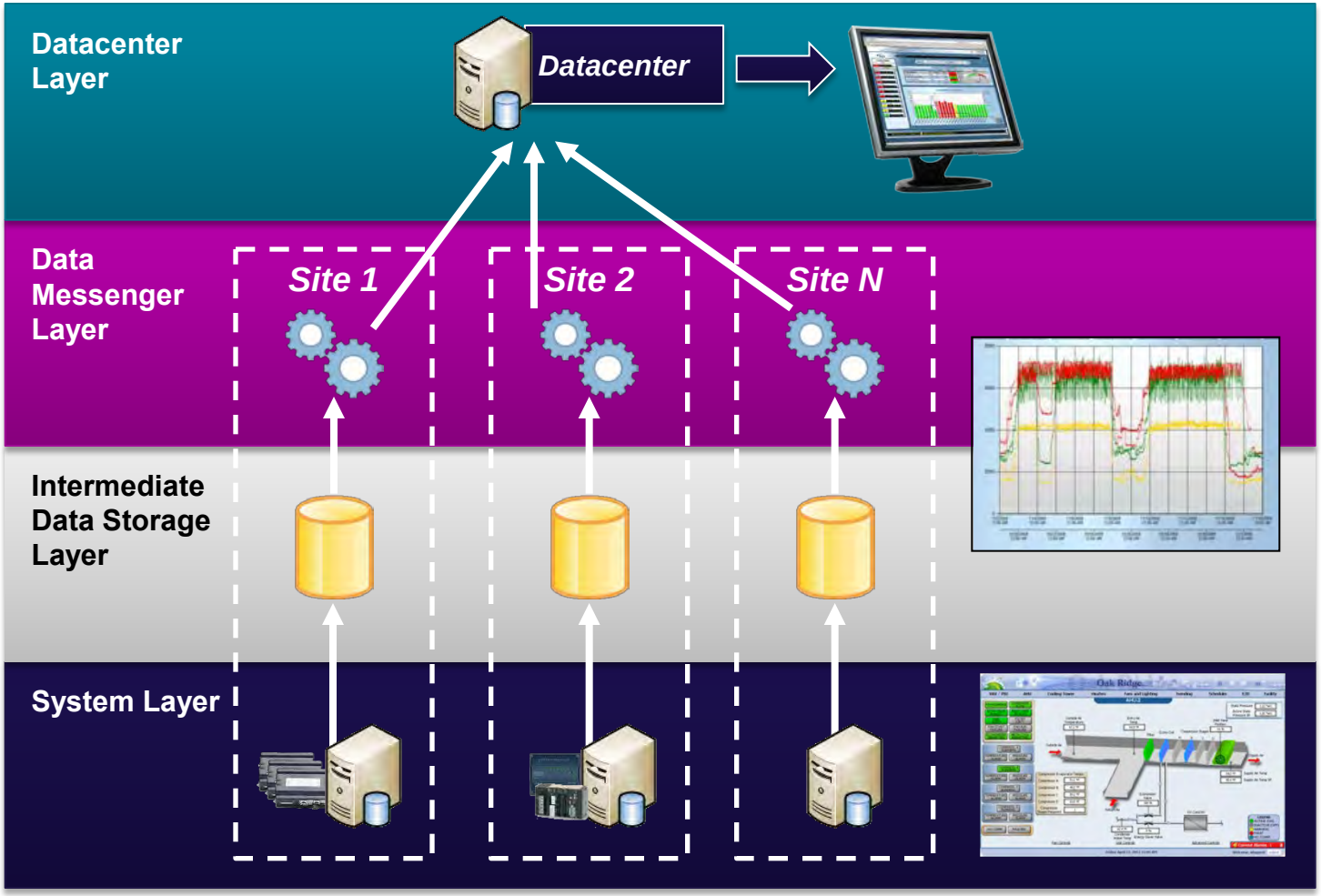
Elec.

**Modbus®, ASHRAE BACnet®, others**



HTTP = hypertext transfer protocol HTTPS = hypertext transfer protocol secure FTP = file transfer protocol

# Technical Architecture
## Simplified Layered Approach



# Design Criteria

- Open
- Multi-vendor
- Extensible
- Future proof
- Security
- Reliable data and high system up-time
- Make good use of existing infrastructure
- Access to database by external third-party vendors

# When It Comes to Budget, Do Not Confuse "Wants" With "Needs"

- Determine the functional requirements
- Plan for the future expansion
- Do not over-specify requirements
- Use existing infrastructure
- Understand bandwidth, refresh rate and data logging frequency
- Involve IT early (they are a stakeholder)
- Output - many features are never used

I/O = Input/output

# Use True Server Class Computers

PC under desk is NOT a server

Proper server installation

# Traditional BMS

- Functionality
  - Building Layout (Overview)
  - Tabular
  - Equipment Details
  - Alarming

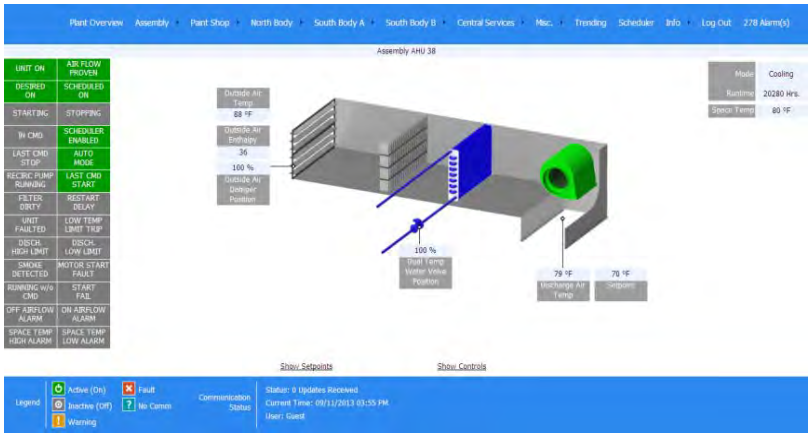
# Modern BMS

- Functionality
  - Traditional BMS
    - Overview (Building Layout)
    - Tabular
    - Equipment Details
    - Alarming
  - Improved Navigation
    - Tooltips
    - Web Browser Enabled
  - Alarm Histories
  - Global Setpoints/Data

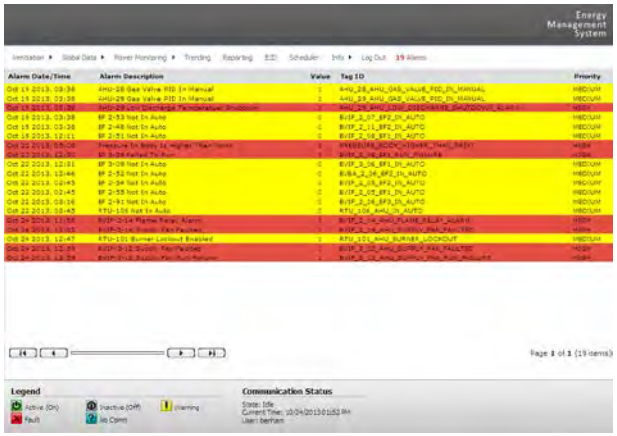
# Modern BMS

# Modern BMS

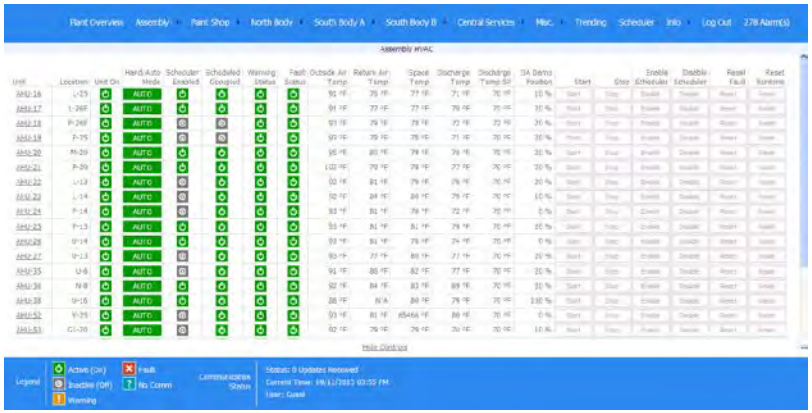
- Detail



- Notification



- Tabular



- Global Data

# Modern BMS

- Advanced Features
  - Trending
    - Ad hoc
    - Pre-configured
  - Reporting
  - Scheduling (Start/Stop, Multivariable)
  - Utility Metering
  - Load Shedding (Monitor and know your Demand)
  - Automated Demand Response
  - Smart Grid

# Advanced Features

# Expanded Capabilities

- Energy Analytics
  - Energy Use Intensity
  - Bill allocation
  - Client Billing
  - Energy Star Reports
  - Forecasting
- Sustaining your BMS for the Future
  - Real-Time Commissioning
  - Energy Conservation Measure Tracking
  - Enterprise Energy Dashboards
  - Predictive Analytics
  - Fault Detection & Diagnostics (FDD)

# Energy Analytics

# Must Have BMS Features

- Functionality
  - Trending (Ad hoc & Pre-configured)
  - Scheduling (Start/Stop, Multivariable)
  - Utility Metering
  - Ability to export or share data with central repository
  - Enterprise BMS Access
  - User Authentication (SSO) & Security
  - Automated Notification
- Architecture
  - Open Protocols
  - Scalability and Integration

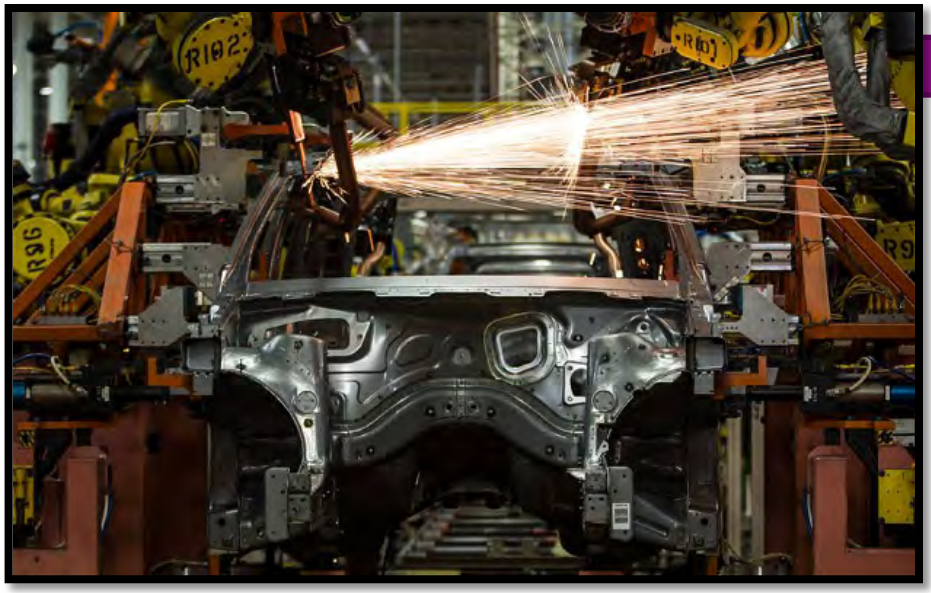
# Maximize your BMS Benefits

- Baseline Data
- Operational Awareness
- Maintenance Schedules
- Drive ECM Validation
- Utilize BMS and Metering Data for Energy Incentives
- Demand Response
- Smart Grid

# Case Study

# North Body Shop Ventilation Right-Sizing

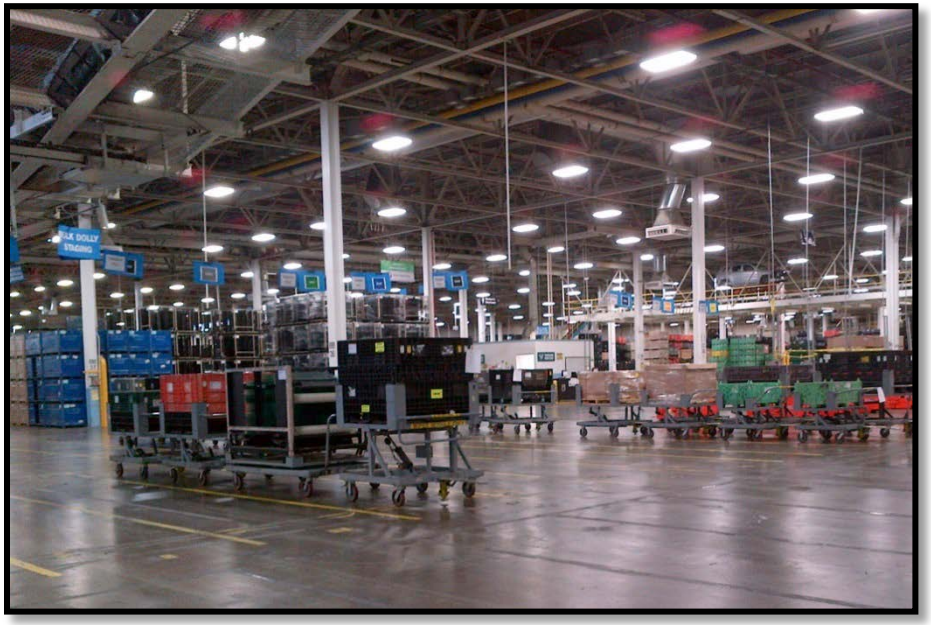
Original JNAP N. Body Shop (Mid 1990s)



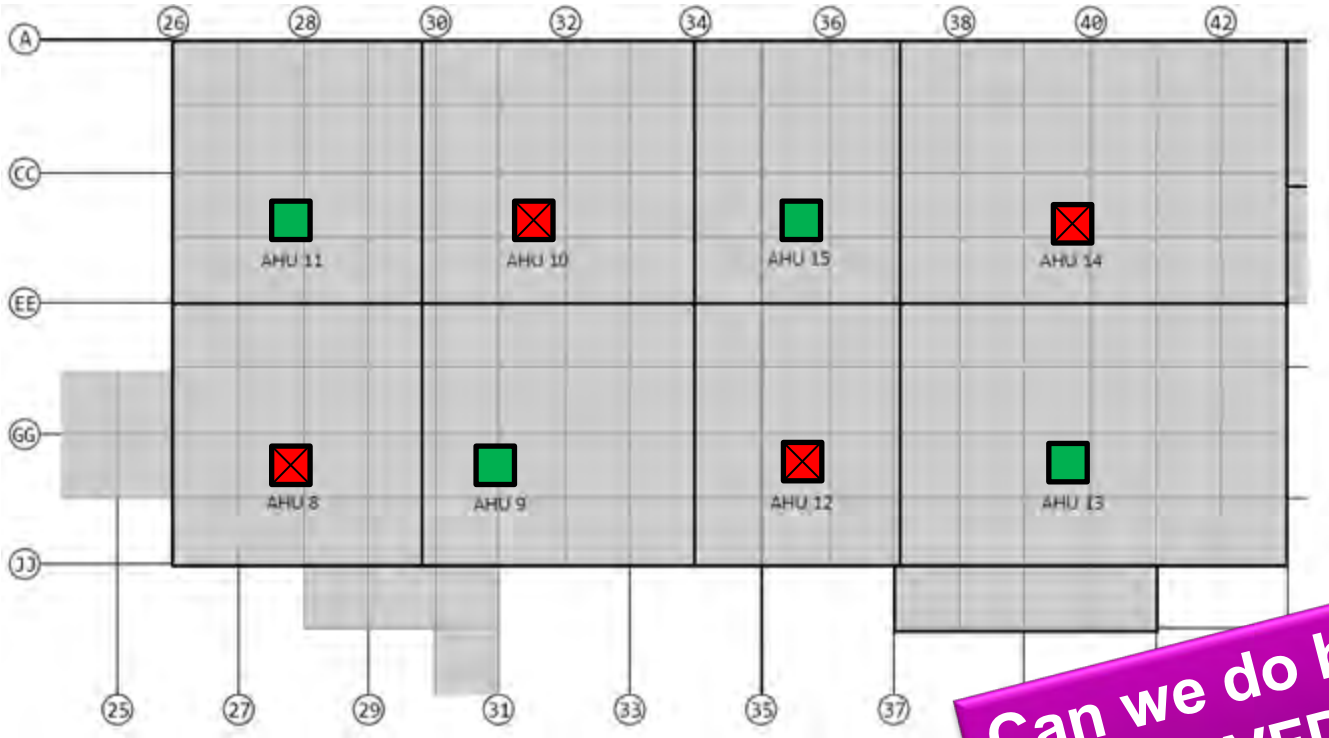
High Contaminate Welding Process

- 340,000 square feet
- 8 each 69,000 CFM AHUs

Since 2008:
Warehouse (Pick and Pack)



# North Body Shop Winter Mode Before Optimization

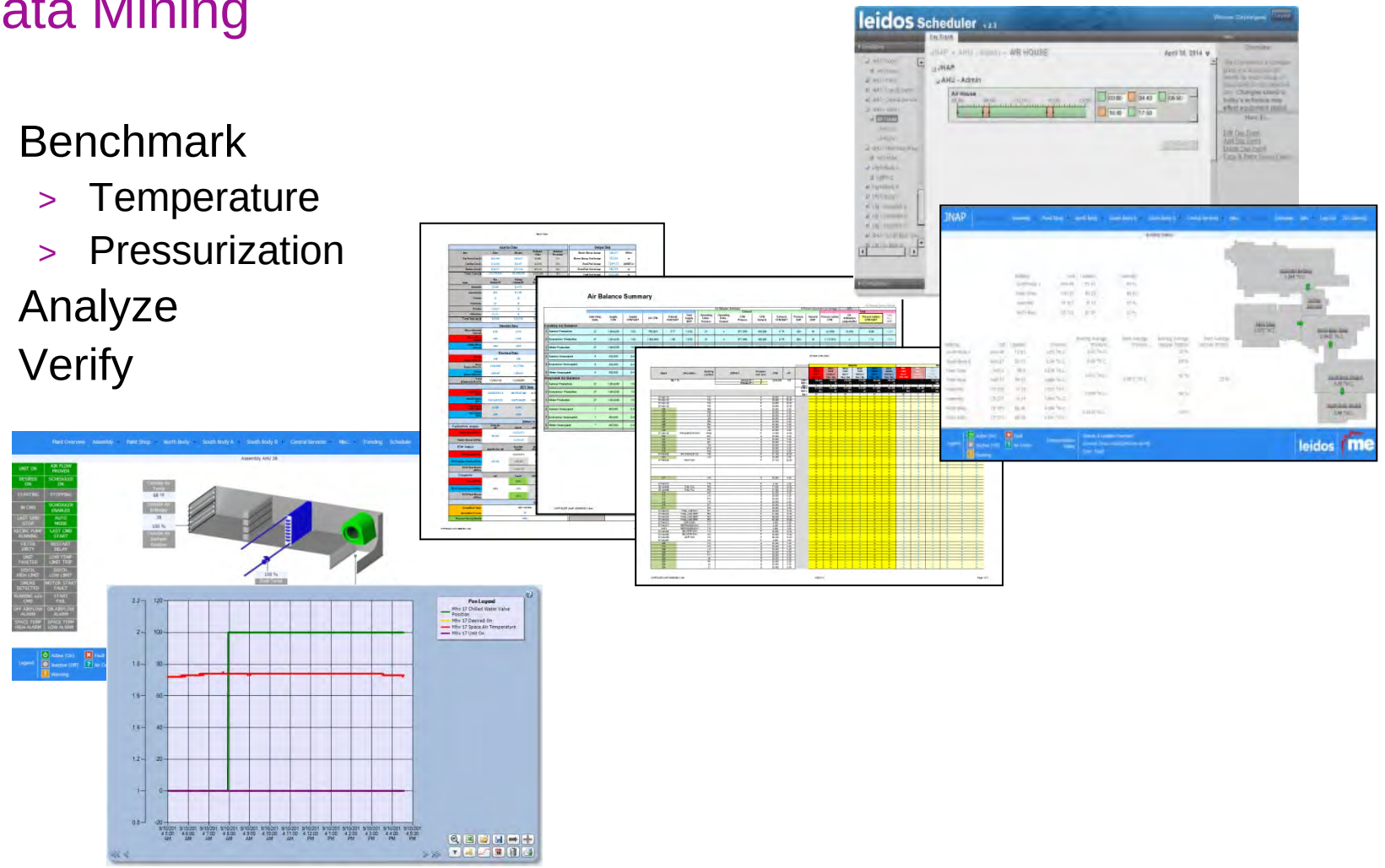



Can we do better with VFDs?

- AHU Off
- AHU On – Constant Speed (60 Hz)
- AHU On – VFDs (50% Speed or 30 Hz)

# Data Mining

- Benchmark
  - Temperature
  - Pressurization
- Analyze
- Verify



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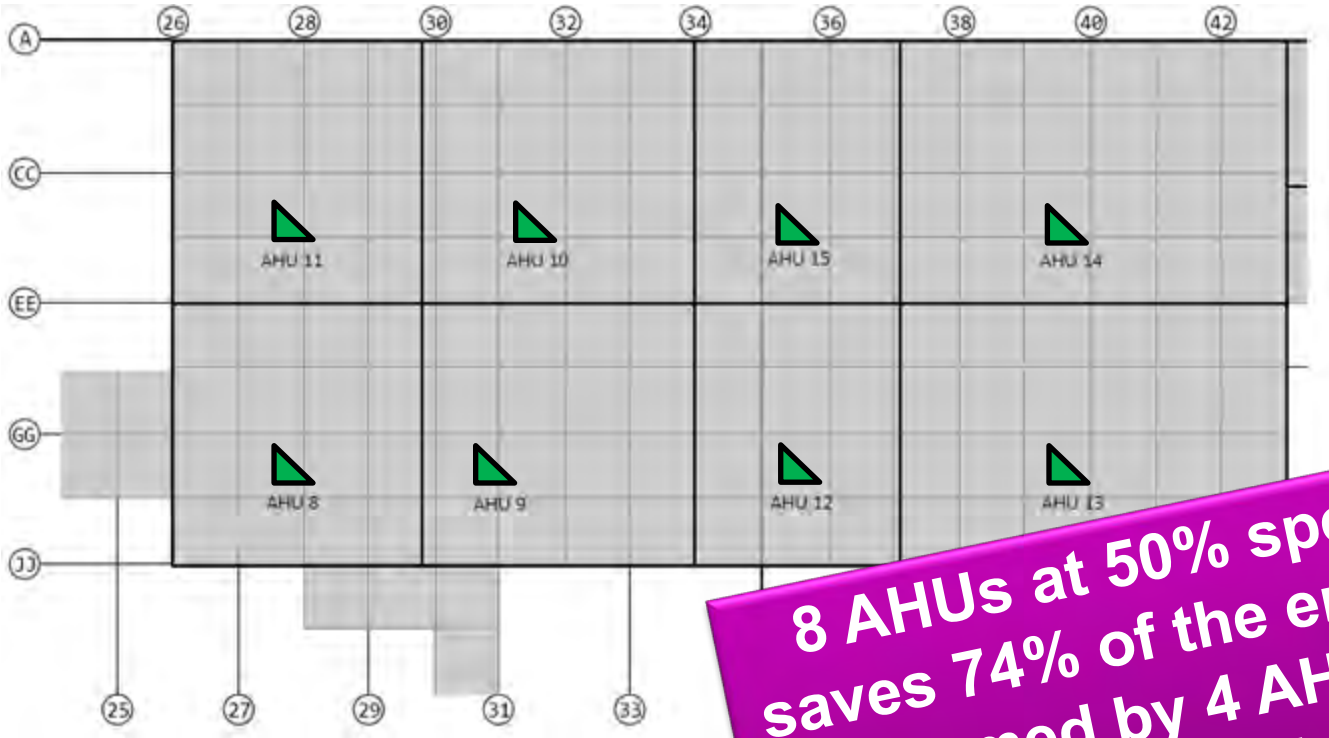
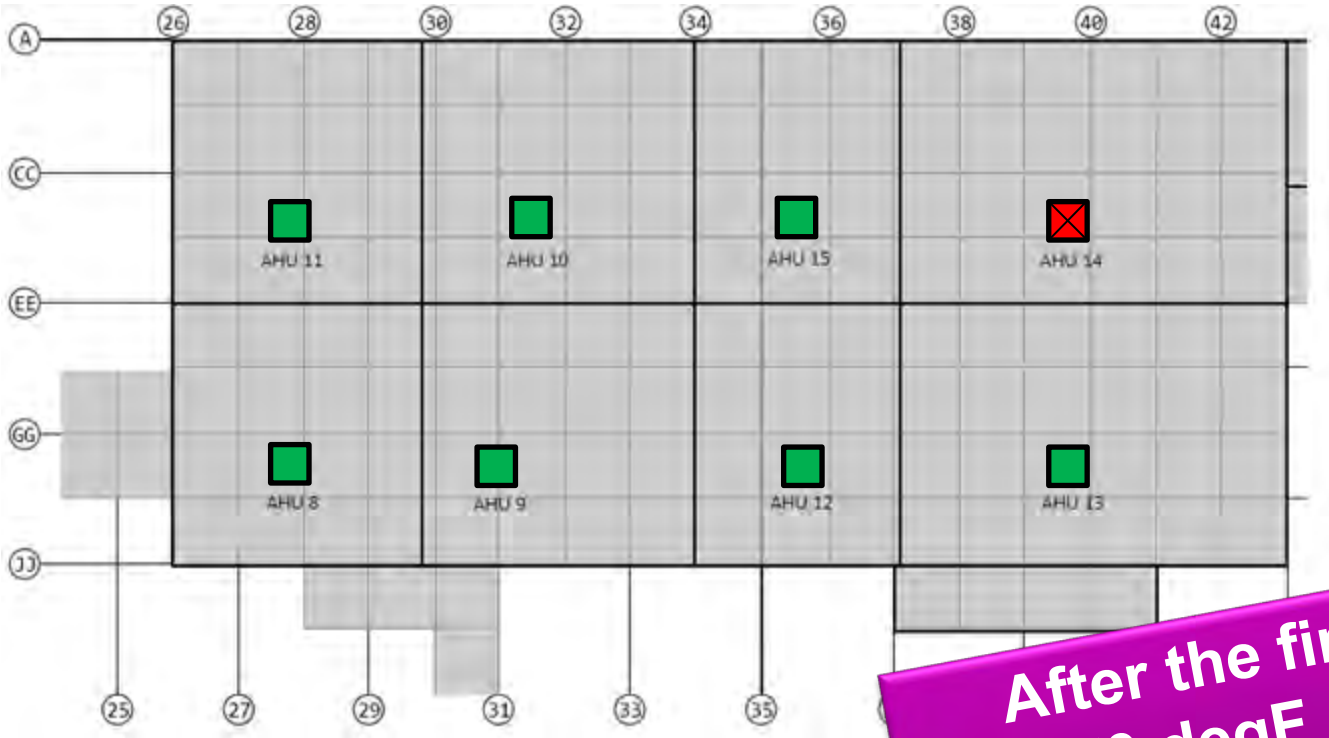



**8 AHUs at 50% speed saves 74% of the energy consumed by 4 AHUs at full speed!**

- AHU Off
- AHU On – Constant Speed (60 Hz)
- AHU On – VFDs (50% Speed or 30 Hz)

# North Body Shop Econ/Cooling Mode Before Optimization



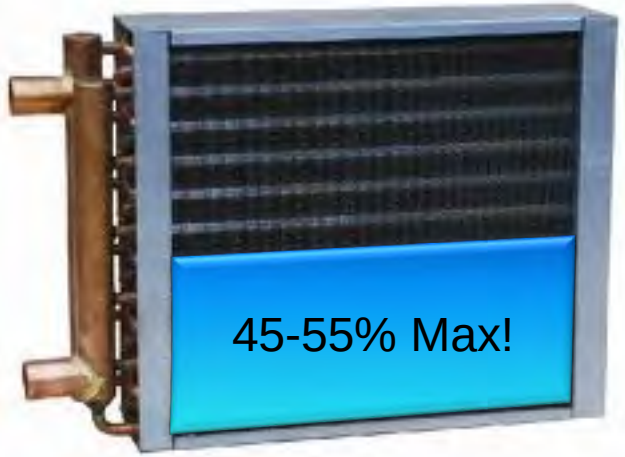

**After the first 65-70 degF day, we ran 7-8 AHUs**

- AHU Off
- AHU On – Constant Speed (60 Hz)
- AHU On – VFDs (50% Speed or 30 Hz)

# AHU/Coil Load Factor Analysis

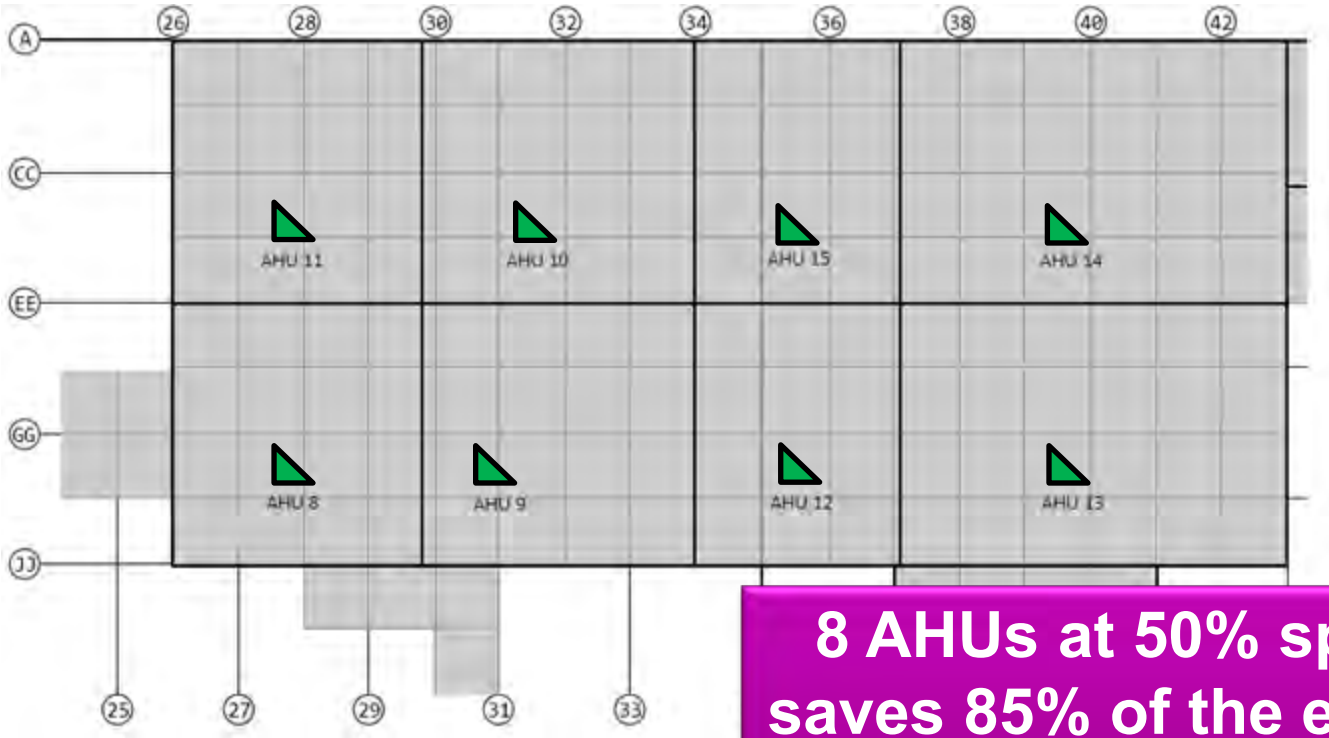
Design:
69,000 CFM with a 17 degF Split

The most load seen by these coils is 45-55% max or 8-9 degF




**If we can simply vary fan speed in proportion with the load we can save significant fan power…**

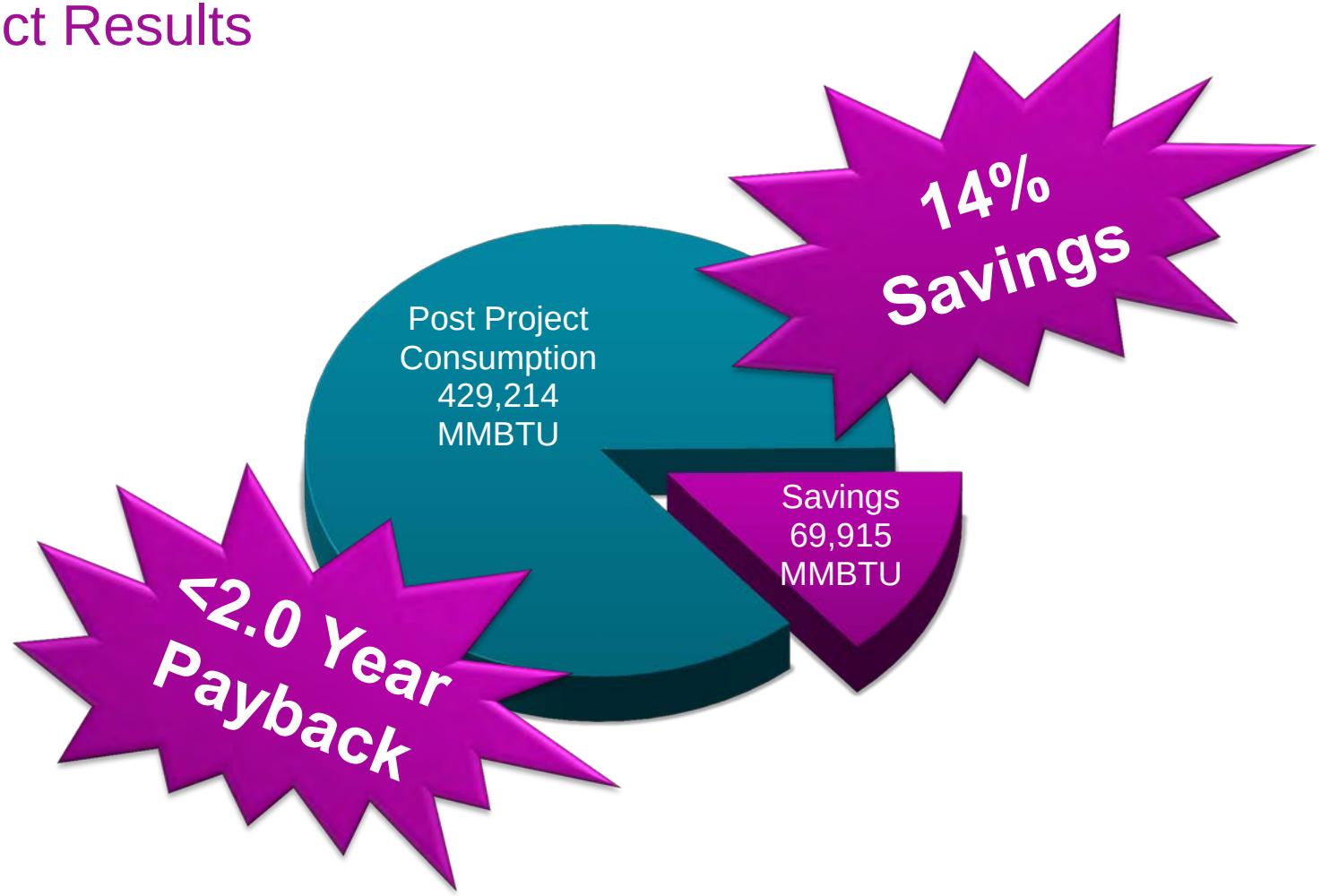
# North Body Shop Econ/Cooling Mode Before Optimization




**8 AHUs at 50% speed saves 85% of the energy consumed by 7 AHUs at full speed!**

- AHU Off
- AHU On – Constant Speed (60 Hz)
- AHU On – VFDs (50% Speed or 30 Hz)

# Project Results



# Presenter Contact Information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# Sandra Nelson

Johnson Controls

# Tom Neidermann

Optimum Energy

# DTE PRESENTATION


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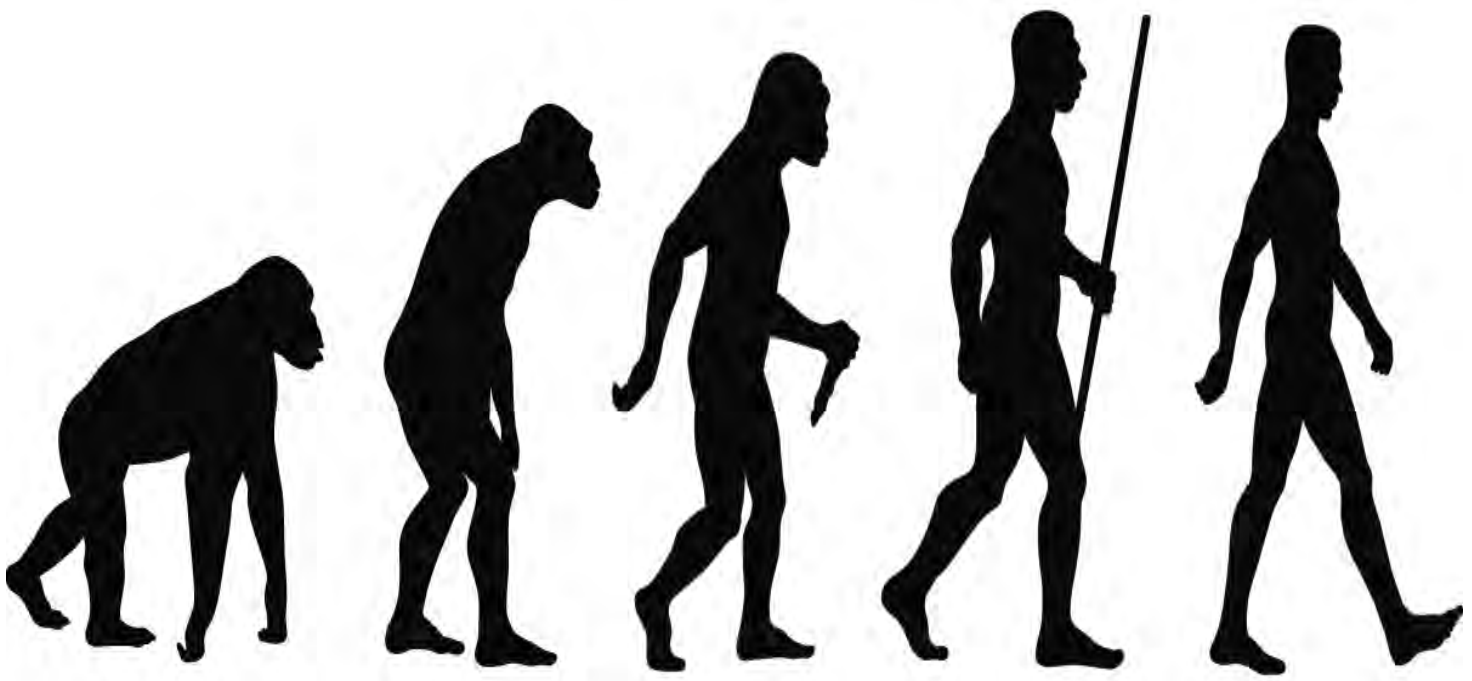
# Optimization is our industry's next evolutionary step



No Control of environment

Manual Control

Pneumatic Control

Direct Digital Automation- BAS

Central Plant Optimization- BMS



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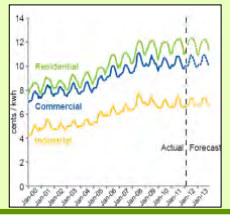
# Global mega trends guide the strategic direction of our technology, product, and offering development efforts.

**Uncertain energy prices; less budget for buildings**




**Energy efficiency regulations and standards**

**Increase in modular, connected smart equipment and systems**

**Improved outcomes through Integrated Design & Build Process**

**Growing demand for sensors; meters; wireless**


**Mobile use cases & expectation of improved interfaces**


**Integration of Building, IT, and Grid Technology**

**Growth of Emerging Markets**

**Acceleration of data analytic offerings**

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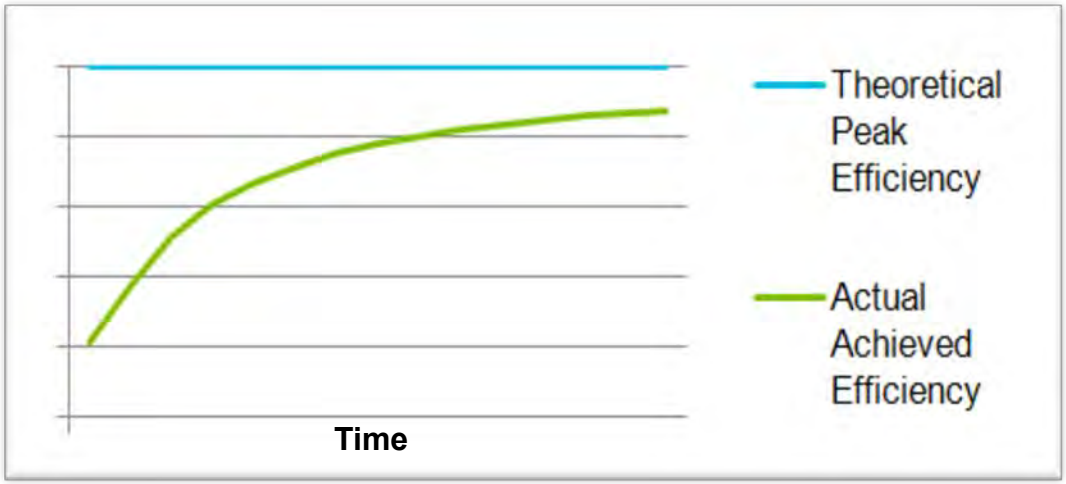
# Traditional means will not suffice.




**"...we are reaching maximum technological limits at a component level and that in the future the industry will have to look at the full HVAC system for further improvements. AHRI is in the process of forming a new working group to address systems approaches for efficiency improvements and will work closely with Standard 90.1."**

*- Dick Lord,co-writer of addendum 'ch' to ANSI/ASHRAE/IES Standard 90.1-2010*

# Industry is aligning to technology trends

Re-focus

**Data Analytics**

- Continued trend of energy application
- Leveraging within BMS to improve energy savings

Focus

**BAS**

- Intuitive and easy to understand user experiences with mobile options
- More pervasive integrations and data connectivity with mobility
- Significant growth in emerging markets

**SMART Systems**

- Advancements in diagnostics, data connectivity, installation efficiency
- Factory installed options that improve quality and equipment performance

Evaluate

**HVACR**

- Factory mounted end devices
- Market leaders excel in cost, quality, and delivery
- Integration of intelligence into end devices and components





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# Word on the Street

## Owner / VP Facilities

- **Minimize operational expenses**
- Keep my **employees productive**

- Purchase only the features we **plan to use**
- Provide **dashboards**
- Provide **summary reports**

## Facility Director

- Deliver **building environment**
- Be **green** about consumption
- Make operators more **efficient**

- Provide **facility** overview & optimization info
- Provide **equipment** overview & optimization info
- Provide **energy** overview & optimization info
- Allow me to **show the value** of improvements I'm making

## Facility Operator

- **Close work orders** quickly
- **Restore order** (e.g. fix leak ASAP)
- Optimize occupant **comfort**
- Maintain system **reliability/uptime**

- Allow me to **quickly locate** the information I need
- Provide detailed displays of equipment, systems and the **relationships between them**
- Allow me to make changes from my **mobile device**
- Allow me to **make notes** on issues & resolutions

## JCI Field Tech/Self Sustainers

- Simple **commissioning**
- Trouble-free **upgrades**
- Increase **field productivity**

- Provide me with tools that **maximize my productivity**
- Enable me to easily **utilize the latest software applications and technology**
- Reduce my time to build and maintain customization

Data: 170 user interviews, 81 sites North America



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## What is Optimization?

Optimization algorithms do much more than automation

| Automation (BAS) | Optimization (BMS) |
|---|---|
| Prerequisite | Opportunity |
| Sequences | Algorithms<br>Fault Detection<br>Real time Continuous Commissioning |
| The order of events | The optimal events |
| Executes | Advises |
| Holds setpoints | Calculates optimal states, speeds, setpoints |
| Meets the load | Meets the load….with minimum power |
| Today's standard | Tomorrow's standard |

# Case Study

- 430,000 square foot building
- Aging Infrastructure
  - Boilers were 70% efficiency
- Need to become more energy efficient
- No lighting control
- No Boiler Control
- Unable to see space temperatures
- Systems running inefficiently
- Evaluation and Phased Approach

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# What has been done….

Lighting Control –occupied and unoccupied

Metering –Separated Kitchen and other high energy consumers

BAS infrastructure –allowed operators to have a better understanding of the current state

Control of the conference rooms

Replaced Boilers with new more efficient equipment

Night Setback and Optimum Start/Stop

# Gas Savings

Boiler Energy Savings-$70,000 per year

Night Setback and Start Stop Optimization-Savings $30,000 per year

# Gas Rebates

Boiler Retrofit with Night Setback and Optimum Start Stop

$50 per 1,000 square ft

$2 per MBH

*Note-Provide Sequence of Operation with submission and drawings for proof of square footage

**DTE ENERGY REBATE AMOUNT…….$32,354**



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# Summary of Project

PROJECT AMOUNT……$440,000

PRESCRIPTIVE REBATE AMOUNT……$32,354

OVERALL ENERGY SAVINGS PER YEAR……$100,000

SIMPLE PAYBACK……4.07 years



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# Additional Rebates that qualify (Electric)

Interior Central Lighting Control Rebate

BMS HVAC Electric



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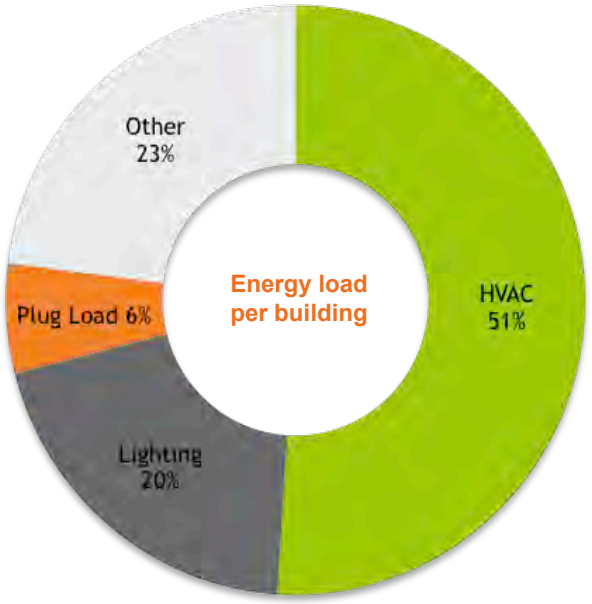
# What's Next…BMS…Enterprise Systems…

Improperly configured BMS systems are believed to account for 20% of building energy usage, or approximately 8% of total energy usage in the United States

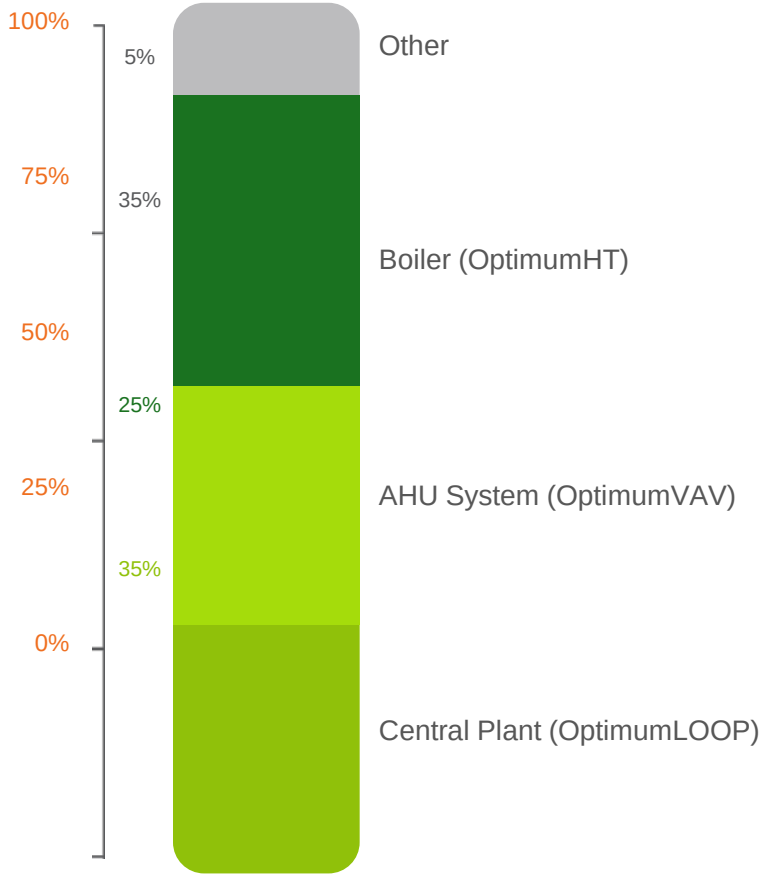
# We Start with the Biggest Energy Consumer…




Total annual average

***Sources**: IDC and the EIA Commercial Building Consumption Survey*

**HVAC system detail >**

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# Implementing a Data-driven Solution with the 3 Laws of Optimization

You cannot optimize what you cannot measure.

- Data collection via fully integrated sensor and meter network
- All relevant mechanical components tracked in real time

1

2

Optimize systems, not just individual components.

- Holistic, system-based energy optimization
- Ensures peak efficiency of entire heating and cooling system

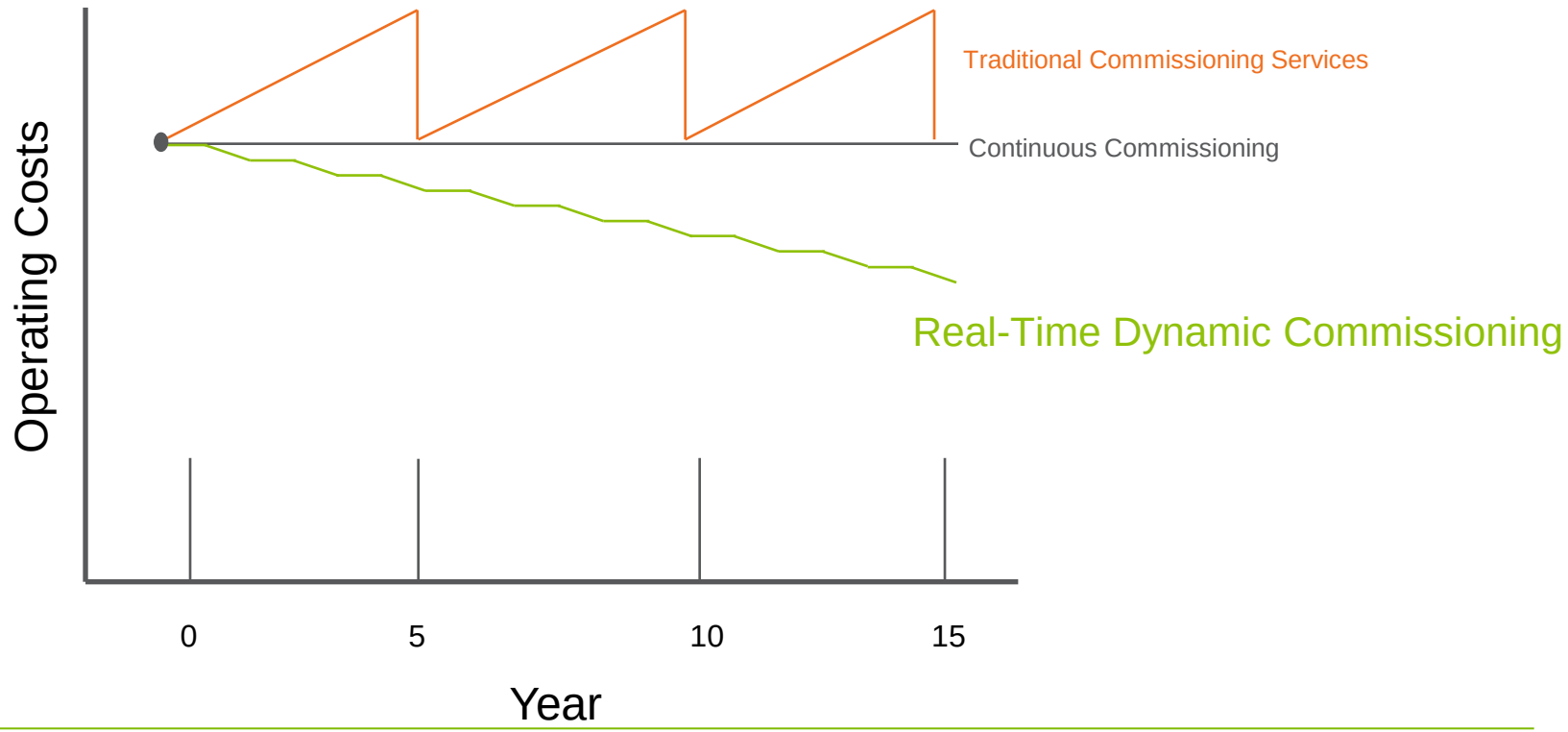
Optimization must be automatic, dynamic, and continuous.

- Real-time dynamic process
- Closed-loop system: does not require operator intervention

3

# …and we Solve this Problem at Scale.

Lower Total Cost of Operations through a data-driven system that
***learns and adapts over time***

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# OptiCx Platform Architecture


## Physical View

### Machine Learning Layer

*Data science driven learning modules for enhanced performance*

Machine Learning Modules

System Diagnostics & Prognostics

Energy & Sustainability Monitoring

Tech Support

Managed Services

Operations Support

Mobile & Desktop Operating Applications

### Cloud Layer

*Cloud-based SaaS applications facilitate multi-site managed services and operational analytics*

### Optimization Layer

**Real-time Dynamic Commissioning ™**

OptimumLOOP™
OptimumVAV™
OptimumHT™
OptimumX

### Control Layer

*Traditional Building Automation*

Building Automation System

Operational Modules

### Sensor & Intelligence Layer

Meter

Actuator

Sensor

### Device Layer

VFD's

Chillers

Boilers

Pumps & Valves

Tower Fans

AHUs

VAVs / CAVs

VFD's

*Controlled mechanical devices*

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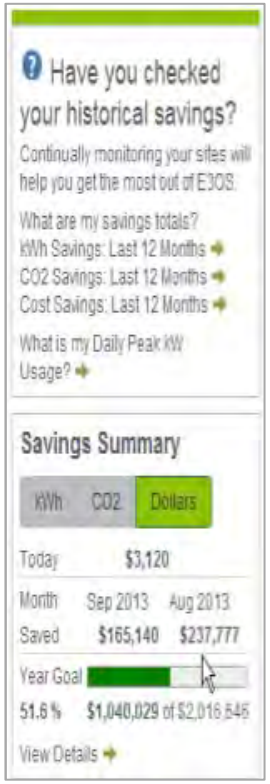
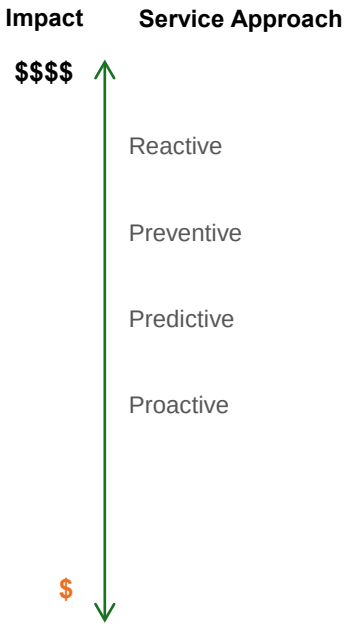
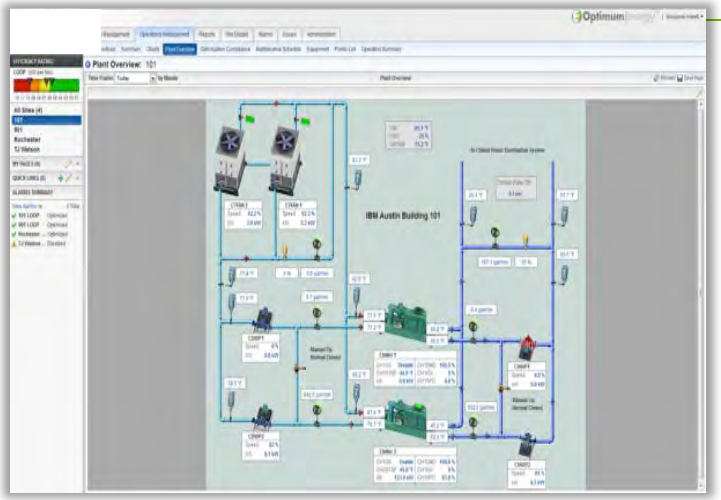
# Future Value of Data-driven Optimization: Continuum of Service


- Written alarms and codes: much faster than manual tracking
- Resolution is immediate throughout the portfolio

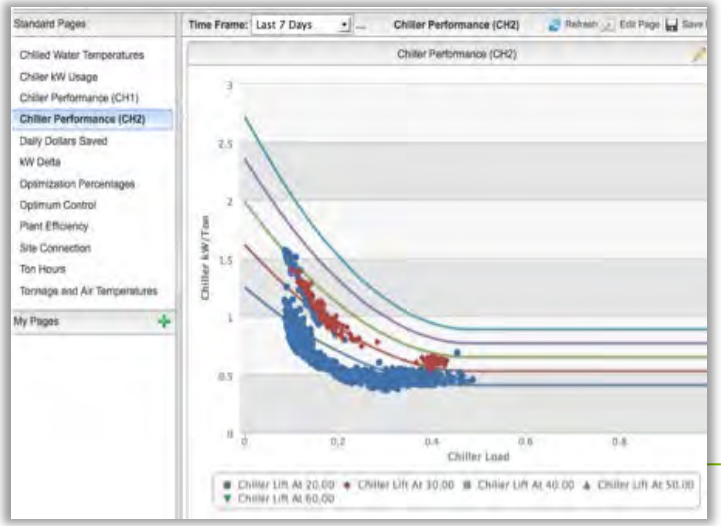


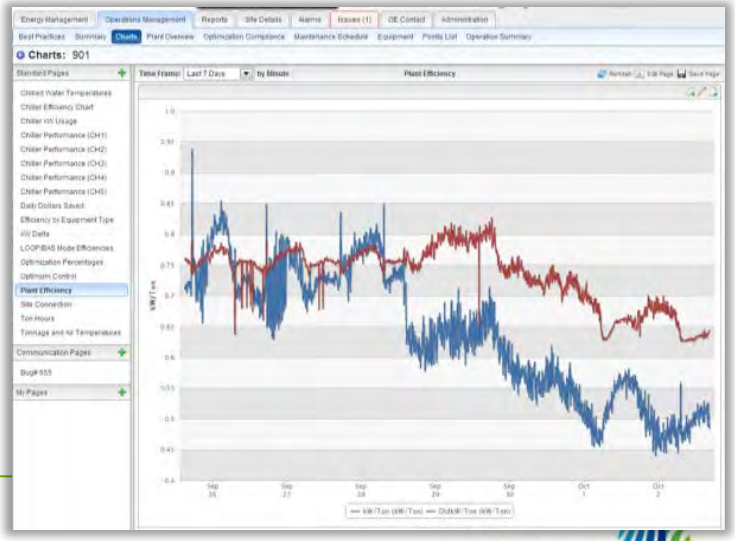
# Cloud-based FDD, M&V and Performance Drift Mitigation





OPTI Cx
PLATFORM

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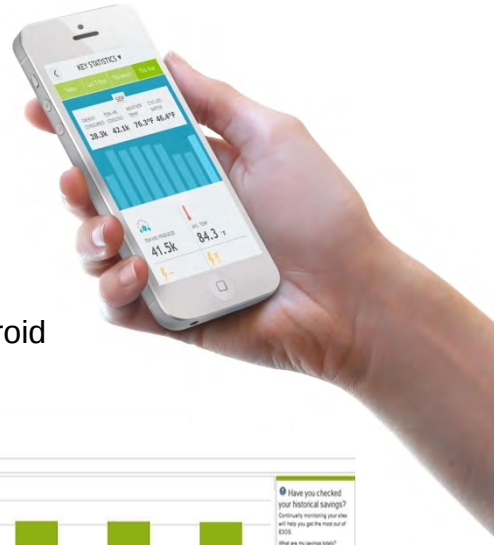
# OptiCx Trend

OptiCx Trend - anytime, anywhere access to performance and energy savings. Available through all major Web browsers, and in both the Apple App Store and Google Play marketplaces.

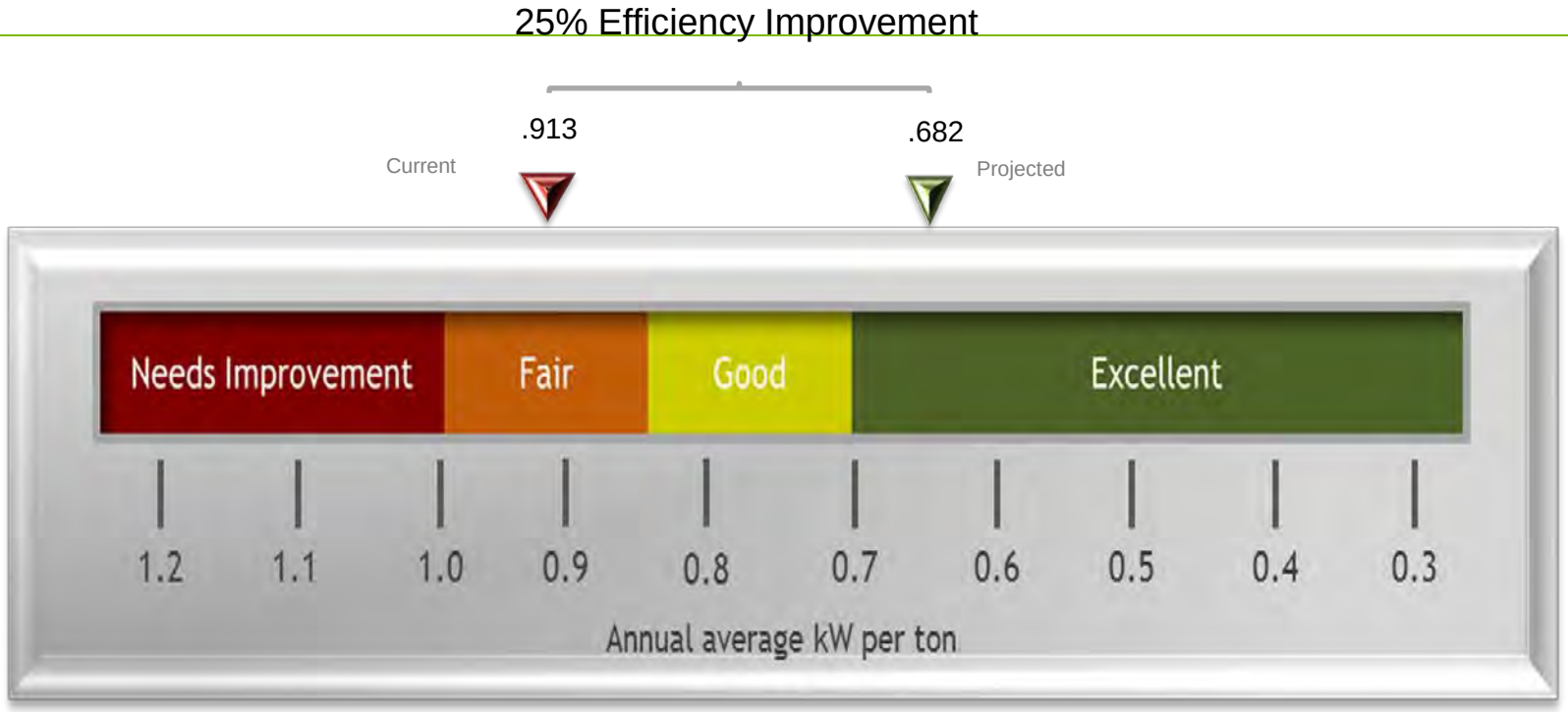


Available for iOS & Android

Features include:

- Continuously monitor energy, carbon and dollar savings in real time, or historically
- Configure or customize your experience for access to the unique trends and information you need *(web-only)*
- Verify site performance against pre-optimization levels
- Ensure progress towards sustainability goals
- Share status with others in one click *(mobile-only)*
- Proactively respond to ambient and operational changes as they occur

# Sample Customer
# Chiller Plant Efficiency




Chiller Plant Efficiency Scale – Current and Projected

Average annual chilled water plant efficiency in kW/ton.
Input includes: chillers, tower fans, condenser pumps, and chilled water pumping.

Johnson Controls

# Projected Financial Savings

- Saving 1,719,146 kWh/year
- Equates to $134,317 per year (cost .08 kWh)
- CT Water Savings (gal/yr) 610,244
- Carbon Footprint Reduction (lbs/yr) 3,758,635

- 3.41 year simple payback*

- 2.89 year simple payback with estimate utility incentive

**Does not include tax credits or deductions*

Johnson Controls

# Incentive Calculation

- Annual (ton-hours) 7,421,776
- Saving 1,719,146 kWh/year
- DTE Rebate .07 per kWh saved
- Projected DTE Rebate amount $120,340.00

- Total Project Cost $458,288.00

- Net Project Cost $347,948.00

- 2.89 year simple payback with estimate utility incentive

**Does not include tax credits or deductions*

Johnson Controls

# Thank You.




Johnson Controls

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# Troy Simmon

DTE Energy
Energy Efficiency Program for Business

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# Program purpose

To help **commercial** and **industrial contractors** *and* **customers***:

- **Improve** energy efficiency.
- **Increase** energy efficiency awareness.
- **Reduce** energy consumption.
- **Reward** businesses for installing energy-saving measures.

**Residential and Multi-Family customers do not qualify for this Program*

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# Since 2009:

- *More than **$100 million** in cash rebates has been paid to Michigan businesses:*
  - Electric: **$87 million**
  - Gas: **$15 million**
- *More than **32,000 projects** have been completed.*
- *And realized savings of:*
  - ***1,800 GWh*** in electric usage.
  - ***4.7 million Mcf*** in natural gas usage.
  - ***$220 million*** in total energy costs.

***Projected: Dec. 31, 2014**

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# What Customers get from our Program

- Reduced upfront project costs.
- Cash incentives for being energy efficient.
- Reduced energy use — and lower bills in the long run.*
- Lower maintenance costs.
- Short, simple payback.

**There is no guarantee of lower bills; results may vary by business and project*

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# For a customer to receive incentives

- Qualified measures must be installed at facilities served by DTE Energy.
- Projects must involve a **capital investment** that results in an improvement in energy efficiency of a system or building.
- The equipment installed must be new and meet the specifications spelled out in the Catalog.
- For each site, there must be at least one meter that is on an eligible rate schedule.
- You must be in good standing with DTE Energy and **not** be a Residential or Multifamily customer.

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# These do not qualify for an incentive

- Customers who self-direct (and have opted out of the program)
- Load shifting/demand limiting projects.
- Renewable energy projects.
- Power quality improvements.
- Fuel switching projects.
- On-site electricity generation.
- Changes in operational and/or maintenance practices or simple control modifications that do **NOT** involve capital costs.

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# Our Program timeline is simple:

**Reservation Application**

**Application Review** (may require pre-inspection)

**Reservation Letter issued** (Proceed with project)

**Install Measures**

(Project must start within 30 days and be completed within 90 days of approval or end of Program year, whichever comes first.)

**Final Application & Review** (may require post-inspection)

**$$$$$**

# Program Overview

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# Our Program timeline is simple:

**Reservation Application to Letter: 4-6 weeks**

**Letter to Final Application: 90 days or less**

**Final Application to Check: 4-6 weeks**

ation Application

Ap cation Review (may require pre-inspection)

Reservat with project)

Install asures

(Project must start within 30 days and be completed within 9 of approval or end of Program year, whichever comes first.)

Final Application & Review

$$$$$

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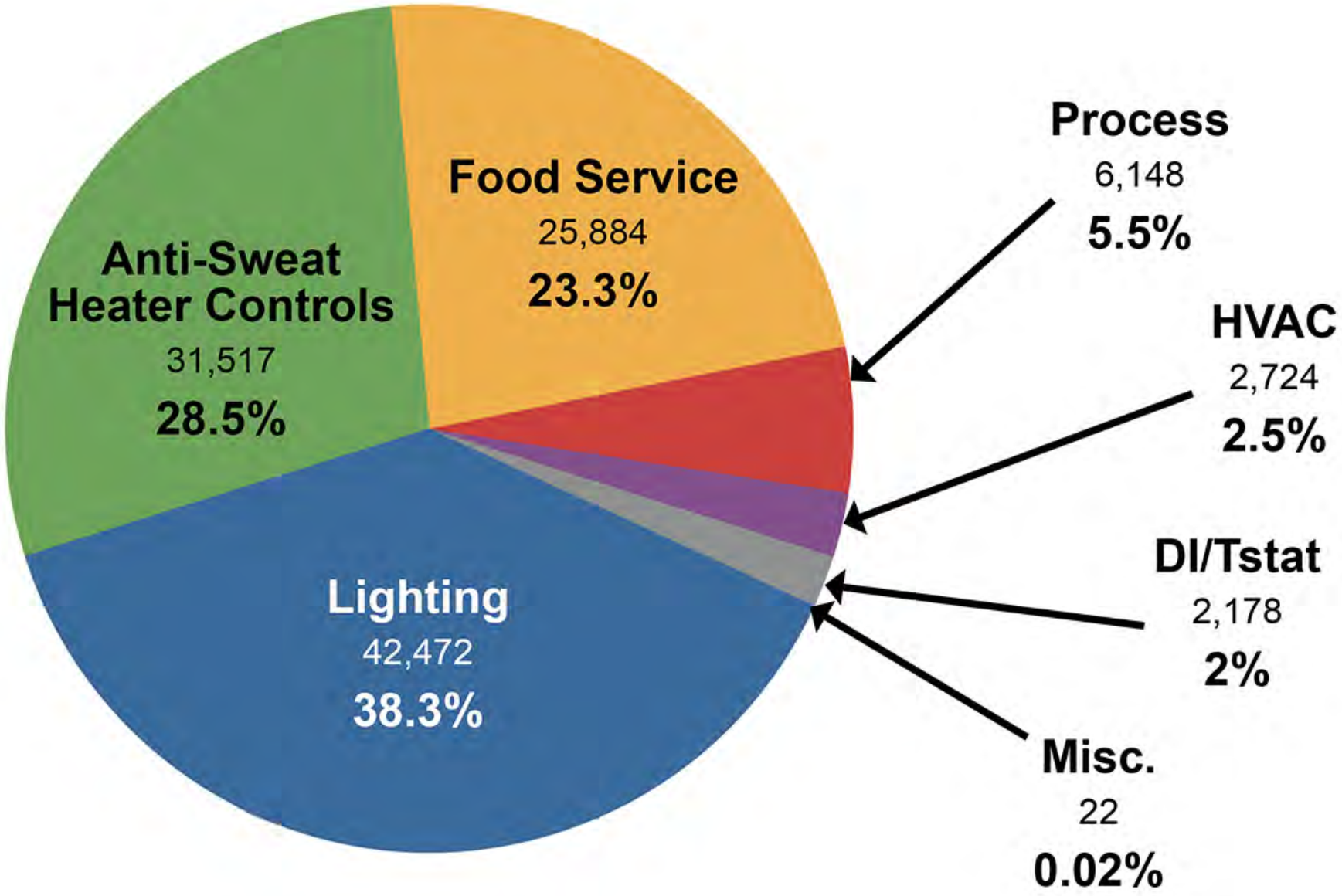
# 2014 Participation by Technology:
## Prescriptive Electric (MWh)




**Projected to Dec. 31, 2014*

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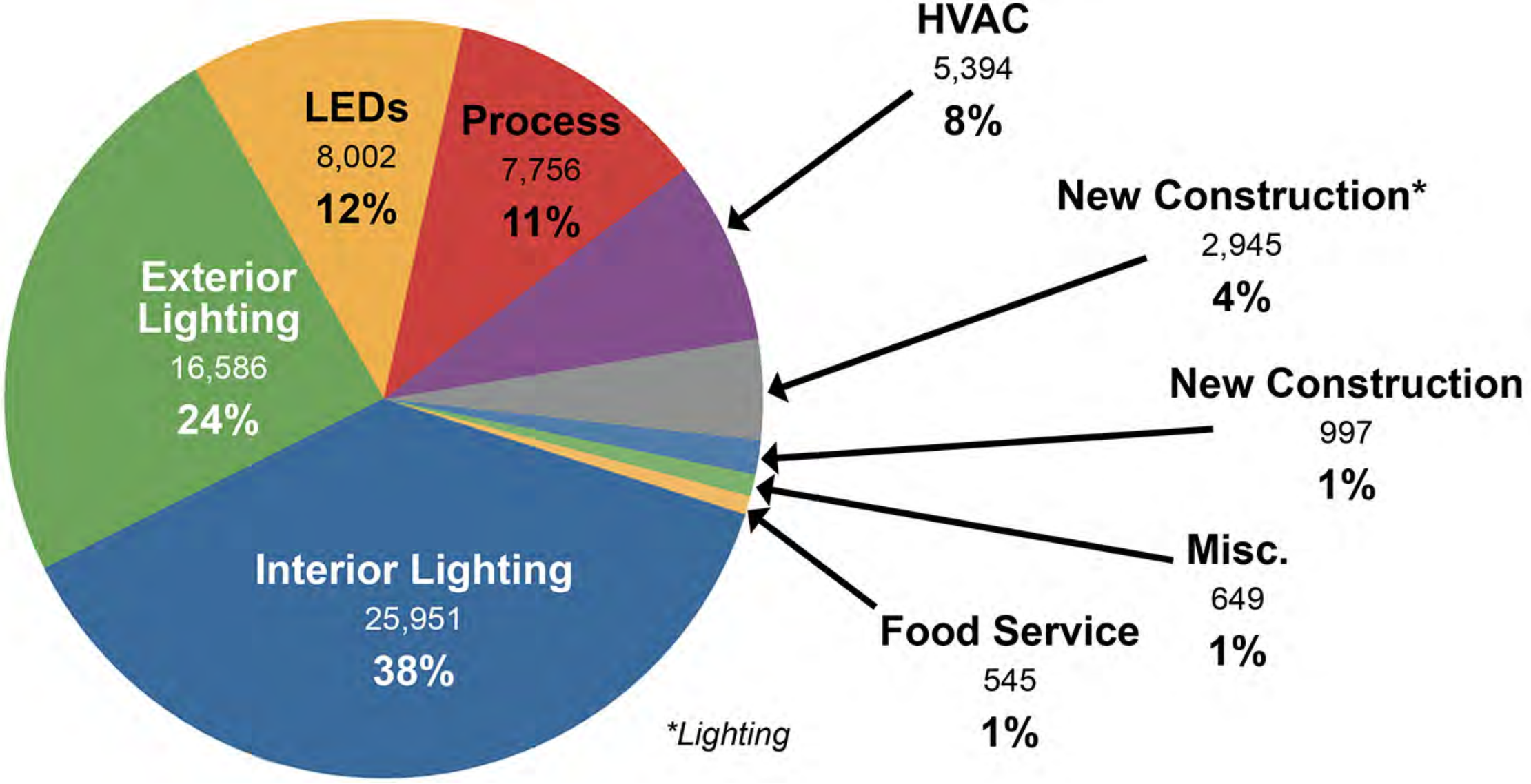
# 2014 Participation by Technology:
## Custom Electric (MWh)




***Projected to Dec. 31, 2014***

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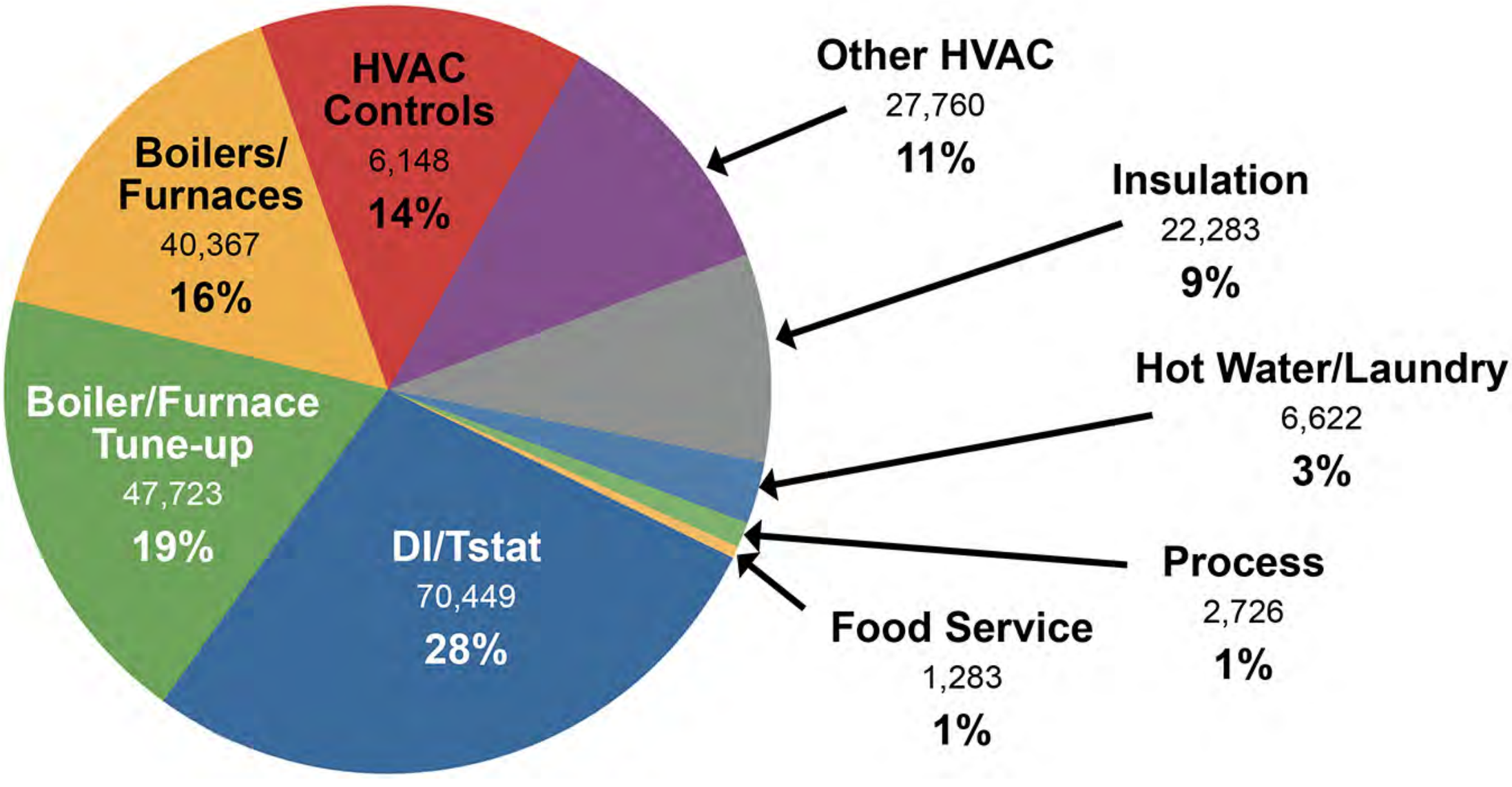
# 2014 Participation by Technology:
## Prescriptive Natural Gas (Mcf)




**Projected to Dec. 31, 2014*

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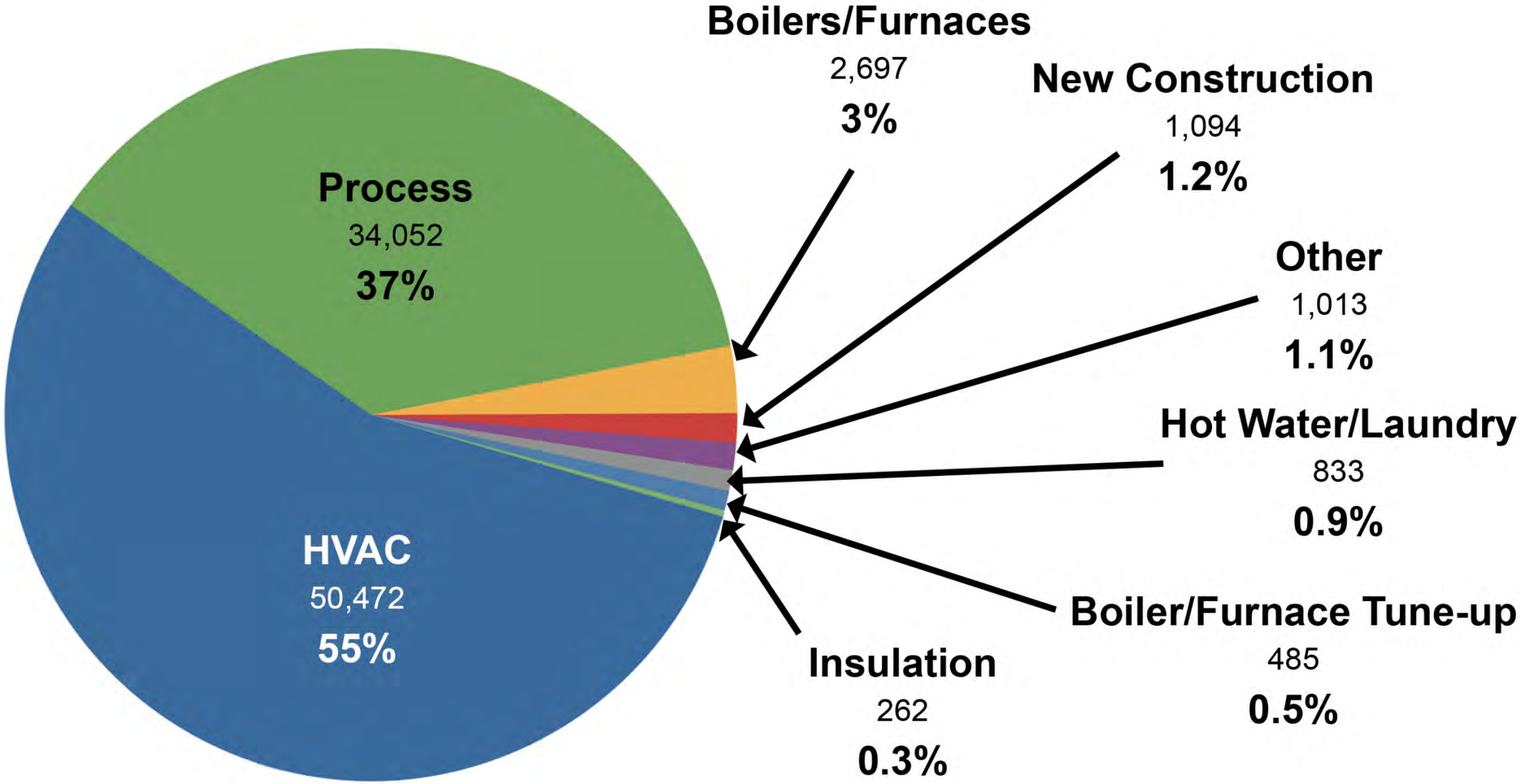
# 2014 Participation by Technology:
## Custom Natural Gas (Mcf)




**Projected to Dec. 31, 2014*

# Funding Opportunities

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## Sources:

- **Michigan Saves**
  - *michigansaves.org*
- **PACE** (Property Assessed Clean Energy - private)
  - *leanandgreenmi.com*
- **PACE** (Property Assessed Clean Energy - public)
  - *cec-mi.org/communities/programs/ann-arbor-pace*
- **DEGC** (Detroit Economic Growth Corporation)
  - *degc.org*

## Other sources:

- **Municipal bonds** (schools and government)

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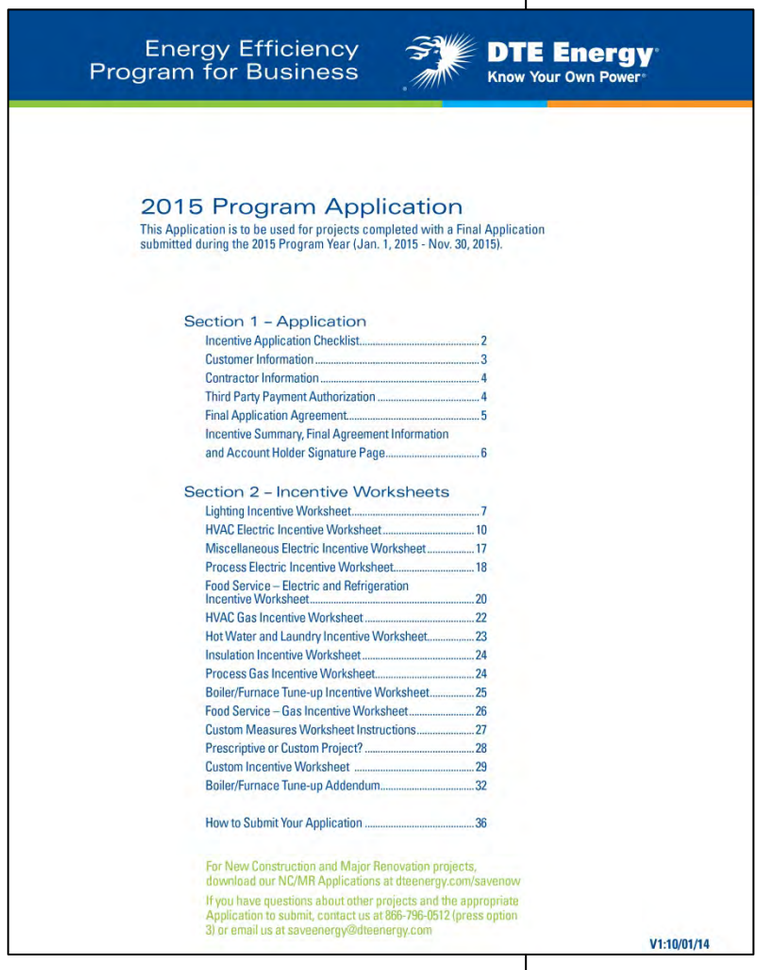
# Changes and enhancements for 2015

# 2015 Program Changes

The **Catalog** and **Application** remain unchanged in design and function.

- The Application remains an **interactive PDF** file that performs automatic calculations


Energy Efficiency Program for Business

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2015 Program Application

This Application is to be used for projects completed with a Final Application submitted during the 2015 Program Year (Jan. 1, 2015 - Nov. 30, 2015).

Section 1 – Application



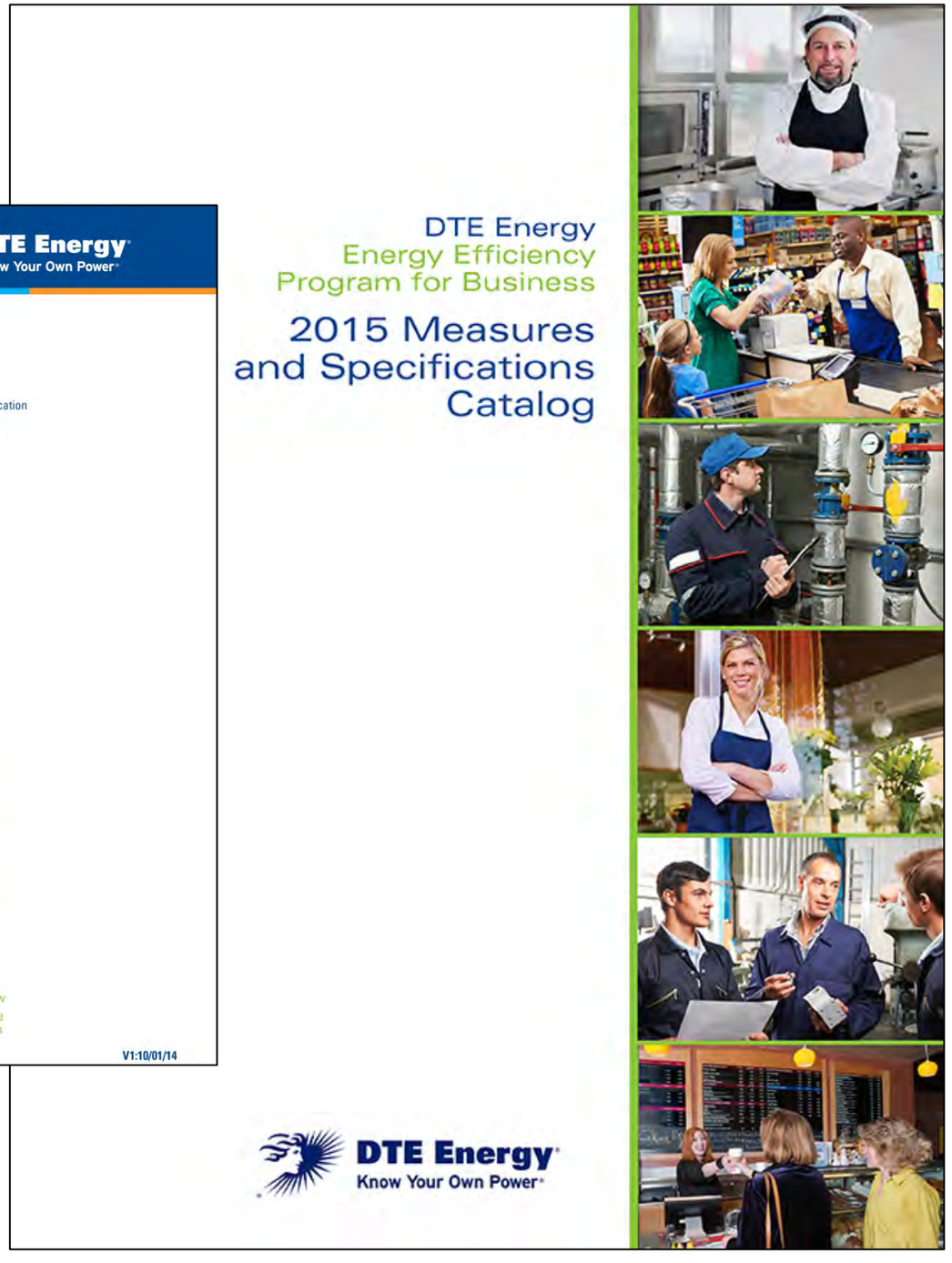
Section 2 – Incentive Worksheets



For New Construction and Major Renovation projects, download our NC/MR Applications at dteenergy.com/savenow

If you have questions about other projects and the appropriate Application to submit, contact us at 866-796-0512 (press option 3) or email us at saveenergy@dteenergy.com

V1:10/01/14



# 2015 Program Changes

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## ***New for 2015***:

1. **Facility Caps** *have been* ***eliminated*** for both Electric and Natural Gas projects.
2. **Project Caps** *have been* ***increased*** for both Electric and Natural Gas projects.
3. **Customer Caps** *have been* ***increased*** for both Electric and Natural Gas projects.

**2014**

| Cap Level | Electricity | Natural Gas |
|---|---|---|
| Facility | $750,000 | $200,000 |
| Project | $200,000 | $100,000 |
| Customer | $750,000 | $200,000 |

**2015 Caps**

| Cap Level | Electricity | Natural Gas |
|---|---|---|
| Project | $250,000 | $200,000 |
| Customer | $1,000,000 | $300,000 |

# 2015 Program Changes

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***New* for 2015**:

4. **Custom Incentives** *have been **increased*** for Natural Gas projects.

| Custom Incentives | 2014 | 2015 |
|---|---|---|
| Electric | $0.07/kWh | $0.07/kWh |
| Natural Gas | $3.50/Mcf → | $4/Mcf |

# 2015 Program Changes

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## ***New for 2015***:

5. **Prescriptive Incentives** *have been **decreased*** for these **electric lighting** measures:

| Ref # | Measure | 2014 → | 2015 |
|---|---|---|---|
| 7-1 | CFL - Screw-in (≤ 31 Watts) | $1.50 | $0.75 |
| 7-2 | CFL - Screw-in (> 31 Watts) | $10.00 | $5.00 |
| 7-3 | CFL Reflector Flood Lamps | $10.00 | $5.00 |
| 7-4 | Compact Fluorescent Fixture | $22.00 | $10.00 |
| 7-5 | 42W 8-Lamp High Bay Compact Fluorescent Fixture | $35.00 | $20.00 |
| 7-6 | LED A-Line Lamp < 19 Watts | $12.00 | $5.00 |
| 7-7 | LED A-Line Lamp ≥ 19 Watts | $15.00 | $8.00 |
| 7-8 | LED Recessed Down Light | $15.00 | $8.00 |
| 7-10 | PAR LED Lamps | $10.00 | $8.00 |
| 7-20-30 | Interior Linear LED | $0.08 | $0.07 |
| 9-1 | Exterior CFL replacing up to 175W HID | $30.00 | $15.00 |
| 9-2 | Exterior CFL replacing 176W to 250W HID | $45.00 | $22.50 |
| 9-3 | Exterior CFL replacing 251W to 400W HID | $85.00 | $42.50 |

# 2015 Program Changes

DTE Energy®
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| Ref # | Measure | 2014 → | 2015 |
|---|---|---|---|
| 7-1 | CFL - Screw-in (≤ 31 Watts) | $1.50 | $0.75 |
| 7-2 | CFL - Screw-in (> 31 Watts) | $10.00 | $5.00 |
| 7-3 | CFL Reflector Flood Lamps | $10.00 | $5.00 |
| 7-4 | Compact Fluorescent Fixture | $22.00 | $10.00 |
| 7-5 | 42W 8-Lamp High Bay Compact Fluorescent Fixture | $35.00 | $20.00 |
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| 9-3 | Exterior CFL replacing 251W to 400W HID | $85.00 | $42.50 |

# 2015 Program Changes

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## ***New for 2015***:

6. **HVAC electric pages have been changed from fill-in-the-blank:**

## HVAC – Electric Incentive Worksheet

#0 – Air Conditioning Systems and Heat Pumps(excluding Ground Source Heat Pumps)

Check the **Michigan-Made** box **only** if the piece of equipment is for a full unit replacement and not a retrofit for which you are seeking an incentive, meets the Michigan-Made bonus specifications **and** you can provide the manufacturer affidavit.

Rev. 061214

HVAC Electric

| Equipment Type | Size Category | Qualifying Efficiency | Incentive (per ton) |
|---|---|---|---|
| Unitary and Split Air Conditioning Systems | ≤ 65,000 Btu/hr (5.4 tons) - 1 Phase | 14.0 SEER | $10.00 |
| | ≤ 65,000 Btu/hr (5.4 tons) - 3 Phase | 14.0 SEER | $10.00 |
| | > 65,000 Btu/hr (5.4 tons), ≤ 135,000 Btu/hr (11.3 tons) | 12.0 EER | $15.00 |
| | > 135,000 Btu/hr (11.3 tons), ≤ 240,000 Btu/hr (20 tons) | 12.0 EER | $15.00 |
| | > 240,000 Btu/hr (20 tons), ≤ 760,000 Btu/hr (63.3 tons) | 10.8 EER | $10.00 |
| | > 760,000 Btu/hr (63.3 tons) | 10.2 EER | $10.00 |
| Air Source Heat Pumps | ≤ 65,000 Btu/hr (5.4 tons) - 1 Phase | 14.0 SEER | $20.00 |
| | ≤ 65,000 Btu/hr (5.4 tons) - 3 Phase | 13.0 SEER | $10.00 |
| | > 65,000 Btu/hr (5.4 tons), ≤ 135,000 Btu/hr (11.3 tons) | 11.0 EER | $20.00 |
| | > 135,000 Btu/hr (11.3 tons), ≤ 240,000 Btu/hr (20 tons) | 11.0 EER | $25.00 |
| | >240,000 Btu/hr (20 tons) | 10.0 EER | $30.00 |
| Closed Loop Heat Pump | ≤ 17,000 Btu/hr (1.4 tons) | 11.5 EER | $10.00 |
| | > 17,000 Btu/hr (1.4 tons), ≤ 65,000 Btu/hr (5.4 tons) | 12.3 EER | $8.00 |
| | > 65,000 Btu/hr (5.4 tons), ≤ 135,000 Btu/hr (11.3 tons) | 12.3 EER | $8.00 |
| Room Air Conditioners | ≤14,000 Btu/hr (1.17 tons) | ENERGY STAR® (Tier 1) | $10.00 |
| | > 14,000 Btu/hr (1.17 tons) | ENERGY STAR® (Tier 1) | $25.00 |
| Package Terminal Air Conditioner | ALL | 9.3 EER | $5.00 |
| Package Terminal Heat Pump | ALL | 9.1 EER | $10.00 |

| Ref # | Equipment Type & Size Category | Make and Model | EER | SEER or IPLV | HSPF or COP | Unit Size (tons) (A) | Quantity (B) | Incentive Per Unit (C) | Incentive (A*B*C) | |
|---|---|---|---|---|---|---|---|---|---|---|
| 10–1 | | | | | | | | | | ☐ |
| 10–2 | | | | | | | | | | ☐ |
| 10–3 | | | | | | | | | | ☐ |

| Ref # | Description | Size Category | Incentive | Unit | # of Units | Total Incentive | |
|---|---|---|---|---|---|---|---|
| 10–4 | Room Air Conditioners | ≤14,000 Btu/hr (1.17 tons) | $10.00 | Conditioner | | | ☐ |
| 10–5 | | > 14,000 Btu/hr (1.17 tons) | $25.00 | Conditioner | | | ☐ |

# 2015 Program Changes

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## *New for 2015*:

**… to individual measures:**

### HVAC – Electric Incentive Worksheet

10 – Air Conditioning Systems and Heat Pumps (excluding Ground Source Heat Pumps)

Check the **Michigan-Made** box **only** if the piece of equipment is for a full unit replacement and not a retrofit for which you are seeking an incentive, meets the Michigan-Made bonus specifications **and** you can provide the manufacturer affidavit.

| Ref # | Equipment Type | Size Category | Qualifying Efficiency | Installed Efficiency | Unit Size (tons) (A) | Quantity (B) | Incentive per unit (C ) | Incentive (A*B*C) | |
|---|---|---|---|---|---|---|---|---|---|
| 10-1 | Unitary and Split Air Conditioning Systems | < 65,000 Btu/hr (5.4 tons) - 1 Phase | 14.0 SEER | | | | $10 | | ☐ |
| 10-2 | | < 65,000 Btu/hr (5.4 tons) - 3 Phase | 14.0 SEER | | | | $10 | | ☐ |
| 10-3 | | > 65,000 Btu/hr (5.4 tons), < 135,000 Btu/hr (11.3 tons) | 12.0 EER | | | | $15 | | ☐ |
| 10-4 | | > 135,000 Btu/hr (11.3 tons), < 240,000 Btu/hr (20 tons) | 12.0 EER | | | | $15 | | ☐ |
| 10-5 | | > 240,000 Btu/hr (20 tons), < 760,000 Btu/hr (63.3 tons) | 10.8 EER | | | | $10 | | ☐ |
| 10-6 | | > 760,000 Btu/hr (63.3 tons) | 10.2 EER | | | | $10 | | ☐ |
| 10-7 | Air Source Heat Pumps | < 65,000 Btu/hr (5.4 tons) - 1 Phase | 14.0 SEER | | | | $20 | | ☐ |
| 10-8 | | < 65,000 Btu/hr (5.4 tons) - 3 Phase | 13.0 SEER | | | | $10 | | ☐ |
| 10-9 | | > 65,000 Btu/hr (5.4 tons), < 135,000 Btu/hr (11.3 tons) | 11.0 EER | | | | $20 | | ☐ |
| 10-10 | | > 135,000 Btu/hr (11.3 tons), < 240,000 Btu/hr (20 tons) | 11.0 EER | | | | $25 | | ☐ |
| 10-11 | | > 240,000 Btu/hr (63.3 tons) | 10.0 EER | | | | $30 | | ☐ |
| 10-12 | Closed Loop Heat Pump | < 17,000 Btu/hr (1.4 tons) | 11.5 EER | | | | $10 | | ☐ |
| 10-13 | | > 17,000 Btu/hr (1.4 tons), < 65,000 Btu/hr (5.4 tons) | 12.3 EER | | | | $8 | | ☐ |
| 10-14 | | > 65,000 Btu/hr (5.4 tons), < 135,000 Btu/hr (11.3 tons) | 12.3 EER | | | | $8 | | ☐ |
| 10-15 | Room Air Conditioners | < 14,000 Btu/hr (1.17 tons) | 9.5 EER | | | | $10 | | ☐ |
| 10-16 | | > 14,000 Btu/hr (1.17 tons) | 9.2 EER | | | | $25 | | ☐ |
| 10-17 | Package Terminal Air Conditioner | ALL | 9.3 EER | | | | $5 | | ☐ |
| 10-22 | Ground-Source Heat Pump (replacing Air Source Heat Pump) | < 135,000 Btu/hr (11.3 tons) | 19 EER | | | | $175 | | ☐ |


| 10-15 | Room Air Conditioners | < 14,000 Btu/hr (1.17 tons) | 9.5 EER | $10 | ☐ |
|---|---|---|---|---|---|
| 10-16 | | > 14,000 Btu/hr (1.17 tons) | 9.2 EER | $25 | ☐ |

# 2015 Program Changes

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## ***Important* for 2015**:

**7.** The 2015 Program Year **ends Nov. 30**.

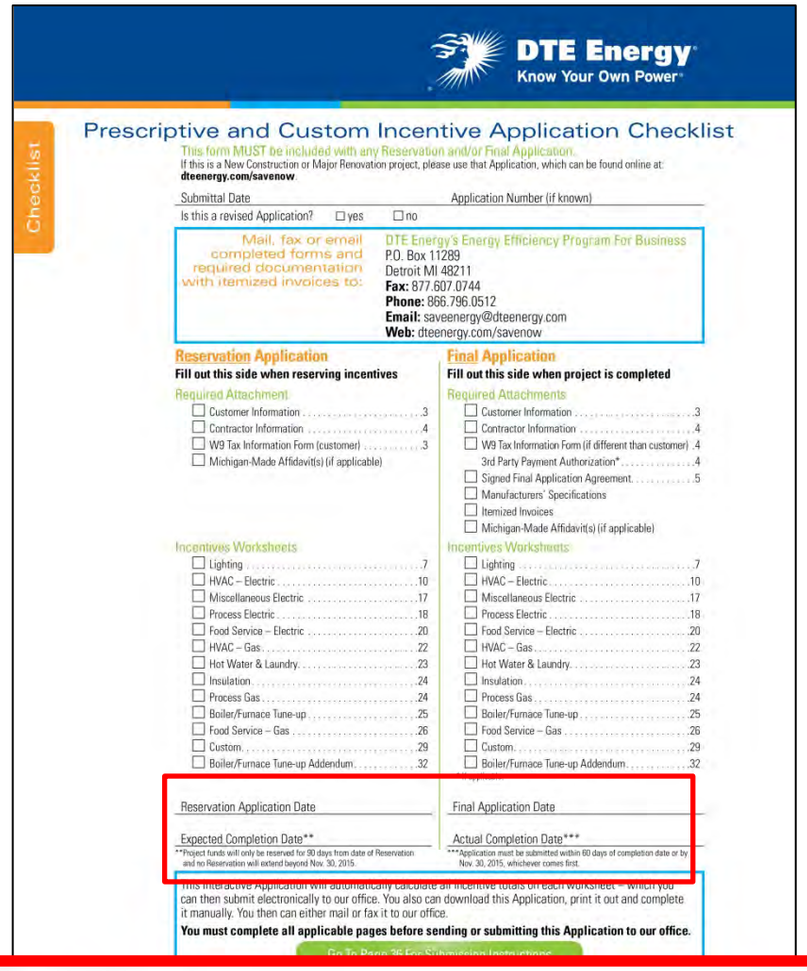
This means:

a. No Reservations extend beyond Nov. 30.

b. Final Applications **must** be submitted within 60 days of project completion or Nov. 30, whichever comes first.

c. Incomplete Final Applications will face cancellation.

d. Any Application submitted after Nov. 30 will be canceled.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Checklist

Prescriptive and Custom Incentive Application Checklist

This form MUST be included with any Reservation and/or Final Application.
If this is a New Construction or Major Renovation project, please use that Application, which can be found online at: **dteenergy.com/savenow**.

Submittal Date — Application Number (if known)

Is this a revised Application? ☐ yes ☐ no

Mail, fax or email completed forms and required documentation with itemized invoices to:

DTE Energy's Energy Efficiency Program For Business
P.O. Box 11289
Detroit MI 48211
**Fax:** 877.607.0744
**Phone:** 866.796.0512
**Email:** saveenergy@dteenergy.com
**Web:** dteenergy.com/savenow

**Reservation Application**
**Fill out this side when reserving incentives**

Required Attachment
- ☐ Customer Information ..... 3
- ☐ Contractor Information ..... 4
- ☐ W9 Tax Information Form (customer) ..... 3
- ☐ Michigan-Made Affidavit(s) (if applicable)

Incentives Worksheets
- ☐ Lighting ..... 7
- ☐ HVAC – Electric ..... 10
- ☐ Miscellaneous Electric ..... 17
- ☐ Process Electric ..... 18
- ☐ Food Service – Electric ..... 20
- ☐ HVAC – Gas ..... 22
- ☐ Hot Water & Laundry ..... 23
- ☐ Insulation ..... 24
- ☐ Process Gas ..... 24
- ☐ Boiler/Furnace Tune-up ..... 25
- ☐ Food Service – Gas ..... 26
- ☐ Custom ..... 29
- ☐ Boiler/Furnace Tune-up Addendum ..... 32

Reservation Application Date

Expected Completion Date**

**Project funds will only be reserved for 90 days from date of Reservation and no Reservation will extend beyond Nov. 30, 2015.

**Final Application**
**Fill out this side when project is completed**

Required Attachments
- ☐ Customer Information ..... 3
- ☐ Contractor Information ..... 4
- ☐ W9 Tax Information Form (if different than customer) ..... 4
- 3rd Party Payment Authorization* ..... 4
- ☐ Signed Final Application Agreement ..... 5
- ☐ Manufacturers' Specifications
- ☐ Itemized Invoices
- ☐ Michigan-Made Affidavit(s) (if applicable)

Incentives Worksheets
- ☐ Lighting ..... 7
- ☐ HVAC – Electric ..... 10
- ☐ Miscellaneous Electric ..... 17
- ☐ Process Electric ..... 18
- ☐ Food Service – Electric ..... 20
- ☐ HVAC – Gas ..... 22
- ☐ Hot Water & Laundry ..... 23
- ☐ Insulation ..... 24
- ☐ Process Gas ..... 24
- ☐ Boiler/Furnace Tune-up ..... 25
- ☐ Food Service – Gas ..... 26
- ☐ Custom ..... 29
- ☐ Boiler/Furnace Tune-up Addendum ..... 32

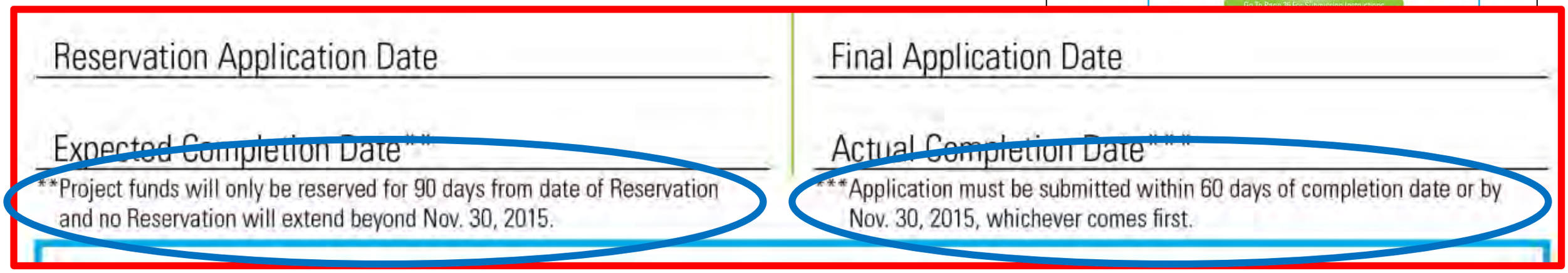
Final Application Date

Actual Completion Date***

***Application must be submitted within 60 days of completion date or by Nov. 30, 2015, whichever comes first.

This interactive Application will automatically calculate all incentive totals on each worksheet – which you can then submit electronically to our office. You also can download this Application, print it out and complete it manually. You then can either mail or fax it to our office.

**You must complete all applicable pages before sending or submitting this Application to our office.**


Reservation Application Date

Expected Completion Date**

**Project funds will only be reserved for 90 days from date of Reservation and no Reservation will extend beyond Nov. 30, 2015.

Final Application Date

Actual Completion Date***

***Application must be submitted within 60 days of completion date or by Nov. 30, 2015, whichever comes first.

# 2015 Program Changes

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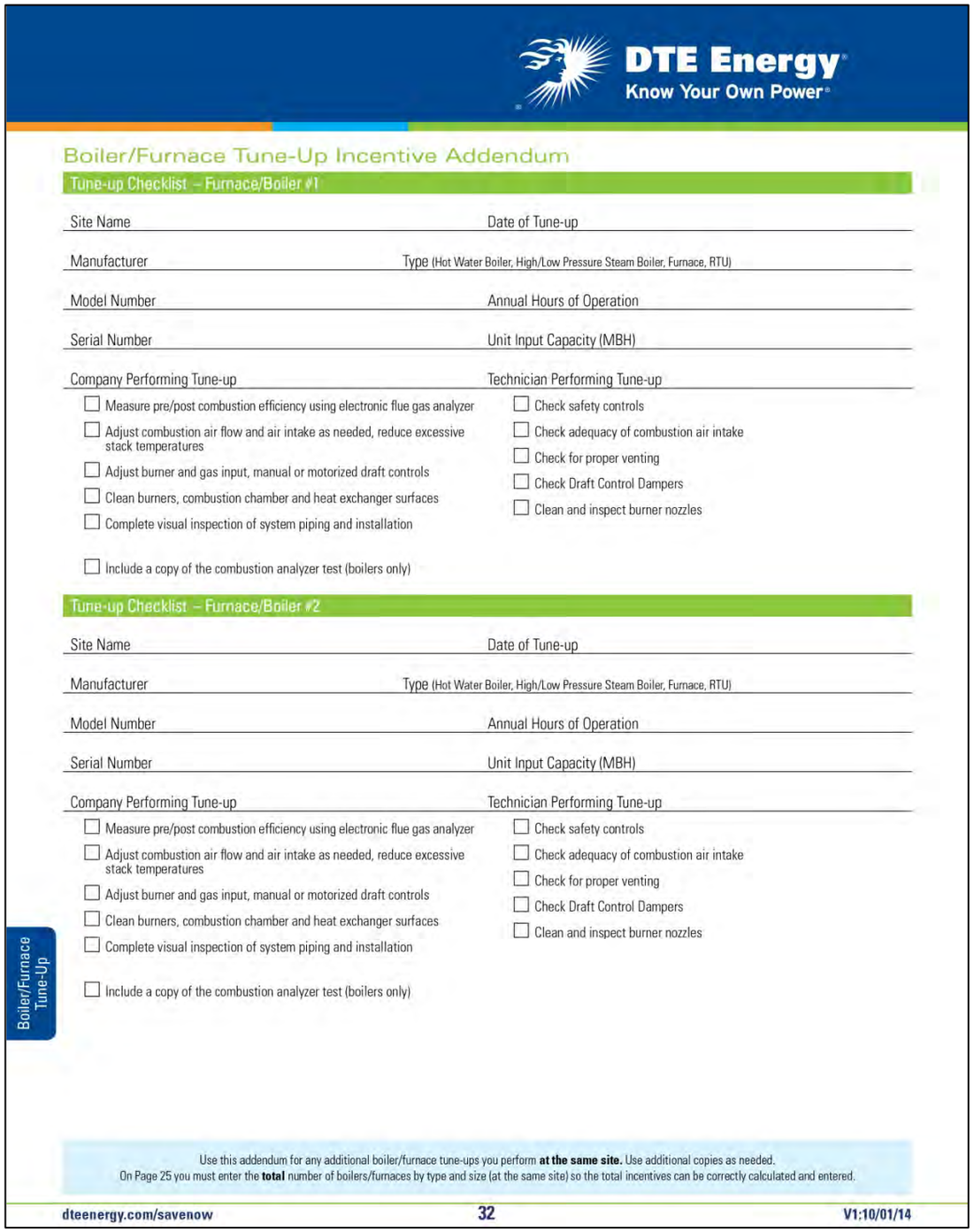
## ***New for 2015***:

**8.** The **Boiler/Furnace Addendum** is now part of the Application, as well as a stand-alone document.



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Boiler/Furnace Tune-Up Incentive Addendum

Tune-up Checklist – Furnace/Boiler #1

Site Name | Date of Tune-up

Manufacturer | Type (Hot Water Boiler, High/Low Pressure Steam Boiler, Furnace, RTU)

Model Number | Annual Hours of Operation

Serial Number | Unit Input Capacity (MBH)

Company Performing Tune-up | Technician Performing Tune-up

- ☐ Measure pre/post combustion efficiency using electronic flue gas analyzer
- ☐ Adjust combustion air flow and air intake as needed, reduce excessive stack temperatures
- ☐ Adjust burner and gas input, manual or motorized draft controls
- ☐ Clean burners, combustion chamber and heat exchanger surfaces
- ☐ Complete visual inspection of system piping and installation
- ☐ Check safety controls
- ☐ Check adequacy of combustion air intake
- ☐ Check for proper venting
- ☐ Check Draft Control Dampers
- ☐ Clean and inspect burner nozzles
- ☐ Include a copy of the combustion analyzer test (boilers only)

Tune-up Checklist – Furnace/Boiler #2

Site Name | Date of Tune-up

Manufacturer | Type (Hot Water Boiler, High/Low Pressure Steam Boiler, Furnace, RTU)

Model Number | Annual Hours of Operation

Serial Number | Unit Input Capacity (MBH)

Company Performing Tune-up | Technician Performing Tune-up

- ☐ Measure pre/post combustion efficiency using electronic flue gas analyzer
- ☐ Adjust combustion air flow and air intake as needed, reduce excessive stack temperatures
- ☐ Adjust burner and gas input, manual or motorized draft controls
- ☐ Clean burners, combustion chamber and heat exchanger surfaces
- ☐ Complete visual inspection of system piping and installation
- ☐ Check safety controls
- ☐ Check adequacy of combustion air intake
- ☐ Check for proper venting
- ☐ Check Draft Control Dampers
- ☐ Clean and inspect burner nozzles
- ☐ Include a copy of the combustion analyzer test (boilers only)

Boiler/Furnace Tune-Up

Use this addendum for any additional boiler/furnace tune-ups you perform **at the same site.** Use additional copies as needed.
On Page 25 you must enter the **total** number of boilers/furnaces by type and size (at the same site) so the total incentives can be correctly calculated and entered.

dteenergy.com/savenow 32 V1:10/01/14

# 2015 Program Changes

DTE Energy®
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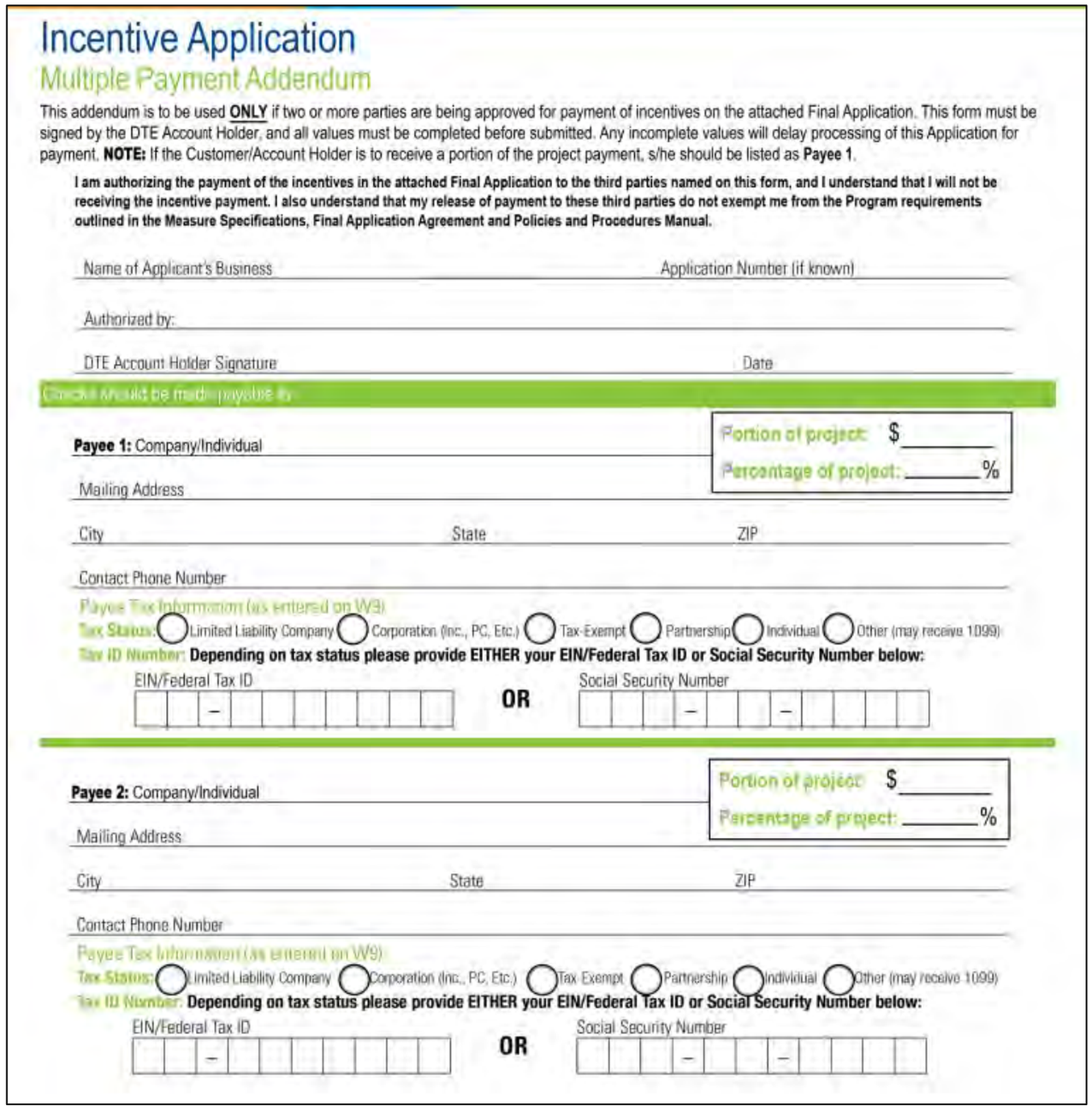
## ***New for 2015***:

**9.** If **<u>two or more</u>** contractors are to receive direct payment, the Customer *must* complete and sign the new **<u>Multiple Payment Addendum</u>** (right).

**10.** The **Commercial Kitchen Ventilation Hood with Demand Control** measure has been *<u>eliminated</u>* for **electric** projects only.



Incentive Application

Multiple Payment Addendum

This addendum is to be used **ONLY** if two or more parties are being approved for payment of incentives on the attached Final Application. This form must be signed by the DTE Account Holder, and all values must be completed before submitted. Any incomplete values will delay processing of this Application for payment. **NOTE:** If the Customer/Account Holder is to receive a portion of the project payment, s/he should be listed as **Payee 1**.

**I am authorizing the payment of the incentives in the attached Final Application to the third parties named on this form, and I understand that I will not be receiving the incentive payment. I also understand that my release of payment to these third parties do not exempt me from the Program requirements outlined in the Measure Specifications, Final Application Agreement and Policies and Procedures Manual.**

Name of Applicant's Business — Application Number (if known)

Authorized by:

DTE Account Holder Signature — Date

Check Should be made payable to:

**Payee 1:** Company/Individual — Portion of project: $ ____ Percentage of project: ____%

Mailing Address

City — State — ZIP

Contact Phone Number

Payee Tax Information (as entered on W9)

Tax Status: ◯ Limited Liability Company ◯ Corporation (Inc., PC, Etc.) ◯ Tax-Exempt ◯ Partnership ◯ Individual ◯ Other (may receive 1099)

Tax ID Number: **Depending on tax status please provide EITHER your EIN/Federal Tax ID or Social Security Number below:**

EIN/Federal Tax ID | **OR** | Social Security Number

**Payee 2:** Company/Individual — Portion of project: $ ____ Percentage of project: ____%

Mailing Address

City — State — ZIP

Contact Phone Number

Payee Tax Information (as entered on W9)

Tax Status: ◯ Limited Liability Company ◯ Corporation (Inc., PC, Etc.) ◯ Tax-Exempt ◯ Partnership ◯ Individual ◯ Other (may receive 1099)

Tax ID Number: **Depending on tax status please provide EITHER your EIN/Federal Tax ID or Social Security Number below:**

EIN/Federal Tax ID | **OR** | Social Security Number

# 2015 Program Highlights

DTE Energy®
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## **Multi-Measure** bonus *continues*

- **20% bonus** on multiple categories submitted on the same Application – when no single category is more than 75% of the Application.
- Our Catalog now highlights measures that appear in both electric and gas that automatically qualify.

## **Michigan-Made** bonus *continues*

- **15% bonus** for any installed equipment that is 50% manufactured and/or assembled in Michigan (excluding packaging).
  - Some Prescriptive measures are not eligible.
  - Custom projects are not eligible.

# 2015 Program Highlights

DTE Energy®
Know Your Own Power®

## Steam Trap Survey-Repair/Replacement Incentive offer *is new!*

- Get **$10** on each steam trap survey, as long as the following conditions are met:
  - Offer runs:

**Oct. 1, 2014 to Jan. 31, 2015**

- Requires special Application.
- Requires accompanying trap repairs and/or replacements on the same Application.
- Survey incentive is capped at 50% of incentives for repairs/replacement.
- We will accept surveys conducted 6 months prior.
- Added incentive will **not** be paid to Customers who participated in this offer in the 2014 Program year and did ***NOT*** repair any of the traps previously identified as failed.


Energy Efficiency Program for Business

DTE Energy® Know Your Own Power®

2015 Steam Trap Survey and Repair Application

Get $10 for each survey you perform through June — up to 50% of repairs submitted on this Application

Limited-time Offer*

DTE Energy is offering a $10 incentive for each Steam Trap Survey performed until June 30, 2015 — up to 50% of the value of repaired steam traps submitted as part of this same Application.

The incentives will be paid to the Customer or a designated Third-Party.

Important Note: If you performed steam trap surveys in 2014 that revealed failed traps, but did not result in any repair(s) or replacement(s), you are not eligible to participate in this offer.

To participate in this offer, you must submit a completed Reservation Application that identifies the number of steam traps being surveyed.

To receive the $10 Steam Trap Survey incentive, you must submit a completed Final Application by June 30, 2015, that includes all documentation and invoices covering steam trap repairs or replacements. Incomplete Final Applications could result in payments being delayed.

Customer Information

Name of Applicant's Business | Project or Building Name (If Applicable)

DTE Energy Gas Account Number (at Project location)

Name as it appears on DTE Energy bill

Name of Contact Person | Title of Contact Person

Contact Phone # | Contact Fax #

Contact Email Address

Mailing Address | City | State | ZIP

Installation Address | City | State | ZIP

Customer Tax Information (as entered on W9)

Tax Status: ☐ Limited Liability Company ☐ Corporation (Inc., PC, Etc.) ☐ Tax-Exempt ☐ Partnership ☐ Individual ☐ Other (may receive 1099)

Tax ID Number: Depending on tax status please provide EITHER your EIN/Federal Tax ID or Social Security Number below:

EIN/Federal Tax ID ☐☐–☐☐☐☐☐☐☐ OR Social Security Number ☐☐☐–☐☐–☐☐☐☐

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# 2015 Program Highlights

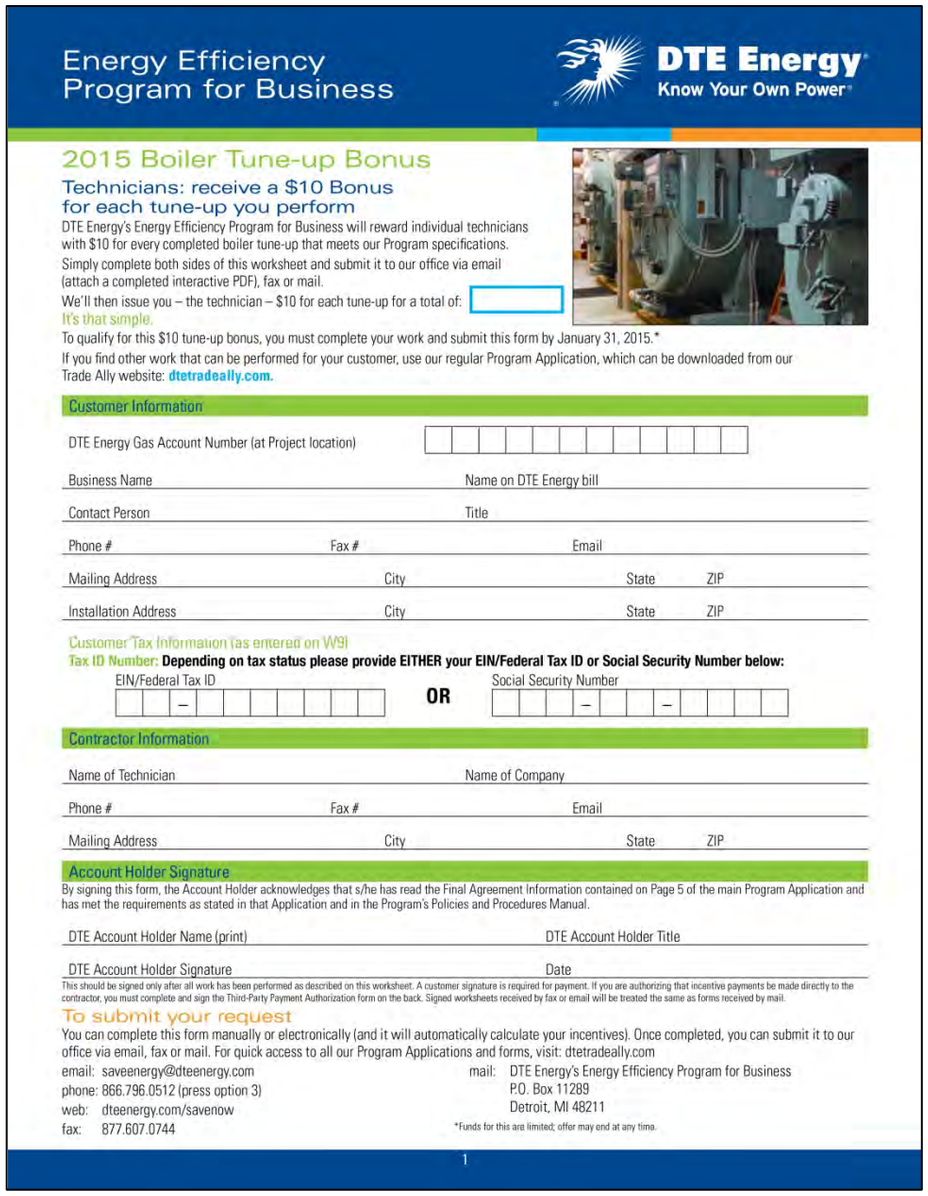
DTE Energy®
Know Your Own Power®

## Boiler Tune-up Bonus *is back!*

- Technicians can receive a **$10 bonus** for every completed boiler tune-up that meets Program specifications.
  - Offer runs:

**Nov. 1, 2014 to Jan. 31, 2015**

- Special worksheet is available.



Energy Efficiency Program for Business

DTE Energy® Know Your Own Power®

2015 Boiler Tune-up Bonus

Technicians: receive a $10 Bonus for each tune-up you perform

DTE Energy's Energy Efficiency Program for Business will reward individual technicians with $10 for every completed boiler tune-up that meets our Program specifications.
Simply complete both sides of this worksheet and submit it to our office via email (attach a completed interactive PDF), fax or mail.
We'll then issue you – the technician – $10 for each tune-up for a total of:
It's that simple.
To qualify for this $10 tune-up bonus, you must complete your work and submit this form by January 31, 2015.*
If you find other work that can be performed for your customer, use our regular Program Application, which can be downloaded from our Trade Ally website: dtetradeally.com.

Customer Information

DTE Energy Gas Account Number (at Project location)

Business Name | Name on DTE Energy bill

Contact Person | Title

Phone # | Fax # | Email

Mailing Address | City | State | ZIP

Installation Address | City | State | ZIP

Customer Tax Information (as entered on W9)
Tax ID Number: **Depending on tax status please provide EITHER your EIN/Federal Tax ID or Social Security Number below:**
EIN/Federal Tax ID – OR – Social Security Number

Contractor Information

Name of Technician | Name of Company

Phone # | Fax # | Email

Mailing Address | City | State | ZIP

Account Holder Signature

By signing this form, the Account Holder acknowledges that s/he has read the Final Agreement Information contained on Page 5 of the main Program Application and has met the requirements as stated in that Application and in the Program's Policies and Procedures Manual.

DTE Account Holder Name (print) | DTE Account Holder Title

DTE Account Holder Signature | Date

This should be signed only after all work has been performed as described on this worksheet. A customer signature is required for payment. If you are authorizing that incentive payments be made directly to the contractor, you must complete and sign the Third-Party Payment Authorization form on the back. Signed worksheets received by fax or email will be treated the same as forms received by mail.

To submit your request

You can complete this form manually or electronically (and it will automatically calculate your incentives). Once completed, you can submit it to our office via email, fax or mail. For quick access to all our Program Applications and forms, visit: dtetradeally.com

email: saveenergy@dteenergy.com
phone: 866.796.0512 (press option 3)
web: dteenergy.com/savenow
fax: 877.607.0744

mail: DTE Energy's Energy Efficiency Program for Business
P.O. Box 11289
Detroit, MI 48211

*Funds for this are limited; offer may end at any time.

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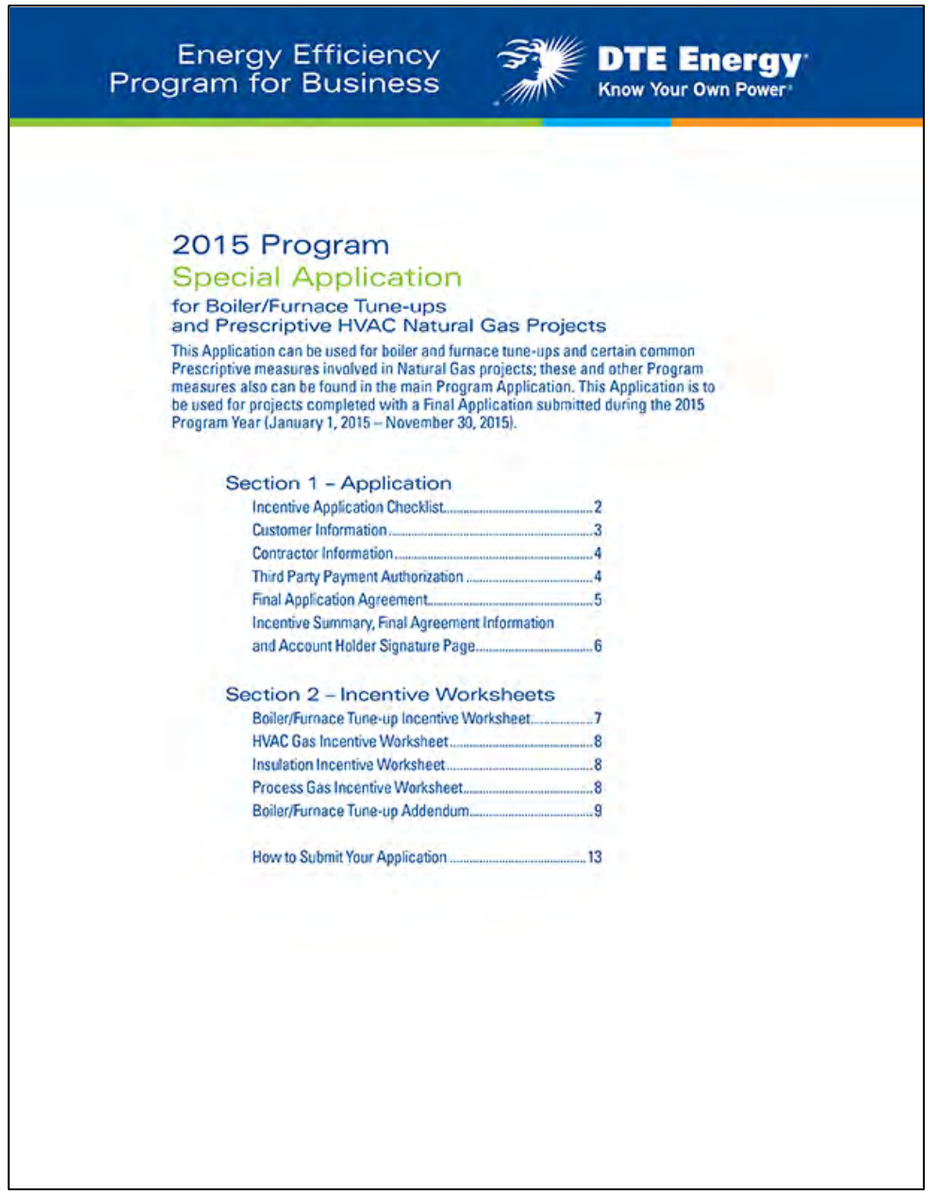
# 2015 Program Highlights

## **Gas-only Application** *is back!*

Only certain common prescriptive measures* are included:

- **Boiler/Furnace Tune-up** *(w/addendum)*
  - Space Heating Boiler
  - Process Boiler
  - Domestic Hot Water
  - Furnace/RTU
- **HVAC**
  - Boilers & Furnaces
  - Infrared Heaters
  - HVAC Controls
- **Insulation**
- **Process**


Energy Efficiency Program for Business

DTE Energy® Know Your Own Power®

2015 Program
Special Application
for Boiler/Furnace Tune-ups
and Prescriptive HVAC Natural Gas Projects

This Application can be used for boiler and furnace tune-ups and certain common Prescriptive measures involved in Natural Gas projects; these and other Program measures also can be found in the main Program Application. This Application is to be used for projects completed with a Final Application submitted during the 2015 Program Year (January 1, 2015 – November 30, 2015).

Section 1 – Application



Section 2 – Incentive Worksheets



***Submit same way as main Application***

**Uses main Application reference numbers*

# 2015 Program Highlights

DTE Energy®
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## 2014-15 Gas offer *ends this year*

Custom **projects** only:

- Must have documented savings of at least 25,000 Mcf to apply.
  - **Savings ≥ 25,000 - < 50,000 Mcf = $4/Mcf**
  - **Savings ≥ 50,000 = $5/Mcf**
- Total **customer cap** for this offer is **$400,000**.
- Reservation Applications must be submitted by April 30, 2015.
- Final Applications must be submitted within 60 days of project completion or by Nov. 30, 2015, whichever comes first.
- Incomplete Applications submitted on Nov. 30 *may* be cancelled.
- Final Applications submitted after Nov. 30 ***will*** be cancelled.


Energy Efficiency Program for Business

DTE Energy Know Your Own Power

USE LESS. SAVE MORE.

2014-2015 Multi-Year Natural Gas Program

Program Guidelines, Specifications and Application

Follow this easy process

Are you eligible?

To apply for incentives, you must be a DTE Energy Commercial or Industrial natural gas customer in good standing. Your project must be installed at a facility served by DTE Energy.

Equipment installed must meet the specifications as explained in this Program Application form. Additional details are available in the Policy and Procedures Manual, available on our website.

Reservation Application (reservation of funds)

Use this Application to reserve incentives from our limited funds. Electronically submit (see Page 10 for instructions), email, mail or fax a completed copy of the Application to our office.

Reservation Applications are required for all projects under this special program — and must be received no later than April 30, 2015, to be eligible to participate in this offering.

Installation

You must complete your project within one year of receiving a Reservation Letter from us, which will confirm that we are holding incentives for you through the reservation date provided.

Final Application (project completion)

Your Final Application must be submitted within 60 days of project completion or by Nov. 30, 2015, whichever comes first. Electronically submit (see Page 9 for instructions), email, mail or fax a signed a copy of this completed Application and attach all required documentation, including dated, itemized invoices and manufacturer specification sheets for the items installed. The Final Application must be signed by the DTE Energy Account Holder.

Application Checklist

Complete this checklist — including expected and actual completion dates — to ensure compliance with all requirements of the Program and submission of all required documents. Failure to attach the necessary documents could delay processing of this Application.

Customer Name: Project Name:

Submittal Date Application Number (if known)

Is this a revised Application? ☐ yes ☐ no

**Reservation Application**

**Fill out this side when reserving incentives**

Required Attachment

- ☐ Customer Information ..... 3
- ☐ Contractor Information ..... 4
- ☐ W9 Tax Information Form (customer) ..... 3

Incentives Worksheets

- ☐ Worksheet ..... 7

Reservation Application Date

Expected Completion Date**

**Project funds will only be reserved for 90 days from date of Reservation.

**Final Application**

**Fill out this side when project is completed**

Required Attachments

- ☐ Customer Information ..... 3
- ☐ Contractor Information ..... 4
- ☐ W9 Tax Information Form (if different than customer) 4
- 3rd Party Payment Authorization* ..... 4
- ☐ Signed Final Application Agreement ..... 5
- ☐ Manufacturers' Specifications
- ☐ Itemized Invoices

Incentives Worksheets

- ☐ Worksheet ..... 7

* If applicable

Final Application Date

Actual Completion Date***

***Application must be submitted within 60 days of completion date.

Total Multi-Year Natural Gas Project Incentives

*(Other conditions apply; see Application for details)*

DTE Energy®
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# About our Designated Trade Allies

# About our Designated Trade Allies

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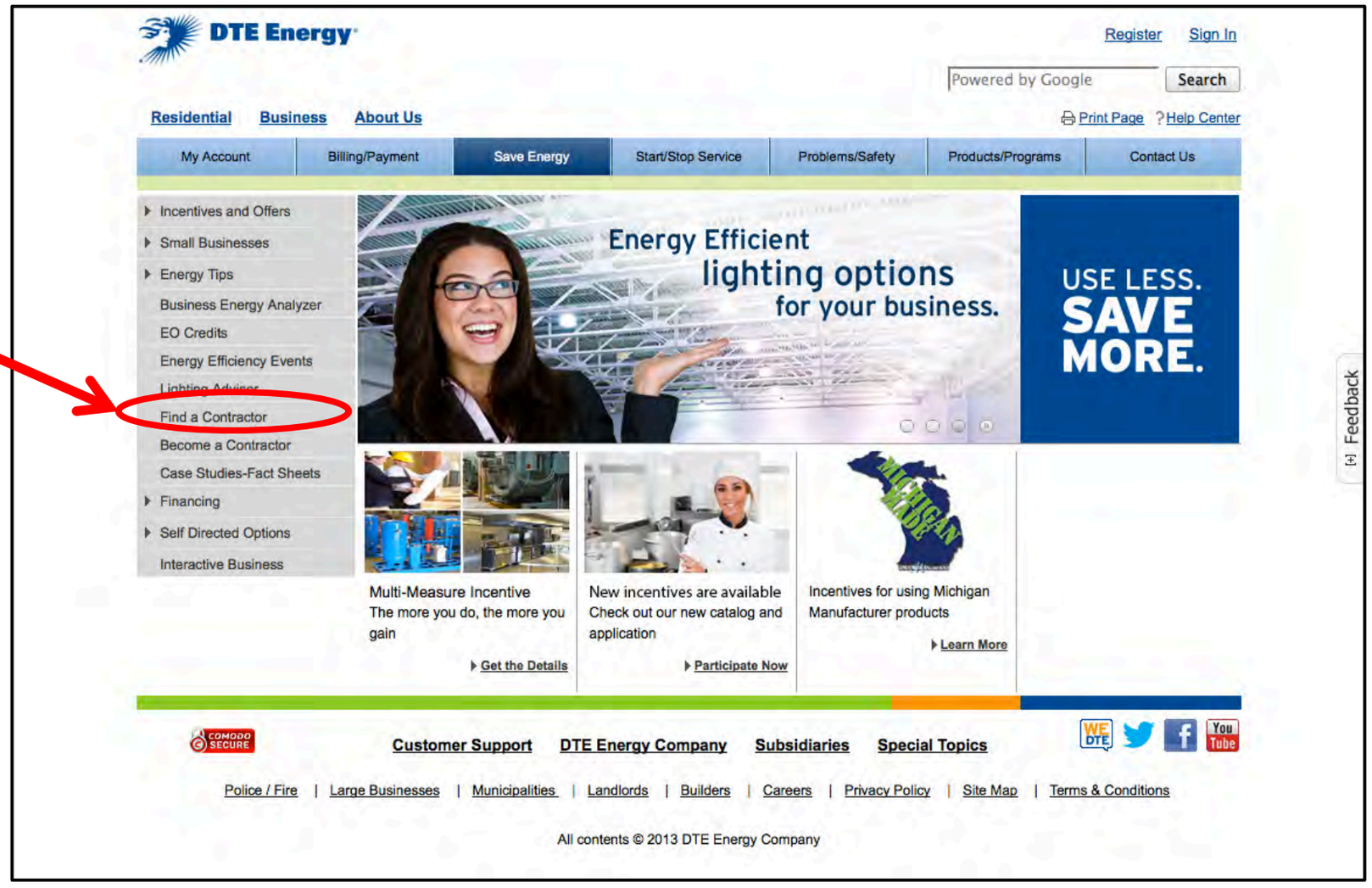
# How customers find Designated TAs:

- Click on: **dteenergy.com/savenow**

- Click on the link at left: **Find a Contractor**




## To our Designated TAs:

Please complete one of our forms before you leave to ensure your online listing is accurate and up to date.

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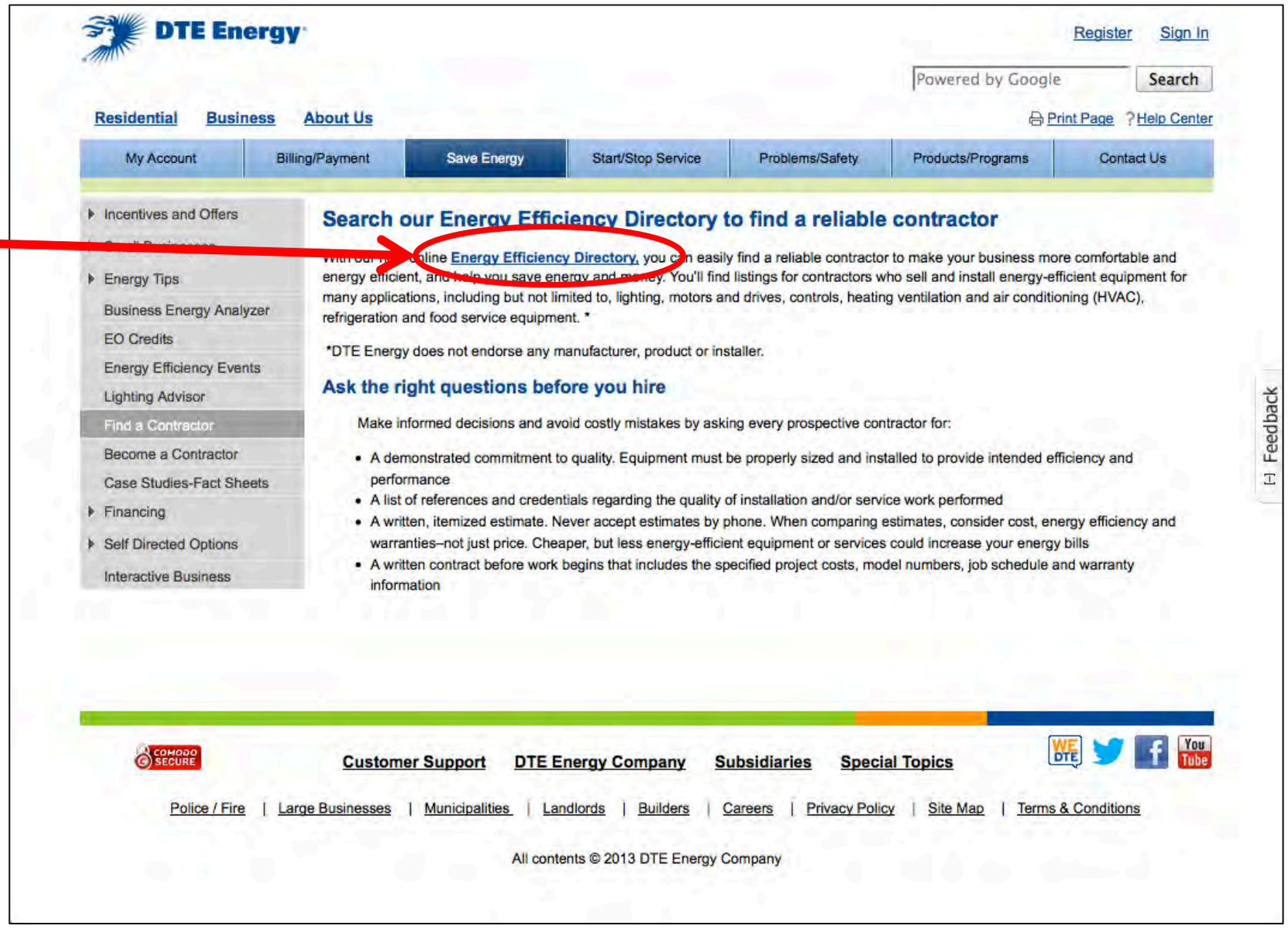
# How customers find Designated TAs:

- Click on **Energy Efficiency Directory** link



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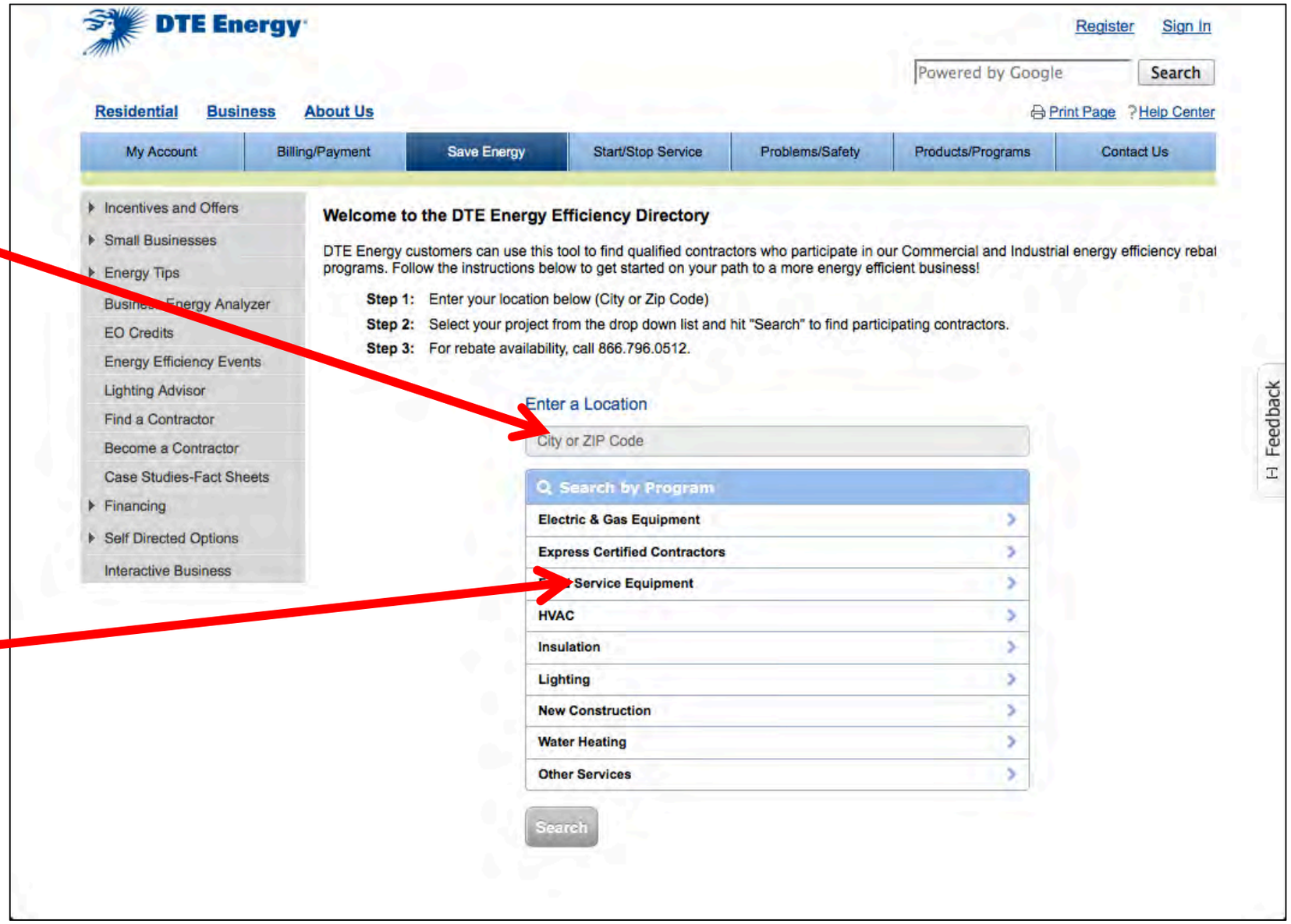
# How customers find Designated TAs:

- They can search by their **Location** (city or ZIP)

***or***

- They can search by **Program Type**



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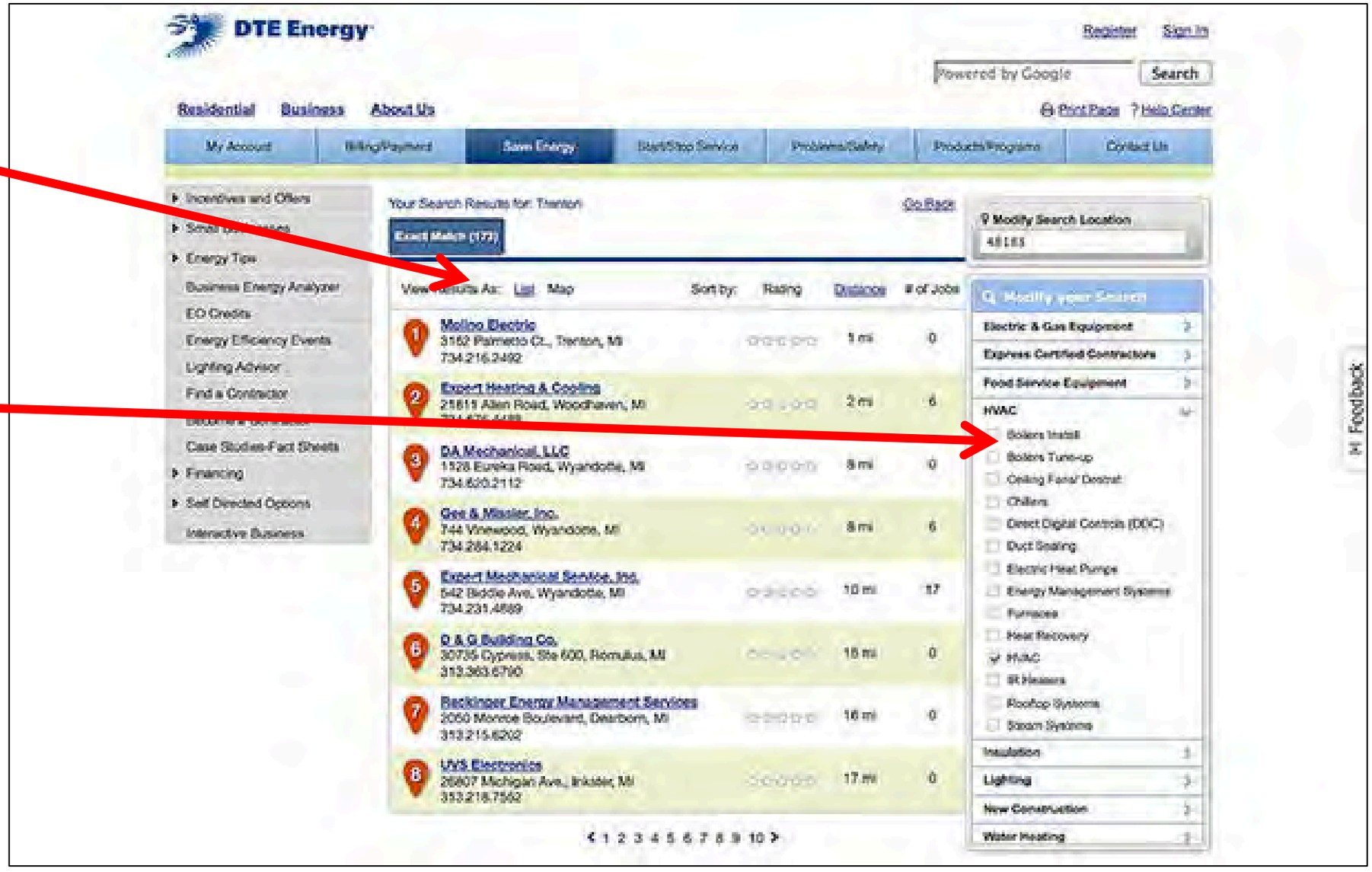
# How customers find Designated TAs:

- Once they narrow their search, they can refine their search again by **Program Type**



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# About Incentives

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# There are three types of projects

## Prescriptive

- **Predetermined** measures and incentives for the installation of various energy efficient improvements.
- Incentives typically average 20% to 50% of the incremental cost.

## Custom

- **Capital investment** projects that increase energy efficiency and are **NOT** eligible for a Prescriptive Incentive may qualify as a Custom Measure.
- Custom Incentives are determined on a case-by-case basis and are paid per unit energy saved (ex: $0.07/kWh and/or $4/Mcf).

## New Construction
## Major Renovation

- **New facilities/major renovations** of existing facilities or change of use projects.
- Adding load.

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# About Reservations

Reservation Applications set aside funds for your project to ensure availability when your project is completed and you submit your Final Application. Here are our guidelines:

**Prescriptive**

- Reservation Applications are not required for most Prescriptive projects, ***BUT*** they are ***highly recommended***.
- A Reservation Application ***is required*** for certain measures: check the Application for details.

**Custom**

- A Reservation Application ***is required*** for all Custom projects.

**New Construction**
**Major Renovation**

- A Reservation Application ***is encouraged*** for all New Construction and Major Renovation projects.
- **NOTE**: ***No Reservation will extend beyond Nov. 30, 2015.***

If you submit a Reservation Application, do NOT start your project until you receive a Reservation Letter!*

**Could take 4-6 weeks to receive the letter*

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**Prescriptive**

# Prescriptive - Electric

- **Pre-determined** measures with specific energy savings and cash rebates:

## 2015 Prescriptive Electric Measures

### Lighting

- Central Lighting Controls
- Compact Fluorescent Screw-in Lamps
- Compact Fluorescent Reflector Flood Lamps
- Compact Fluorescent Fixtures
- Daylight Sensor Controls
- Delamping
- Exit Sign Conversion
- Exterior Lighting Bi-level Control w/Override
- Exterior Linear Fluorescent replacing High-Intensity Discharge (HID)
- Exterior CFL replacing HID
- Garage/Exterior High-Intensity Discharge (HID) Conversion
- High Performance (HP) Linear Fluorescents
- Interior High-Intensity Discharge (HID) to Fluorescent Fixture
- LED Lamps
- LED or Induction Interior High Bay
- LED Traffic Signals
- LED Refrigerated Door Case Lighting
- Low Wattage (LW) Linear Fluorescents
- Occupancy Sensors for LED Refrigerated Door Case Lighting
- Occupancy Sensors
- Pulse Start Metal Halide
- Switching Controls for Multilevel Lighting
- Tubular Skylights (Light Tubes)

### HVAC

- Air-Cooled Chillers/Water-Cooled Chillers
- Air Source Heat Pumps
- Chilled Water Reset - Air Cooled/Water Cooled
- Chilled Water Reset with Pump on/off Control
- Closed Loop Heat Pumps
- Cool Roof
- Economizer
- Ground Source Heat Pump
- High Performance Glazing
- Hotel Guestroom Energy Management System (Air Conditioning)
- Packaged Terminal Air Conditioner & Heat Pump
- Programmable Thermostat (Air Conditioning)
- Room Air Conditioners
- Setback/Setup Controls (Air Conditioning)
- Unitary and Split Air Conditioning Systems
- Variable Frequency Drive - HVAC Fan/Pump
- Window Film

### Miscellaneous Electric

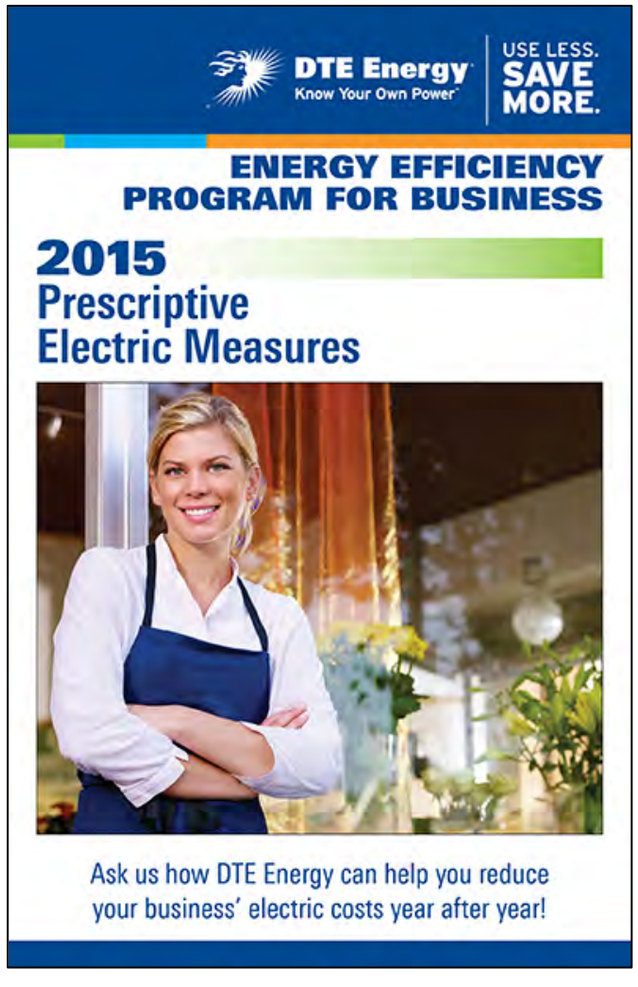
- High Efficiency Clothes Washer
- Intelligent Surge Protector
- PC Network Energy Management Controls

### Process Electric

- Barrel Wraps for Injection Molders & Extruders
- Compressed Air Engineered Nozzle
- Compressed Air Pressure Flow Controller
- Compressed Air Audits with Leak Repair
- Cycling Compressed Air Dryers
- Electronically Commutated Plug Fans
- High Efficiency Process Pumps
- Industrial 3-Phase High Frequency Battery Charger
- Insulated Pellet Dryer Ducts
- Tank Insulation
- Variable Frequency Drive for Process Pumping
- VSD Air Compressor

### Food Service & Refrigeration

- Anti-Sweat Heater Controls
- Beverage Vending Machine Controllers
- Door Gaskets on Coolers and Freezers
- ECM Motor for Refrigerator Cases, Freezers and Coolers
- Energy Efficient Ice Machines
- Efficient Refrigeration Condenser
- ENERGY STAR® Commercial Solid Door Refrigerators
- ENERGY STAR® Commercial Solid Door Freezers
- ENERGY STAR® Steam Cookers
- ENERGY STAR® Holding Cabinets
- Evaporator Fan Motor Controls
- Floating Head Pressure Controls
- LED Refrigerated Door Case Lighting
- Occupancy Sensors for LED Refrigerated Door Case Lighting
- Refrigeration Savings due to Lighting Wattage Reduction
- Strip Curtains on Walk-in Cooler and Freezer Doors
- Vertical Night Covers



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**Prescriptive**

# Prescriptive – Natural Gas

- **Pre-determined** measures with specific energy savings and cash rebates:

## 2015 Prescriptive Natural Gas Measures

### HVAC
- Boiler Modulating Burner Control
- Boiler Water Reset Control
- Chilled Water Reset
- Chilled Water Reset with Pump on/off Control
- Demand Controlled Ventilation
- Destratification Fans
- High Efficiency Furnace
- Hotel Guestroom Energy Management Control
- HVAC Occupancy Sensor for Large Office Buildings
- Infrared Heaters
- Programmable Thermostat
- Setback/Setup Controls
- Space Heating Boilers
- Steam Traps
- Variable Frequency Drive on Secondary Chilled Water Pump

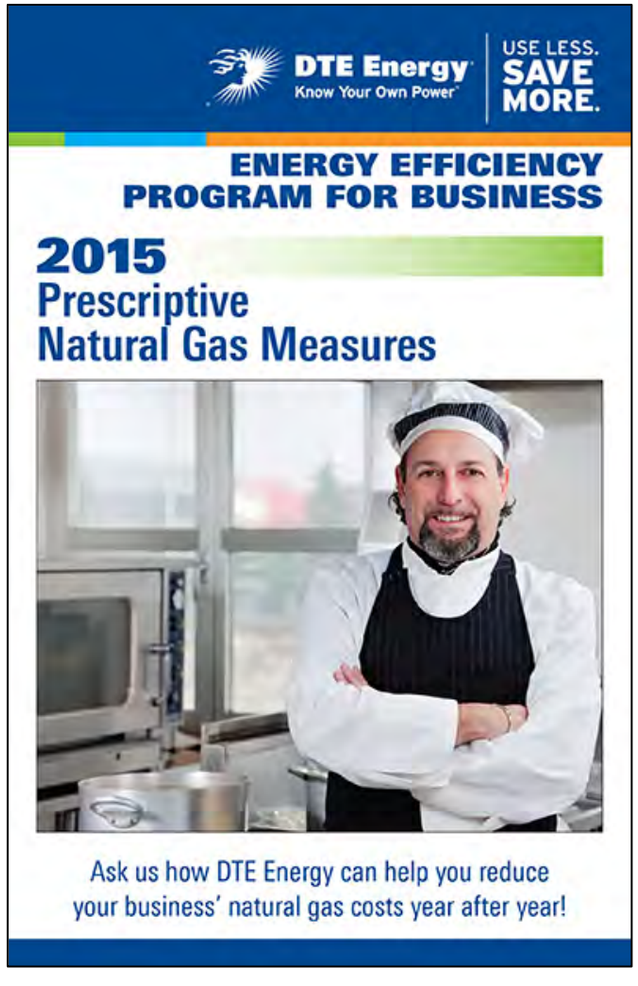
### Hot Water and Laundry
- Domestic Hot Water Heating System
- Dry Cleaning Boiler Descale (Kettle/Tube-Type)
- Gas Water Heater
- Gas Water Heater – Tankless
- High Efficiency Clothes Washer
- High Efficiency Pool Heater (Gas Heat)
- Ozone Laundry System

### Insulation
- Domestic Hot Water Pipe Wrap
- Greenhouse Heat Curtain
- Greenhouse Infrared Film
- Pipe Wrap – Steam and Hot Water Boiler
- Pool Covers
- Roof Insulation (Flat/Attic)
- Truck Loading Dock Seals
- Truck Loading Dock Leveler Ramp Air Pit Seals
- Wall Insulation

### Process Gas
- Air Compressor Exhaust Heat Recovery
- Furnace Tube Inserts
- High Efficiency Process Boiler (Water/Steam)
- Tank Insulation

### Boiler/Furnace Tune-up
- Boiler Tune Up
- Domestic Hot Water Boiler Tune-up
- Furnace/RTU Tune-up
- Process Boiler Tune-up

### Food Service
- Commercial Kitchen Ventilation Hood
- ENERGY STAR® Convection Ovens
- ENERGY STAR® Fryers
- ENERGY STAR® Griddles
- ENERGY STAR® Steam Cookers
- Large Vat Fryers
- Night Covers (vertical)
- Ovens
- Pre-Rinse Sprayers (Gas Water Heat)



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**Custom**

# Custom

- Measures that do not fall within any specific prescriptive program.
- Energy savings and cash rebates are calculated on a case-by-case basis.
- Can be combined with prescriptive measures.
- **NOTE:** for a complete review of custom project criteria, see the Application.

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**New Construction**
**Major Renovation**

# New Construction/Major Renovation:

- New facilities/major renovations of existing facilities/change of use.
- Adding load.
- Incentives are offered in three areas:
  - **Systems Approach:**
    - Pre-determined measures designed to optimize efficiency of individual systems.
  - **LEED Whole Building Approach**:
    - Based on LEED certification.
    - Four levels of incentives based on certification.
  - **LEED Certification Assistance:**
    - $1,500 for LEED project certification.

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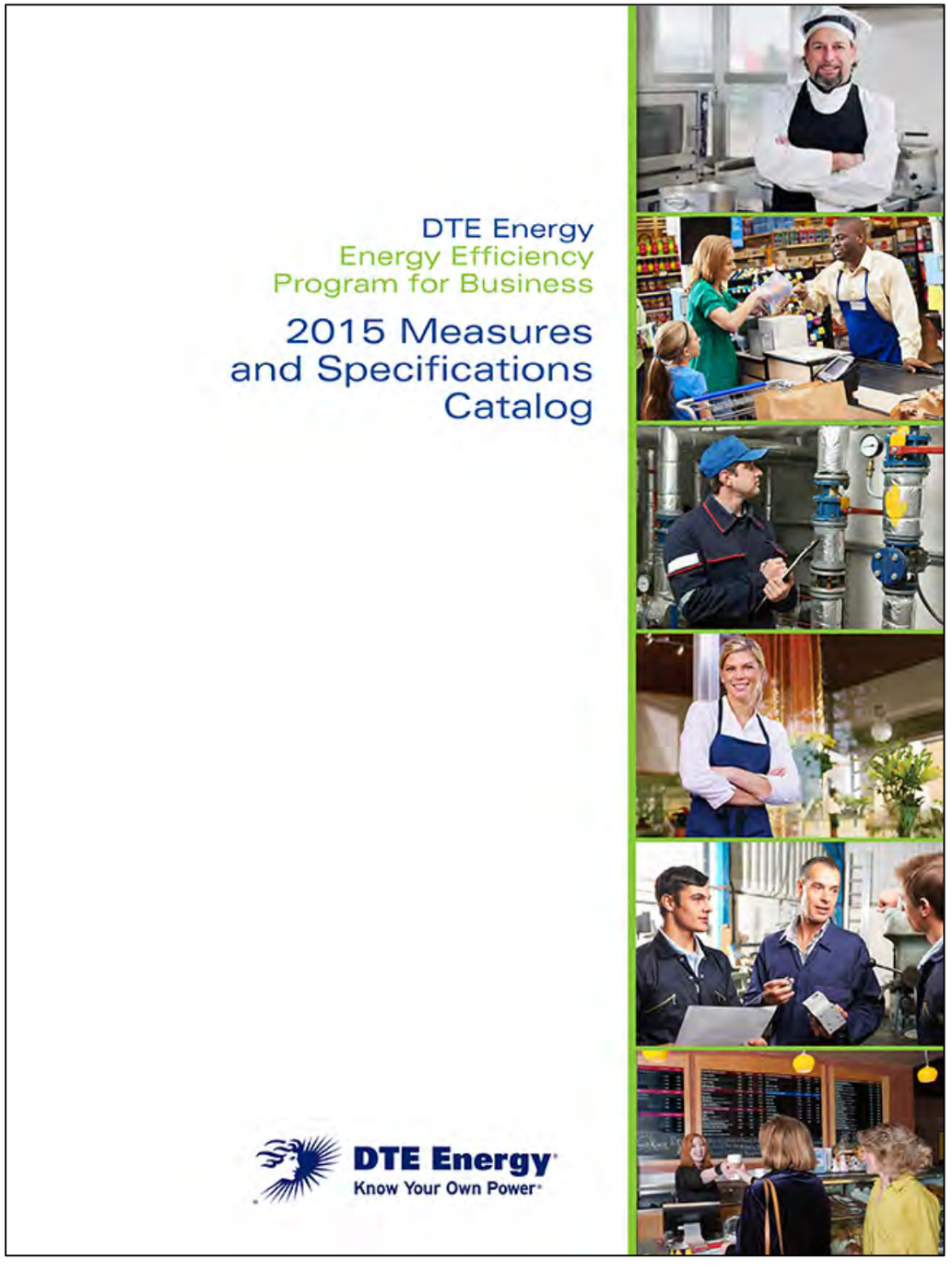
# Getting Started in 2015

DTE Energy®
Know Your Own Power®

# About our Catalog

- It includes specifications and details for every **Prescriptive** incentive measure.
- It includes specifications and details on how to submit a **Custom** project.
- Use it as a desktop reference for all your projects.



# 2015
# Program Catalog

DTE Energy®
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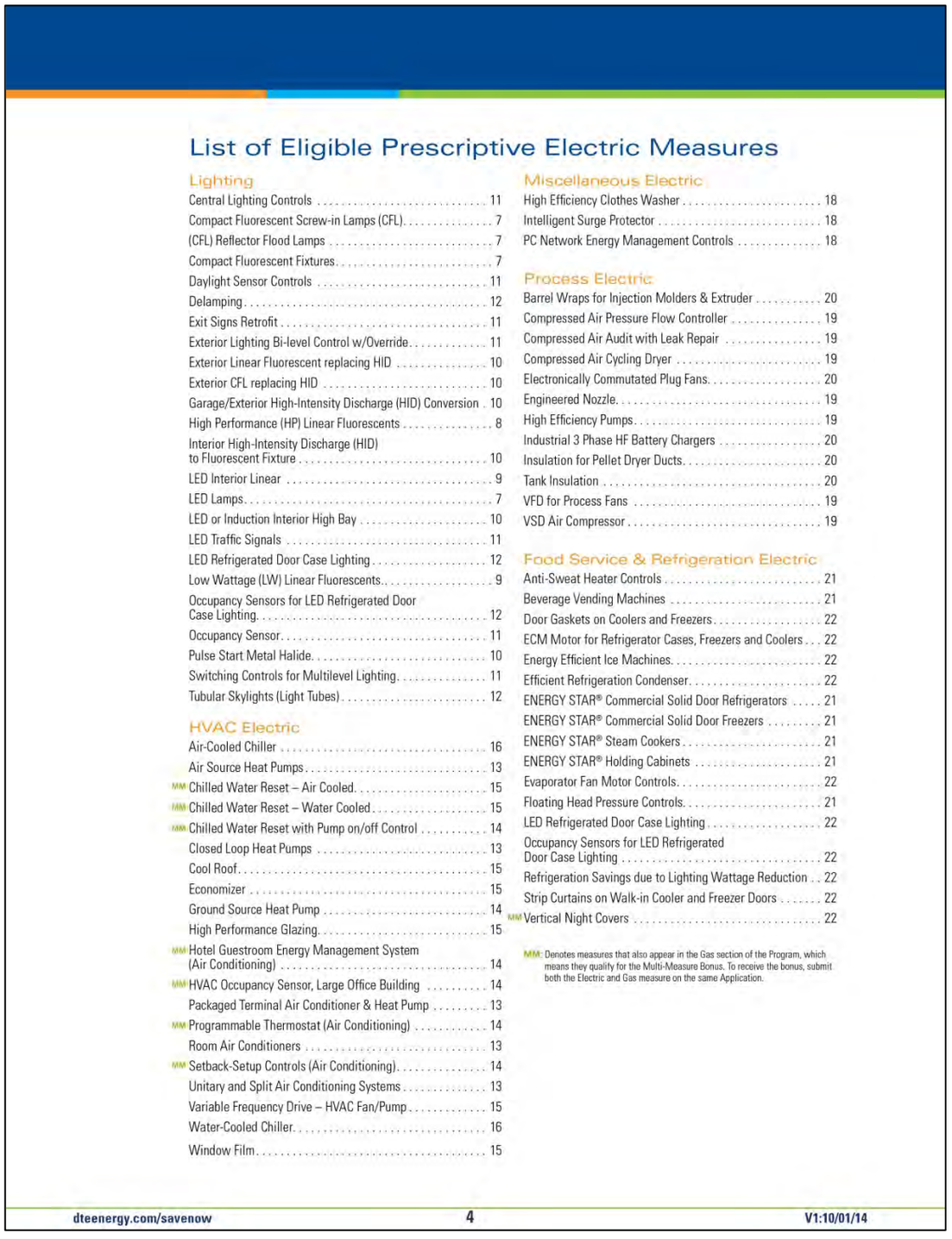
## There are five <u>electric</u> categories of measures in the Catalog:

- Lighting
- Miscellaneous
- Process
- Food Service/Refrigeration
- HVAC

## There are 76 measure areas

- Each area lists specific types of measures within that section

*The Application matches the measure sequence of the Catalog*



List of Eligible Prescriptive Electric Measures



MM: Denotes measures that also appear in the Gas section of the Program, which means they qualify for the Multi-Measure Bonus. To receive the bonus, submit both the Electric and Gas measure on the same Application.

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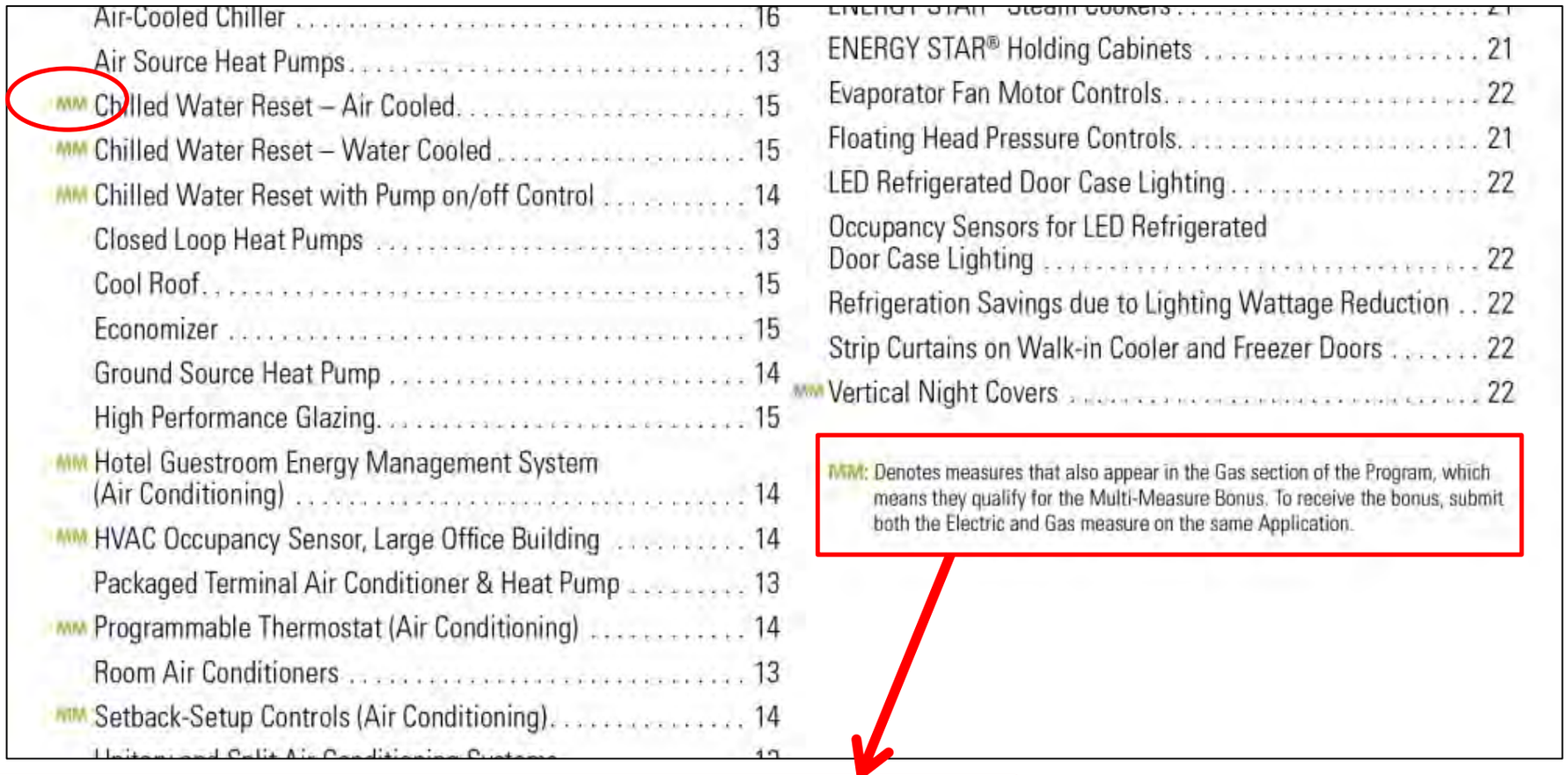
**We have highlighted Electric measures (MM) that also appear in the gas section of the catalog – and are therefore eligible for the Multi-Measure Bonus.**




MM: Denotes measures that also appear in the Gas section of the Program, which means they qualify for the Multi-Measure Bonus. To receive the bonus, submit both the Electric and Gas measure on the same Application.

MM: Denotes measures that also appear in the Gas section of the Program, which means they qualify for the Multi-Measure Bonus. To receive the bonus, submit both the Electric and Gas measure on the same Application.

# 2015
# Program Catalog

DTE Energy®
Know Your Own Power®

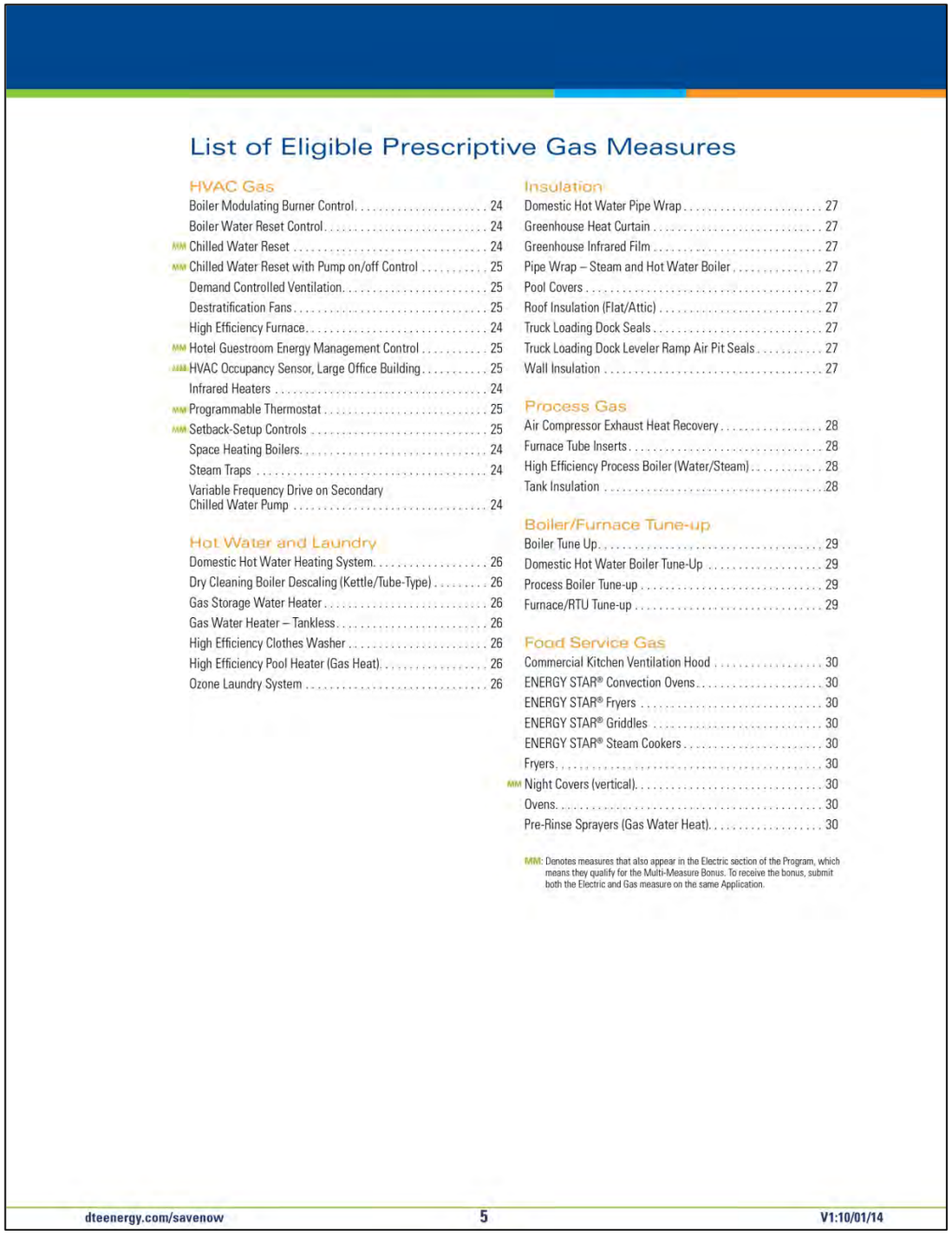
## There are six <u>natural gas</u> categories of measures in the Catalog:

- HVAC
- Insulation
- Process
- Hot Water & Laundry
- Boiler/Furnace Tune-up
- Food Service

## There are 48 measure areas

- Each area lists specific types of measures within that section

*The Application matches the measure sequence of the Catalog*



List of Eligible Prescriptive Gas Measures



MM: Denotes measures that also appear in the Electric section of the Program, which means they qualify for the Multi-Measure Bonus. To receive the bonus, submit both the Electric and Gas measure on the same Application.

# 2015 Program Catalog

DTE Energy®
Know Your Own Power®

## We have highlighted Gas measures (MM) that also appear in the electric section of the catalog – and are therefore eligible for the Multi-Measure Bonus.



MM: Denotes measures that also appear in the Electric section of the Program, which means they qualify for the Multi-Measure Bonus. To receive the bonus, submit both the Electric and Gas measure on the same Application.


MM: Denotes measures that also appear in the Electric section of the Program, which means they qualify for the Multi-Measure Bonus. To receive the bonus, submit both the Electric and Gas measure on the same Application.

# 2015 Program Catalog

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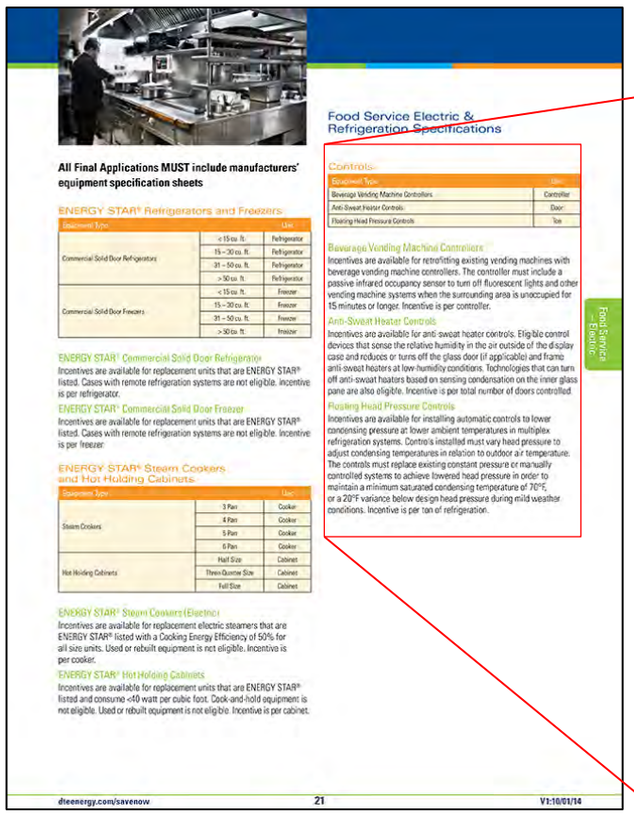


Food Service Electric & Refrigeration Specifications

All Final Applications MUST include manufacturers' equipment specification sheets

ENERGY STAR® Refrigerators and Freezers

| Equipment Type | | Unit |
|---|---|---|
| Commercial Solid Door Refrigerators | < 15 cu. ft. | Refrigerator |
| | 15 – 30 cu. ft. | Refrigerator |
| | 31 – 50 cu. ft. | Refrigerator |
| | > 50 cu. ft. | Refrigerator |
| Commercial Solid Door Freezers | < 15 cu. ft. | Freezer |
| | 15 – 30 cu. ft. | Freezer |
| | 31 – 50 cu. ft. | Freezer |
| | > 50 cu. ft. | Freezer |

ENERGY STAR® Commercial Solid Door Refrigerator
Incentives are available for replacement units that are ENERGY STAR® listed. Cases with remote refrigeration systems are not eligible. Incentive is per refrigerator.

ENERGY STAR® Commercial Solid Door Freezer
Incentives are available for replacement units that are ENERGY STAR® listed. Cases with remote refrigeration systems are not eligible. Incentive is per freezer.

ENERGY STAR® Steam Cookers and Hot Holding Cabinets

| Equipment Type | | Unit |
|---|---|---|
| Steam Cookers | 3 Pan | Cooker |
| | 4 Pan | Cooker |
| | 5 Pan | Cooker |
| | 6 Pan | Cooker |
| Hot Holding Cabinets | Half Size | Cabinet |
| | Three Quarter Size | Cabinet |
| | Full Size | Cabinet |

ENERGY STAR® Steam Cookers (Electric)
Incentives are available for replacement electric steamers that are ENERGY STAR® listed with a Cooking Energy Efficiency of 50% for all size units. Used or rebuilt equipment is not eligible. Incentive is per cooker.

ENERGY STAR® Hot Holding Cabinets
Incentives are available for replacement units that are ENERGY STAR® listed and consume <40 watt per cubic foot. Cook-and-hold equipment is not eligible. Used or rebuilt equipment is not eligible. Incentive is per cabinet.

Controls

| Equipment Type | Unit |
|---|---|
| Beverage Vending Machine Controllers | Controller |
| Anti-Sweat Heater Controls | Door |
| Floating Head Pressure Controls | Ton |

Beverage Vending Machine Controllers
Incentives are available for retrofitting existing vending machines with beverage vending machine controllers. The controller must include a passive infrared occupancy sensor to turn off fluorescent lights and other vending machine systems when the surrounding area is unoccupied for 15 minutes or longer. Incentive is per controller.

Anti-Sweat Heater Controls
Incentives are available for anti-sweat heater controls. Eligible control devices that sense the relative humidity in the air outside of the display case and reduces or turns off the glass door (if applicable) and frame anti-sweat heaters at low-humidity conditions. Technologies that can turn off anti-sweat heaters based on sensing condensation on the inner glass pane are also eligible. Incentive is per total number of doors controlled.

Floating Head Pressure Controls
Incentives are available for installing automatic controls to lower condensing pressure at lower ambient temperatures in multiplex refrigeration systems. Controls installed must vary head pressure to adjust condensing temperatures in relation to outdoor air temperature. The controls must replace existing constant pressure or manually controlled systems to achieve lowered head pressure in order to maintain a minimum saturated condensing temperature of 70°F, or a 20°F variance below design head pressure during mild weather conditions. Incentive is per ton of refrigeration.

Food Service – Electric

**Specifications are detailed for every prescriptive measure offered under the 2015 Program.**

# About our Application

Use it as a:

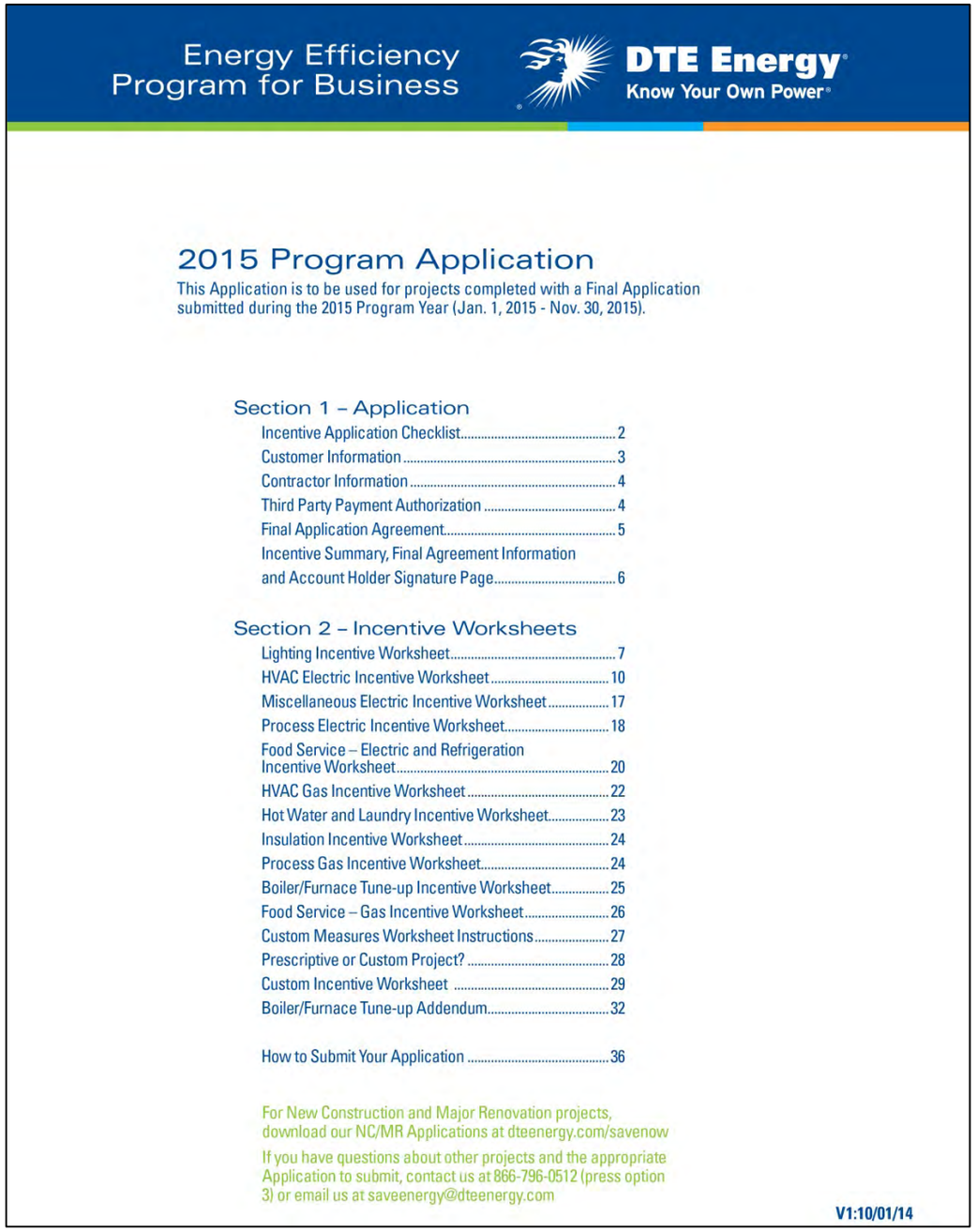
- **Reservation** Application

***and a***

- **Final** Application

**NOTE:** Funds **must** be reserved for all custom projects and for certain prescriptive measures.

We **encourage** you to submit a Reservation Application for all **prescriptive** projects.



Energy Efficiency
Program for Business

DTE Energy®
Know Your Own Power®

2015 Program Application

This Application is to be used for projects completed with a Final Application submitted during the 2015 Program Year (Jan. 1, 2015 - Nov. 30, 2015).

Section 1 – Application



Section 2 – Incentive Worksheets



For New Construction and Major Renovation projects, download our NC/MR Applications at dteenergy.com/savenow

If you have questions about other projects and the appropriate Application to submit, contact us at 866-796-0512 (press option 3) or email us at saveenergy@dteenergy.com

V1:10/01/14

# 2015
# Program Application

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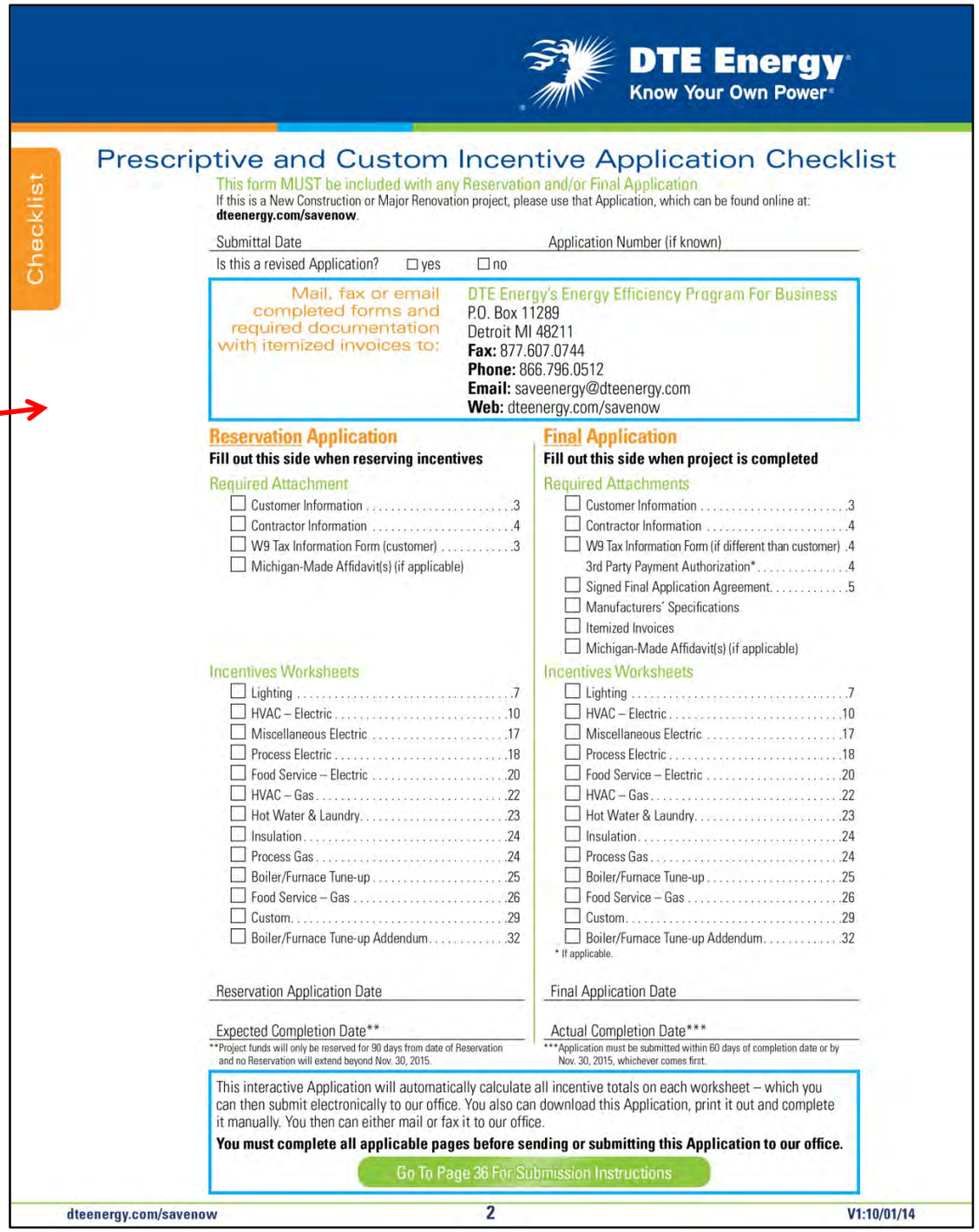
The following items are required to successfully complete your Reservation and Final Applications and receive incentive funding:

- Application Checklist
- Customer Information Sheet
- Prescriptive and/or Custom Incentive Worksheets
- Final Application Agreement
- Supporting Information, including invoices and product specifications



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Checklist

## Prescriptive and Custom Incentive Application Checklist

This form MUST be included with any Reservation and/or Final Application.
If this is a New Construction or Major Renovation project, please use that Application, which can be found online at: **dteenergy.com/savenow**.

Submittal Date _____ Application Number (if known) _____

Is this a revised Application? ☐ yes ☐ no

Mail, fax or email completed forms and required documentation with itemized invoices to:

DTE Energy's Energy Efficiency Program For Business
P.O. Box 11289
Detroit MI 48211
**Fax:** 877.607.0744
**Phone:** 866.796.0512
**Email:** saveenergy@dteenergy.com
**Web:** dteenergy.com/savenow

### Reservation Application

**Fill out this side when reserving incentives**

Required Attachment

- ☐ Customer Information . . . . . 3
- ☐ Contractor Information . . . . . 4
- ☐ W9 Tax Information Form (customer) . . . . . 3
- ☐ Michigan-Made Affidavit(s) (if applicable)

Incentives Worksheets

- ☐ Lighting . . . . . 7
- ☐ HVAC – Electric . . . . . 10
- ☐ Miscellaneous Electric . . . . . 17
- ☐ Process Electric . . . . . 18
- ☐ Food Service – Electric . . . . . 20
- ☐ HVAC – Gas . . . . . 22
- ☐ Hot Water & Laundry . . . . . 23
- ☐ Insulation . . . . . 24
- ☐ Process Gas . . . . . 24
- ☐ Boiler/Furnace Tune-up . . . . . 25
- ☐ Food Service – Gas . . . . . 26
- ☐ Custom . . . . . 29
- ☐ Boiler/Furnace Tune-up Addendum . . . . . 32

Reservation Application Date _____

Expected Completion Date** _____

**Project funds will only be reserved for 90 days from date of Reservation and no Reservation will extend beyond Nov. 30, 2015.

### Final Application

**Fill out this side when project is completed**

Required Attachments

- ☐ Customer Information . . . . . 3
- ☐ Contractor Information . . . . . 4
- ☐ W9 Tax Information Form (if different than customer) . 4
- 3rd Party Payment Authorization* . . . . . 4
- ☐ Signed Final Application Agreement . . . . . 5
- ☐ Manufacturers' Specifications
- ☐ Itemized Invoices
- ☐ Michigan-Made Affidavit(s) (if applicable)

Incentives Worksheets

- ☐ Lighting . . . . . 7
- ☐ HVAC – Electric . . . . . 10
- ☐ Miscellaneous Electric . . . . . 17
- ☐ Process Electric . . . . . 18
- ☐ Food Service – Electric . . . . . 20
- ☐ HVAC – Gas . . . . . 22
- ☐ Hot Water & Laundry . . . . . 23
- ☐ Insulation . . . . . 24
- ☐ Process Gas . . . . . 24
- ☐ Boiler/Furnace Tune-up . . . . . 25
- ☐ Food Service – Gas . . . . . 26
- ☐ Custom . . . . . 29
- ☐ Boiler/Furnace Tune-up Addendum . . . . . 32

* If applicable.

Final Application Date _____

Actual Completion Date*** _____

***Application must be submitted within 60 days of completion date or by Nov. 30, 2015, whichever comes first.

This interactive Application will automatically calculate all incentive totals on each worksheet – which you can then submit electronically to our office. You also can download this Application, print it out and complete it manually. You then can either mail or fax it to our office.

**You must complete all applicable pages before sending or submitting this Application to our office.**

Go To Page 36 For Submission Instructions

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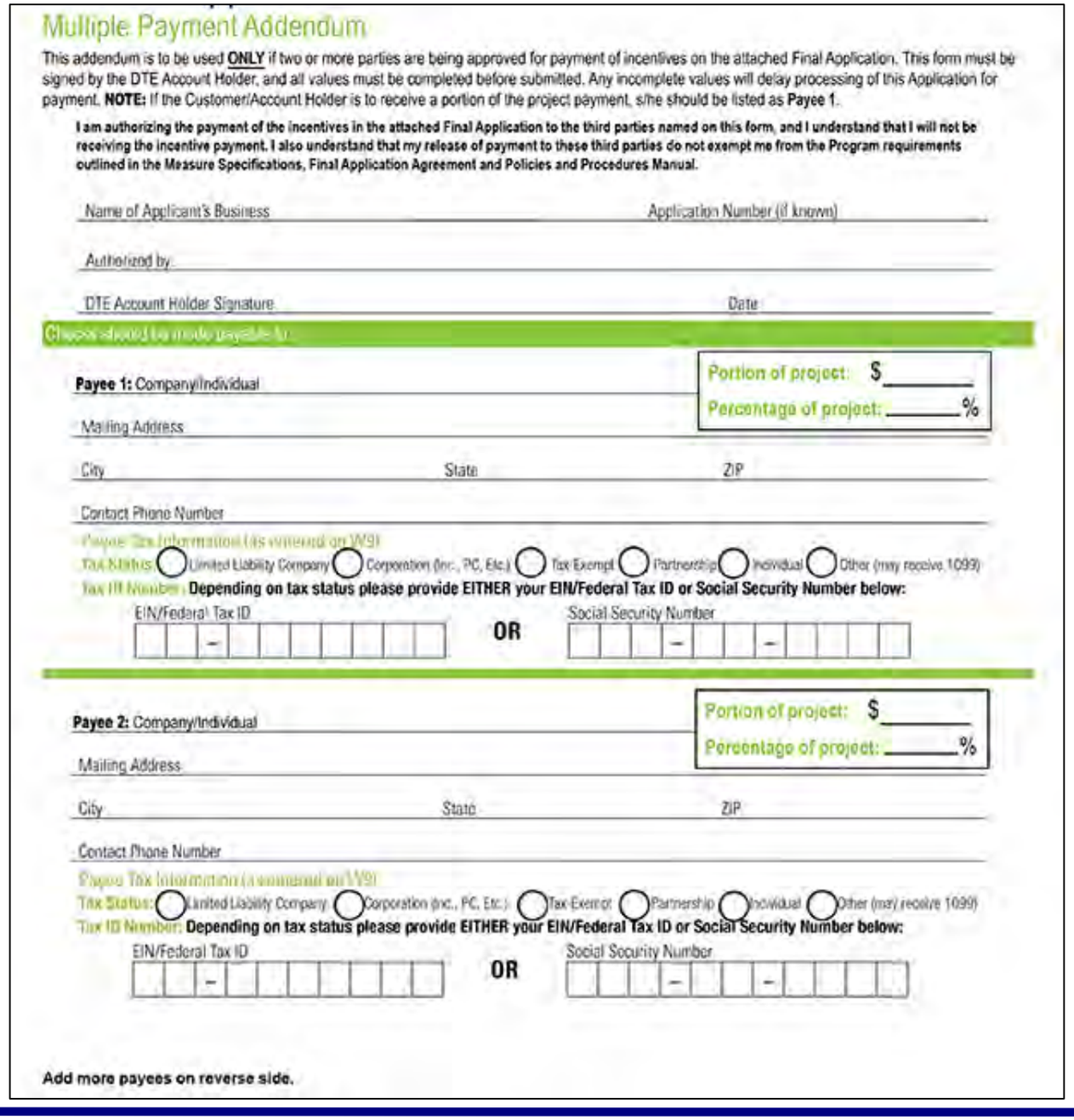
# *Remember:* Multiple Third-Party Authorization addendum

If there are multiple contractors working on the same project – particularly on Multi-Measure projects – the customer may authorize payments to any or all of them.

If so, use ***must*** use the **Multiple Payment Addendum**.



Multiple Payment Addendum

This addendum is to be used **ONLY** if two or more parties are being approved for payment of incentives on the attached Final Application. This form must be signed by the DTE Account Holder, and all values must be completed before submitted. Any incomplete values will delay processing of this Application for payment. **NOTE:** If the Customer/Account Holder is to receive a portion of the project payment, s/he should be listed as **Payee 1**.

**I am authorizing the payment of the incentives in the attached Final Application to the third parties named on this form, and I understand that I will not be receiving the incentive payment. I also understand that my release of payment to these third parties do not exempt me from the Program requirements outlined in the Measure Specifications, Final Application Agreement and Policies and Procedures Manual.**

Name of Applicant's Business — Application Number (if known)

Authorized by

DTE Account Holder Signature — Date

Choose payee(s) to make payable to:

**Payee 1:** Company/Individual — Portion of project: $_____ Percentage of project: _____%

Mailing Address

City — State — ZIP

Contact Phone Number

Payee Tax Information (as entered on W9)

Tax Status: ◯ Limited Liability Company ◯ Corporation (Inc., PC, Etc.) ◯ Tax Exempt ◯ Partnership ◯ Individual ◯ Other (may receive 1099)

Tax ID Number: **Depending on tax status please provide EITHER your EIN/Federal Tax ID or Social Security Number below:**

EIN/Federal Tax ID — **OR** — Social Security Number

**Payee 2:** Company/Individual — Portion of project: $_____ Percentage of project: _____%

Mailing Address

City — State — ZIP

Contact Phone Number

Payee Tax Information (as entered on W9)

Tax Status: ◯ Limited Liability Company ◯ Corporation (Inc., PC, Etc.) ◯ Tax Exempt ◯ Partnership ◯ Individual ◯ Other (may receive 1099)

Tax ID Number: **Depending on tax status please provide EITHER your EIN/Federal Tax ID or Social Security Number below:**

EIN/Federal Tax ID — **OR** — Social Security Number

**Add more payees on reverse side.**

# 2015
# Program Application

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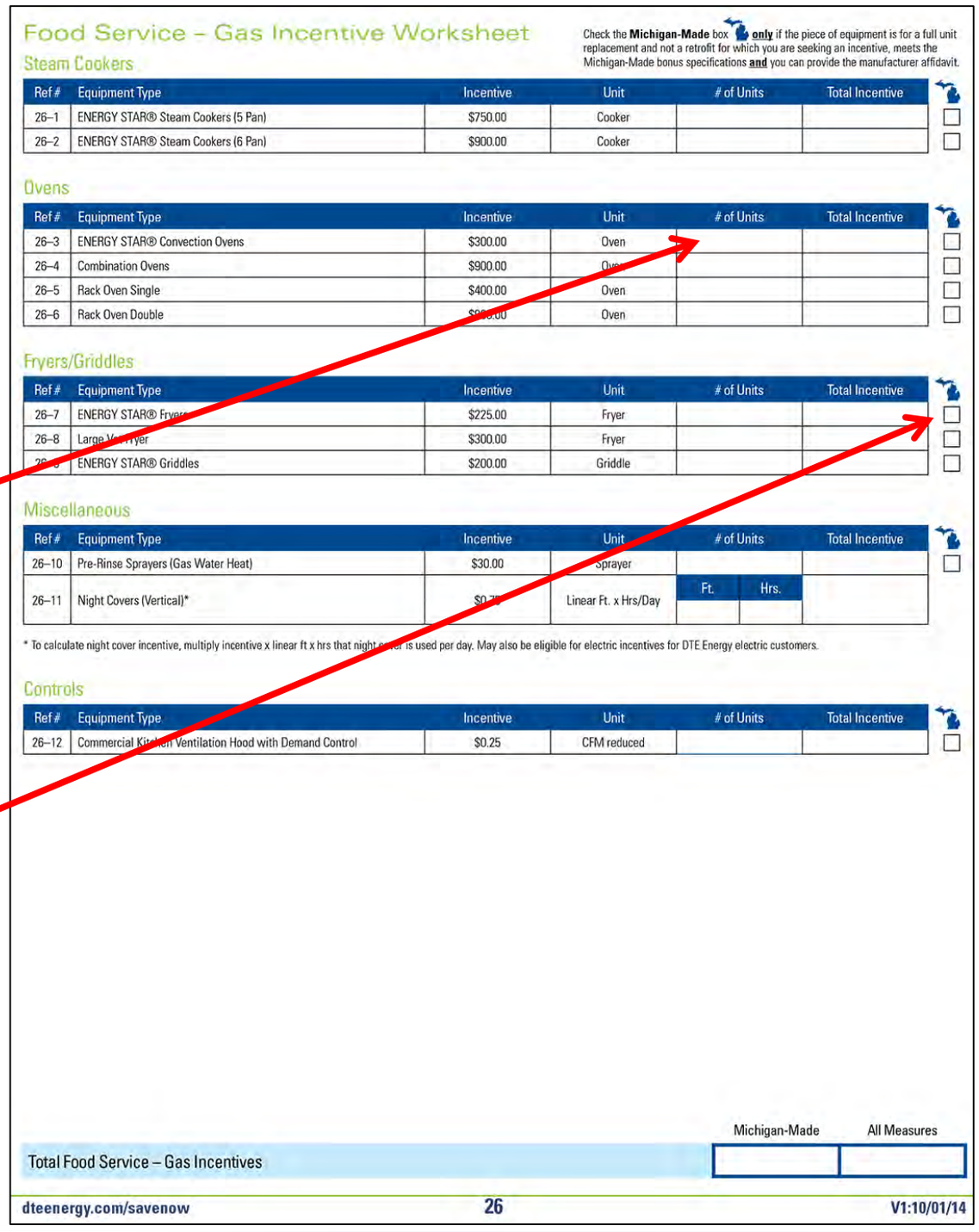
## For Prescriptive projects:

We have worksheets for every type of **prescriptive measure** offered in the program.

Simply complete all relevant areas.

In the interactive PDF Application, all calculations are made automatically.

And check the **Michigan-Made** box(es) for those measures that meet the bonus criteria.



Food Service – Gas Incentive Worksheet

Check the **Michigan-Made** box **only** if the piece of equipment is for a full unit replacement and not a retrofit for which you are seeking an incentive, meets the Michigan-Made bonus specifications **and** you can provide the manufacturer affidavit.

Steam Cookers

| Ref # | Equipment Type | Incentive | Unit | # of Units | Total Incentive |
|---|---|---|---|---|---|
| 26–1 | ENERGY STAR® Steam Cookers (5 Pan) | $750.00 | Cooker | | |
| 26–2 | ENERGY STAR® Steam Cookers (6 Pan) | $900.00 | Cooker | | |

Ovens

| Ref # | Equipment Type | Incentive | Unit | # of Units | Total Incentive |
|---|---|---|---|---|---|
| 26–3 | ENERGY STAR® Convection Ovens | $300.00 | Oven | | |
| 26–4 | Combination Ovens | $900.00 | Oven | | |
| 26–5 | Rack Oven Single | $400.00 | Oven | | |
| 26–6 | Rack Oven Double | $800.00 | Oven | | |

Fryers/Griddles

| Ref # | Equipment Type | Incentive | Unit | # of Units | Total Incentive |
|---|---|---|---|---|---|
| 26–7 | ENERGY STAR® Fryer | $225.00 | Fryer | | |
| 26–8 | Large Vat Fryer | $300.00 | Fryer | | |
| 26–9 | ENERGY STAR® Griddles | $200.00 | Griddle | | |

Miscellaneous

| Ref # | Equipment Type | Incentive | Unit | # of Units | | Total Incentive |
|---|---|---|---|---|---|---|
| 26–10 | Pre-Rinse Sprayers (Gas Water Heat) | $30.00 | Sprayer | | | |
| 26–11 | Night Covers (Vertical)* | $0.75 | Linear Ft. x Hrs/Day | Ft. | Hrs. | |

* To calculate night cover incentive, multiply incentive x linear ft x hrs that night cover is used per day. May also be eligible for electric incentives for DTE Energy electric customers.

Controls

| Ref # | Equipment Type | Incentive | Unit | # of Units | Total Incentive |
|---|---|---|---|---|---|
| 26–12 | Commercial Kitchen Ventilation Hood with Demand Control | $0.25 | CFM reduced | | |

| | Michigan-Made | All Measures |
|---|---|---|
| Total Food Service – Gas Incentives | | |

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# 2015
# Program Application

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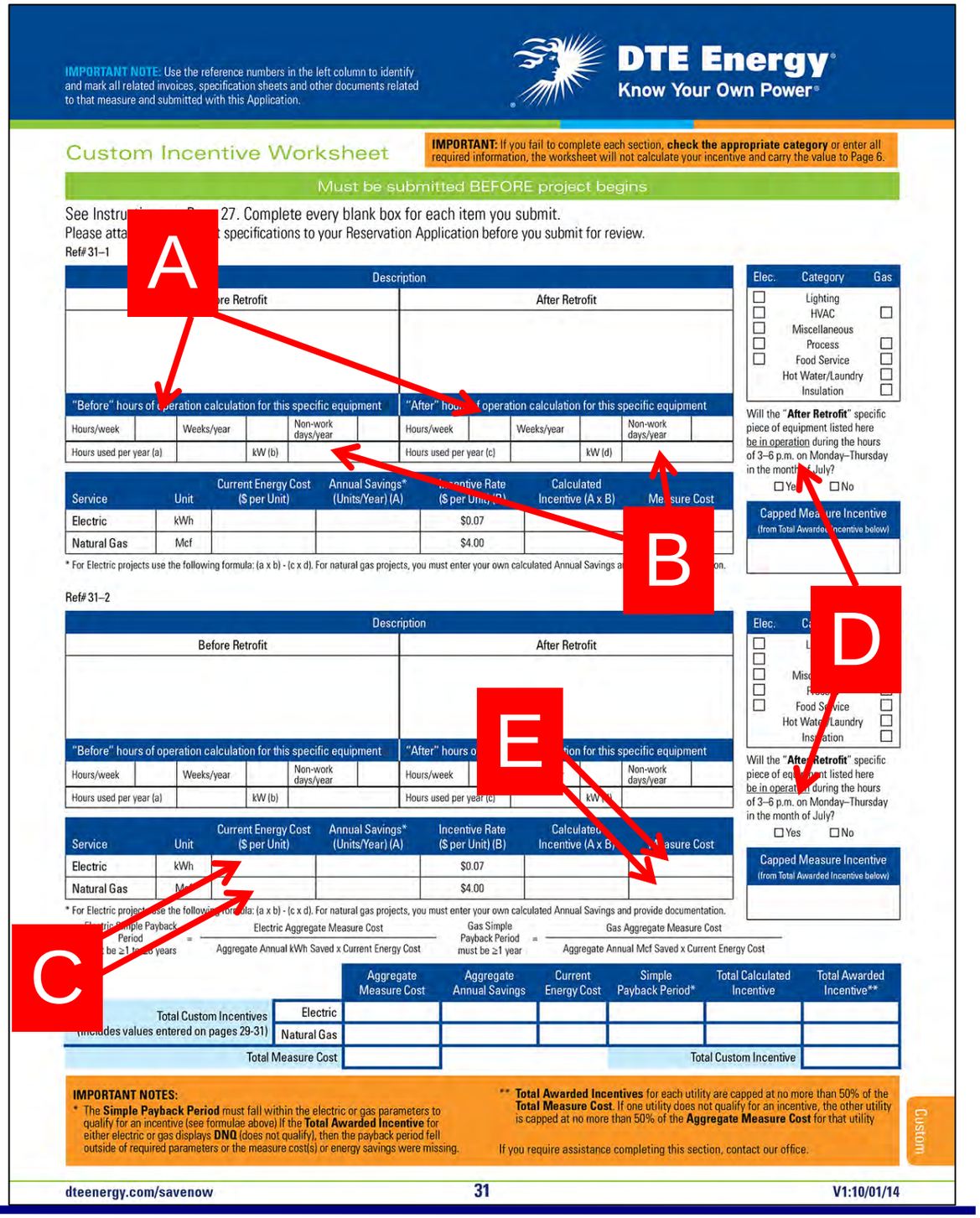
## For Custom projects:

Enter your information and the interactive PDF will automatically:

- Allocate the incentives proportionally to each eligible item for ***Multi-Measure*** calculations on Page 6 (you **must** check the category — i.e. Lighting)
- **You must enter:**
  - A. Hours: before & after (including your method of calculation)
  - B. kW (before and after)
  - C. Current Energy Costs
  - D. Times of operation
  - E. Measure Costs
- **If you perform these calculations manually**, refer to the instruction sheet in the Application.

***We'll cover custom Applications in more detail later.***



# 2015
# Program Application

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This **Final Application Agreement** sets out the Terms and Conditions of the Program and must be agreed to when submitting your Final Application.

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Final Application

## Final Application Agreement

The energy optimization measures listed within are being/have been installed in a qualifying time frame, at a qualifying facility and are not for resale. Additional Program terms and conditions can be found in the Policy and Procedures Manual available at dteenergy.com/savenow.

I understand that in the event this Application received a reservation, that reservation is not a guarantee of payment. Incentive payment will be based upon the Final Application meeting the Program terms and conditions, and the availability of funds.

Selected terms and conditions include:

1. Final Applications and all required documentation must be received within 60 days of project completion or by November 30, 2015, whichever comes first. Incomplete Applications, missing documents or Applications submitted after that date will result in the project being cancelled.
2. The Program has a limited budget. Applications will be processed until allocated funds are reserved or spent.
3. All equipment must be purchased and installed prior to submitting the Final Application.
4. Applicant agrees to inspection and measurement activities by DTE Energy or its representative of both project payment and equipment installation for up to five years from the date of equipment installation.
5. Incentives may be taxable and the Applicant is solely responsible for the payment of any resulting taxes. Incentives will be reported to the IRS, unless the Applicant is exempt.
6. The Applicant may be required to refund some or all of the incentives if the measures do not remain (or were not) installed for a period of five (5) years or the end of the product life, whichever is less.
7. Materials removed, including lamps and PCB ballasts, must be permanently taken out of service and disposed of in accordance with federal and state laws or regulation and local codes and ordinances. The Applicant is responsible for being aware of any applicable codes or ordinances. Information about hazardous waste disposal can be found at www.epa.gov/wastes.
8. For certain measures, the incentive amount will be determined based on the estimated energy savings. The Applicant may be required to provide documentation on energy savings calculations and assumptions. DTE Energy will make the final determination of the energy savings and thus the incentive amount to be paid.
9. DTE Energy has no obligations regarding and does not endorse or guarantee any claims, promises, work or equipment made, performed or furnished by any contractors or equipment vendors that sell or install any energy efficiency measures.
10. Payment of incentives under the Program and/or evaluation of Applications for incentives shall not deem DTE Energy or any of its affiliates, employees or agents ("DTE Energy Parties") to be responsible for any work completed in connection herewith. Applicant fully releases DTE Energy Parties from any and all claims it may have against DTE Energy Parties in connection with this Application, the incentives or the work performed in connection with them. In addition, Applicant agrees to defend, indemnify and hold DTE Energy Parties harmless from and against any and all claims, losses, demands or lawsuits by any third parties arising in connection with this Application, the payment or nonpayment of incentives or any work performed in connection with them.
11. DTE Energy reserves the right to associate with your business and participation in the incentive Program for promotion and advertising purposes. See the Policies and Procedures Manual for more on promotional co-branding
12. Applicant acknowledges that Federal Energy Regulatory Commission (FERC) Order issued on June 1, 2012, at Docket No. ER11-4081-000 ("FERC Order") approves of the inclusion of energy efficiency resources as planning resources in a utility's resource adequacy plan (all italicized terms as defined in the FERC Order). Accordingly, Applicant and DTE Energy agree that all such rights afforded with respect to energy efficiency resources, including but not limited to the right to identify them as a planning resource so as to include them in a resource adequacy plan, shall inure exclusively and fully to DTE Energy. Applicant agrees that it will not claim ownership in such energy efficiency resources for purposes of identifying them as a planning resource in accord with the FERC Order or include them in a resource adequacy plan.

I have read and understand the measure specifications and Program Guidelines set forth in the Application and the Program Policy and Procedures Manual and agree to abide by those requirements. Furthermore, I concur that I must meet all eligibility criteria in order to be paid under this Program and not receive incentives from any other utility for the same project.

I certify that the information on this Application is true and accurate. I acknowledge and understand that it is necessary for DTE Energy to store, use and share the information contained in this Application, as well as information collected in connection with this project, including but not limited to my business name, address, account number and energy consumption data ("Customer Data") for various purposes. Therefore, I hereby authorize DTE Energy to collect, store and use the Customer Data for internal purposes and to present me with other energy saving opportunities. I further authorize DTE Energy to share the Customer Data with third party vendors/contractors who are doing work on DTE Energy's behalf.

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# 2015
# Program Application

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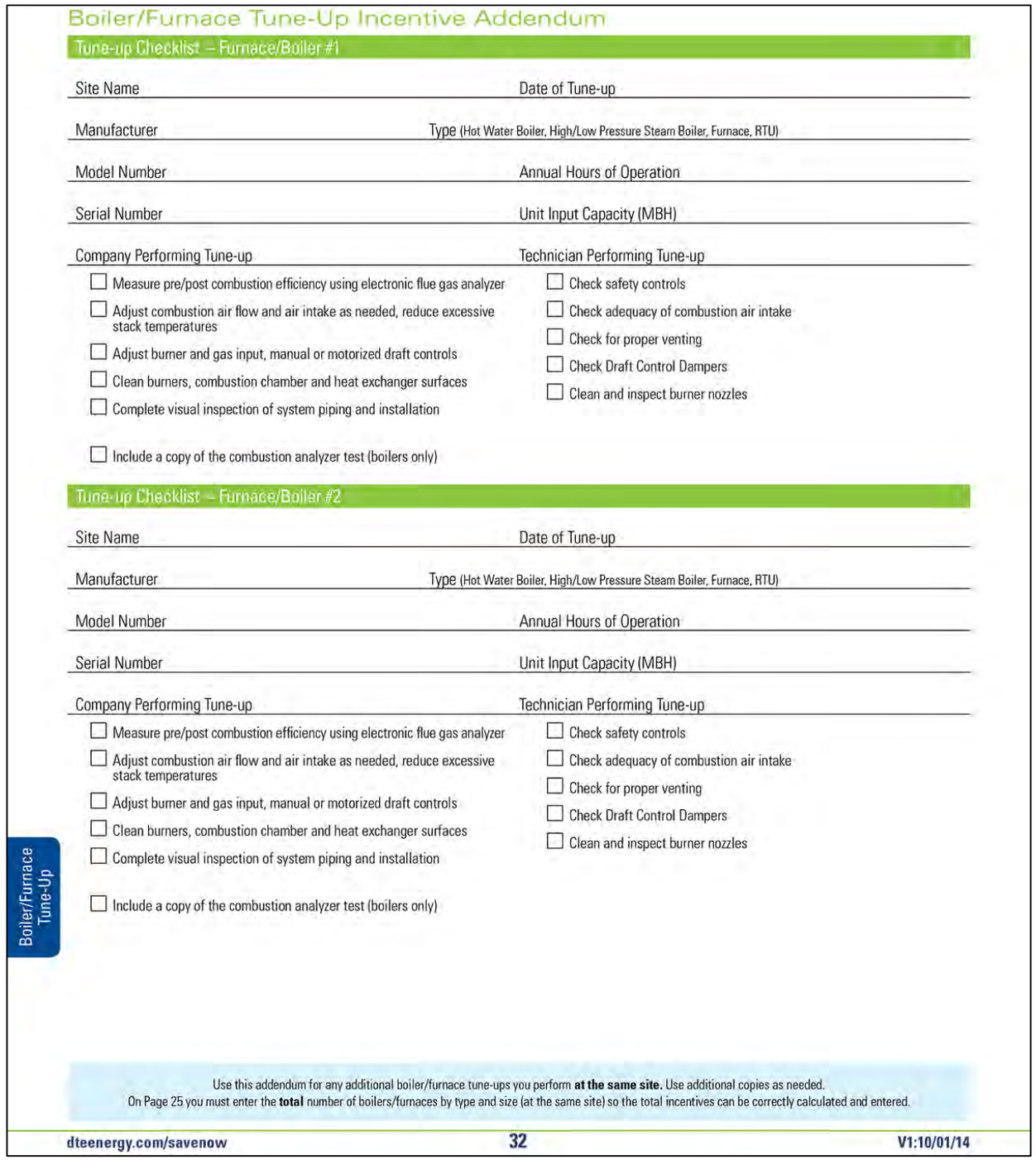
The **Boiler Tune-up Addendum** is now located at the end of the Application.
A customer/contractor can enter up to eight additional tune-ups on these pages.
If you have additional tune-ups, use the stand-alone addendum, too.

**NOTE:** You ***must*** enter all quantities by type on Page 20 in the Application.



Boiler/Furnace Tune-Up Incentive Addendum

Tune-up Checklist – Furnace/Boiler #1

Site Name | Date of Tune-up

Manufacturer | Type (Hot Water Boiler, High/Low Pressure Steam Boiler, Furnace, RTU)

Model Number | Annual Hours of Operation

Serial Number | Unit Input Capacity (MBH)

Company Performing Tune-up | Technician Performing Tune-up

- ☐ Measure pre/post combustion efficiency using electronic flue gas analyzer
- ☐ Adjust combustion air flow and air intake as needed, reduce excessive stack temperatures
- ☐ Adjust burner and gas input, manual or motorized draft controls
- ☐ Clean burners, combustion chamber and heat exchanger surfaces
- ☐ Complete visual inspection of system piping and installation
- ☐ Check safety controls
- ☐ Check adequacy of combustion air intake
- ☐ Check for proper venting
- ☐ Check Draft Control Dampers
- ☐ Clean and inspect burner nozzles
- ☐ Include a copy of the combustion analyzer test (boilers only)

Tune-up Checklist – Furnace/Boiler #2

Site Name | Date of Tune-up

Manufacturer | Type (Hot Water Boiler, High/Low Pressure Steam Boiler, Furnace, RTU)

Model Number | Annual Hours of Operation

Serial Number | Unit Input Capacity (MBH)

Company Performing Tune-up | Technician Performing Tune-up

- ☐ Measure pre/post combustion efficiency using electronic flue gas analyzer
- ☐ Adjust combustion air flow and air intake as needed, reduce excessive stack temperatures
- ☐ Adjust burner and gas input, manual or motorized draft controls
- ☐ Clean burners, combustion chamber and heat exchanger surfaces
- ☐ Complete visual inspection of system piping and installation
- ☐ Check safety controls
- ☐ Check adequacy of combustion air intake
- ☐ Check for proper venting
- ☐ Check Draft Control Dampers
- ☐ Clean and inspect burner nozzles
- ☐ Include a copy of the combustion analyzer test (boilers only)

Boiler/Furnace Tune-Up

Use this addendum for any additional boiler/furnace tune-ups you perform **at the same site.** Use additional copies as needed.
On Page 25 you must enter the **total** number of boilers/furnaces by type and size (at the same site) so the total incentives can be correctly calculated and entered.

dteenergy.com/savenow 32 V1:10/01/14

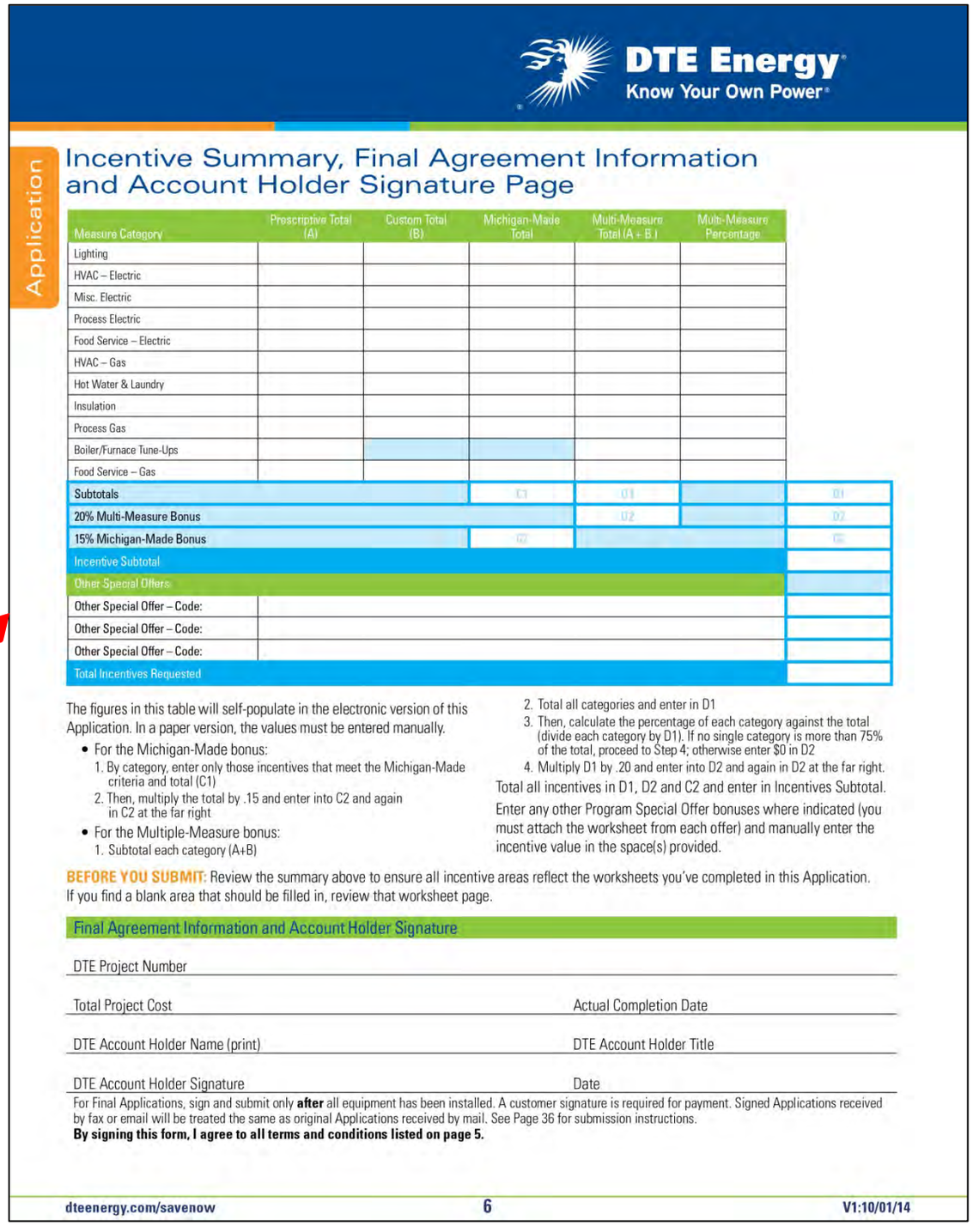
# Final Application

## The Final Application

Review the Terms and Conditions to complete your **Final Application**.

Then this **Final Application Agreement** must be signed and submitted upon completion of your project.

**Note:** Check summary grid on this page to ensure that all of your worksheets have been entered correctly.



DTE Energy
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Application

Incentive Summary, Final Agreement Information and Account Holder Signature Page

| Measure Category | Prescriptive Total (A) | Custom Total (B) | Michigan-Made Total | Multi-Measure Total (A + B) | Multi-Measure Percentage | |
|---|---|---|---|---|---|---|
| Lighting | | | | | | |
| HVAC – Electric | | | | | | |
| Misc. Electric | | | | | | |
| Process Electric | | | | | | |
| Food Service – Electric | | | | | | |
| HVAC – Gas | | | | | | |
| Hot Water & Laundry | | | | | | |
| Insulation | | | | | | |
| Process Gas | | | | | | |
| Boiler/Furnace Tune-Ups | | | | | | |
| Food Service – Gas | | | | | | |
| Subtotals | | | C1 | D1 | | D1 |
| 20% Multi-Measure Bonus | | | | D2 | | D2 |
| 15% Michigan-Made Bonus | | | C2 | | | C2 |
| Incentive Subtotal | | | | | | |
| Other Special Offers | | | | | | |
| Other Special Offer – Code: | | | | | | |
| Other Special Offer – Code: | | | | | | |
| Other Special Offer – Code: | | | | | | |
| Total Incentives Requested | | | | | | |

The figures in this table will self-populate in the electronic version of this Application. In a paper version, the values must be entered manually.

- For the Michigan-Made bonus:
  1. By category, enter only those incentives that meet the Michigan-Made criteria and total (C1)
  2. Then, multiply the total by .15 and enter into C2 and again in C2 at the far right
- For the Multiple-Measure bonus:
  1. Subtotal each category (A+B)
  2. Total all categories and enter in D1
  3. Then, calculate the percentage of each category against the total (divide each category by D1). If no single category is more than 75% of the total, proceed to Step 4; otherwise enter $0 in D2
  4. Multiply D1 by .20 and enter into D2 and again in D2 at the far right.

Total all incentives in D1, D2 and C2 and enter in Incentives Subtotal.

Enter any other Program Special Offer bonuses where indicated (you must attach the worksheet from each offer) and manually enter the incentive value in the space(s) provided.

**BEFORE YOU SUBMIT:** Review the summary above to ensure all incentive areas reflect the worksheets you've completed in this Application. If you find a blank area that should be filled in, review that worksheet page.

Final Agreement Information and Account Holder Signature

DTE Project Number

Total Project Cost | Actual Completion Date

DTE Account Holder Name (print) | DTE Account Holder Title

DTE Account Holder Signature | Date

For Final Applications, sign and submit only **after** all equipment has been installed. A customer signature is required for payment. Signed Applications received by fax or email will be treated the same as original Applications received by mail. See Page 36 for submission instructions.

**By signing this form, I agree to all terms and conditions listed on page 5.**

dteenergy.com/savenow 6 V1:10/01/14

# Submitting your Application

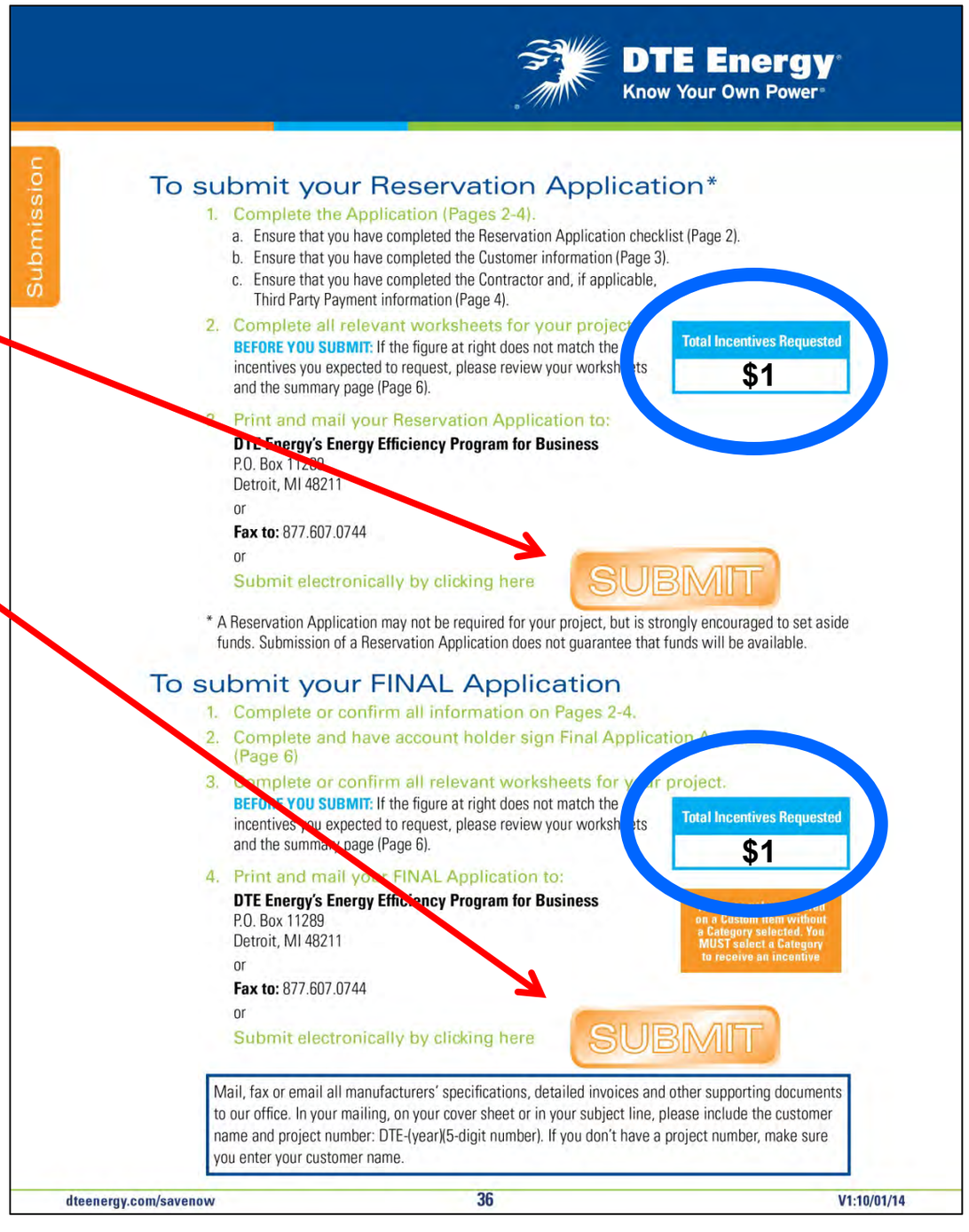
Electronically submit your **Reservation** Application and/or your **Final** Application.

**Automatically:**

- Your email will be launched,
- our email address will be inserted,
- the subject line will be entered and
- your Application will be attached.

At that point, attach any other supporting documentation.

**Note:** check the **blue boxes** to ensure that your incentives have been entered correctly.



# Submitting your Final Application

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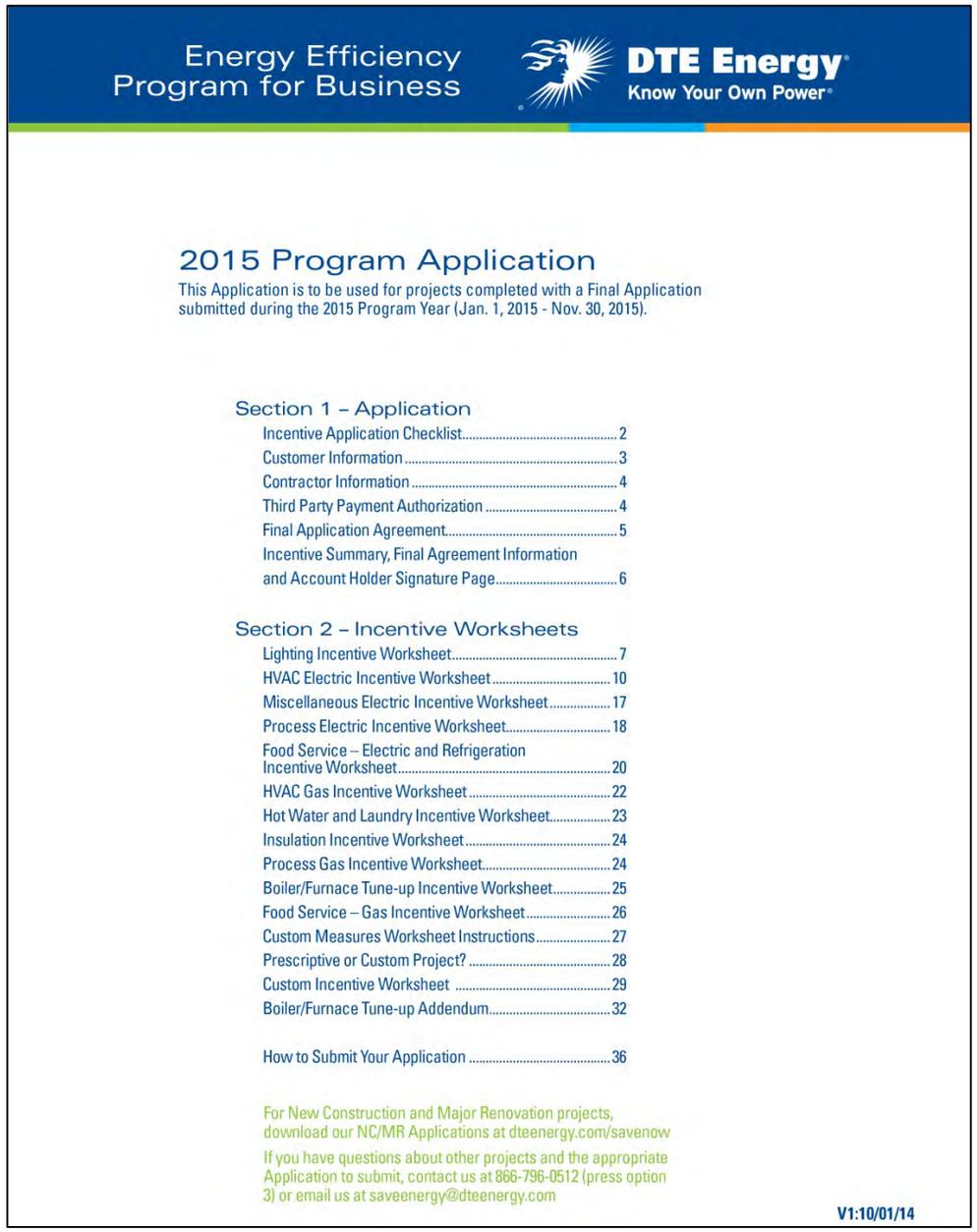
# About your Final Application:

- Your **Final Application** must be submitted within 60 days of project completion, reservation end date or by Nov. 30, 2015 – <u>whichever comes first</u>.
- **Final Applications submitted after Nov. 30, 2015, will be canceled.**
- Failure to include all supporting documentation at the time of submission could result in cancellation of your Application.



Energy Efficiency Program for Business

DTE Energy® Know Your Own Power®

2015 Program Application

This Application is to be used for projects completed with a Final Application submitted during the 2015 Program Year (Jan. 1, 2015 - Nov. 30, 2015).

Section 1 – Application



Section 2 – Incentive Worksheets



For New Construction and Major Renovation projects, download our NC/MR Applications at dteenergy.com/savenow

If you have questions about other projects and the appropriate Application to submit, contact us at 866-796-0512 (press option 3) or email us at saveenergy@dteenergy.com

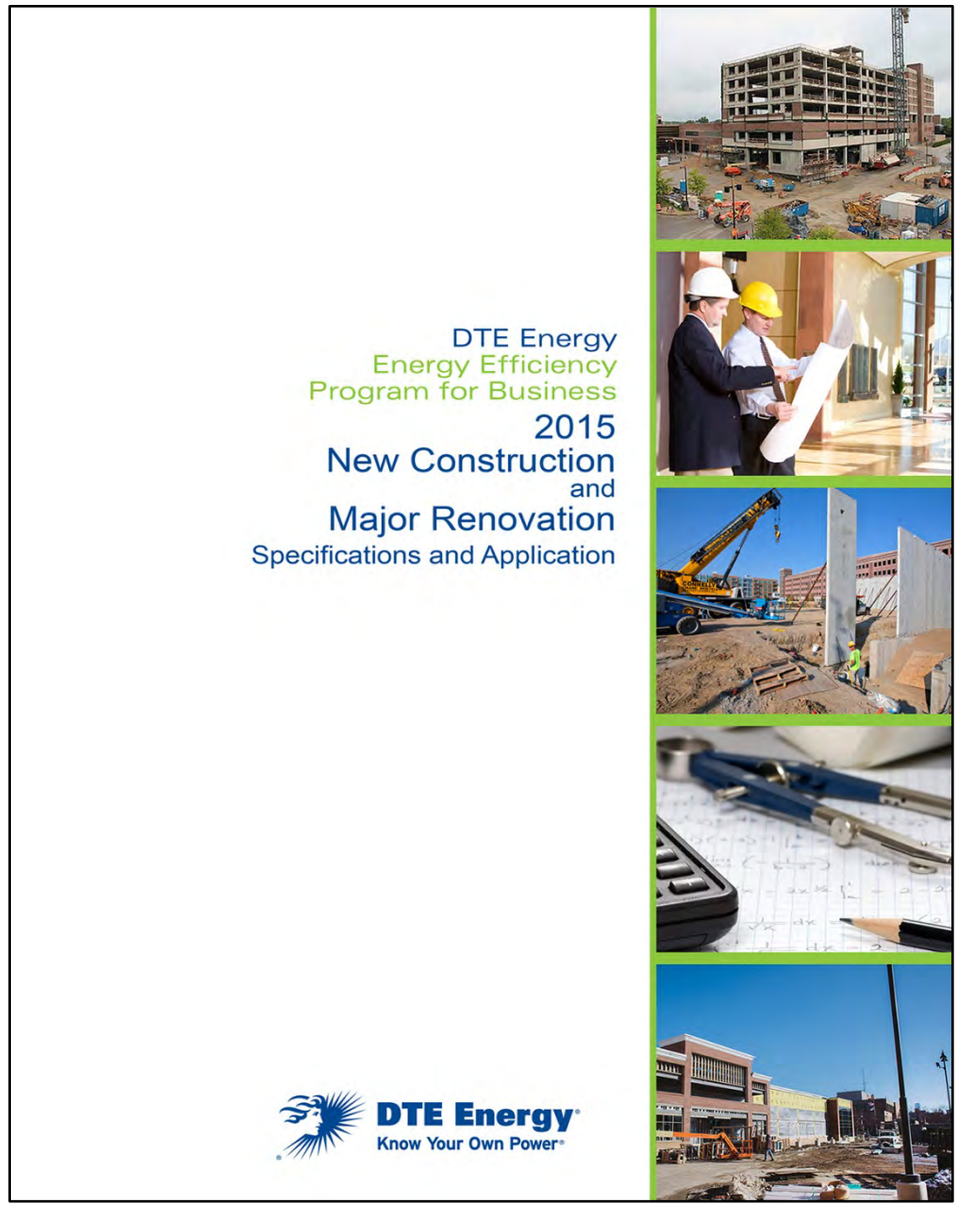
V1:10/01/14

# About

# New Construction Application

# About New Construction projects

- This is the separate Application for New Construction and Major Renovation projects.
  - This document contains both specifications and worksheets.
  - **There is a separate Application for the LEED Certification Assistance Incentive.**
- The electronic PDF versions of both are completely interactive.



# 2015 New Construction/ Major Renovation Application

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## The 2015 Application has three sections:

1. **General Information**
   - Program guidelines; customer, contractor, project information.
     - The information pages are identical or similar to those in the main Application.
2. **Systems Approach**
   - Specifications.
   - Prescriptive worksheets.
     - The worksheets will automatically calculate on the interactive PDF version.
3. **LEED Whole Building Approach** ***(new for 2015)***
   - Specifications.
   - Worksheet.
     - The worksheet will automatically calculate on the interactive PDF version.

- **LEED Certification Assistance** ***(new for 2015)***
  - This is a separate Application.

# 2015 New Construction/ Major Renovation Application

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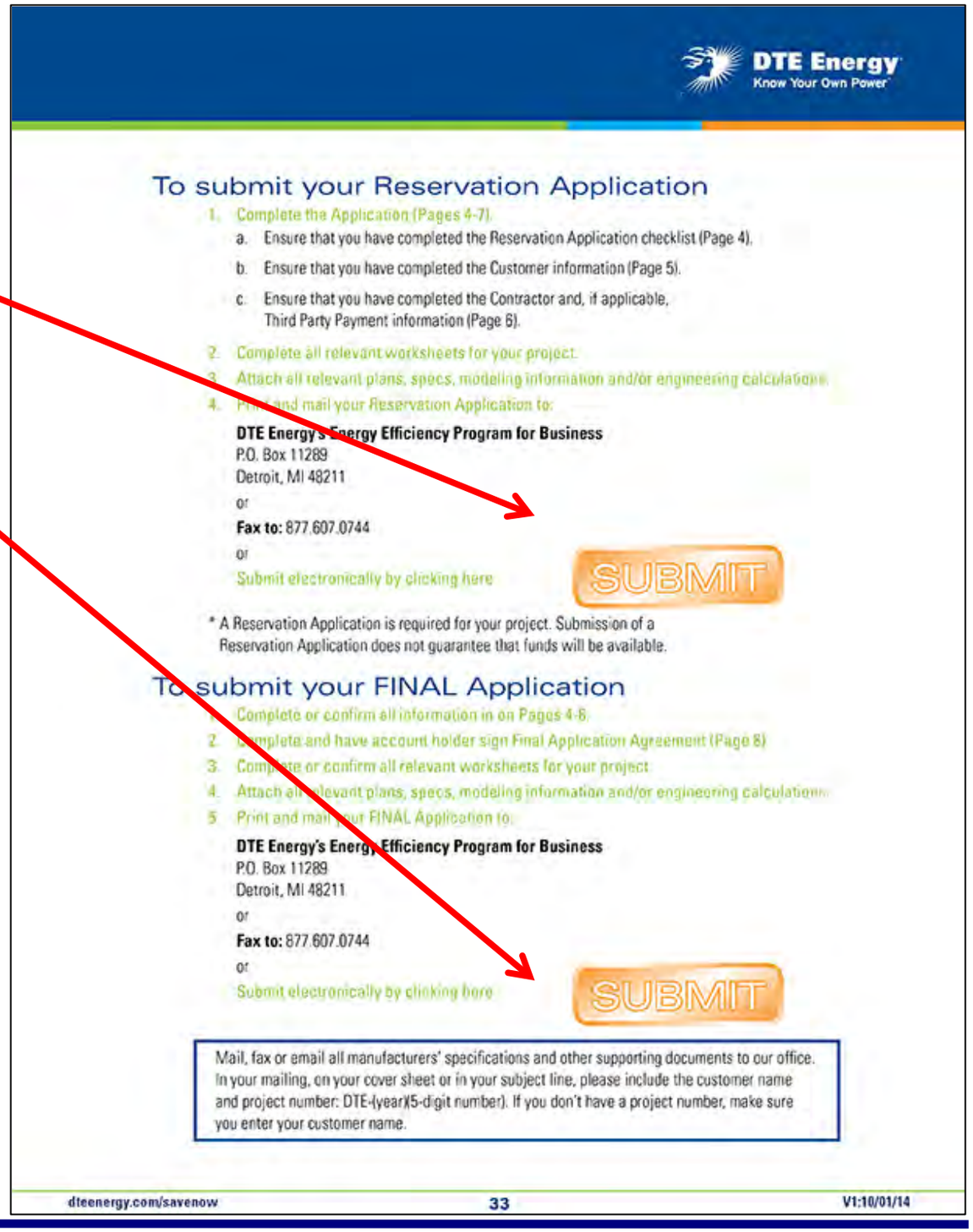
Use the same document to submit a **Reservation** Application and/or **Final** Application using the **interactive PDF version**

**Automatically:**

- Your email will be launched,
- our email inserted,
- the subject line entered and
- your Application is attached.

At that point, you also can attach any other documents to the email.



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To submit your Reservation Application

1. Complete the Application (Pages 4-7).
   a. Ensure that you have completed the Reservation Application checklist (Page 4).
   b. Ensure that you have completed the Customer information (Page 5).
   c. Ensure that you have completed the Contractor and, if applicable, Third Party Payment information (Page 6).
2. Complete all relevant worksheets for your project.
3. Attach all relevant plans, specs, modeling information and/or engineering calculations.
4. Print and mail your Reservation Application to:

**DTE Energy's Energy Efficiency Program for Business**
P.O. Box 11289
Detroit, MI 48211
or
**Fax to:** 877.607.0744
or
Submit electronically by clicking here SUBMIT

* A Reservation Application is required for your project. Submission of a Reservation Application does not guarantee that funds will be available.

To submit your FINAL Application

1. Complete or confirm all information in on Pages 4-6.
2. Complete and have account holder sign Final Application Agreement (Page 8).
3. Complete or confirm all relevant worksheets for your project.
4. Attach all relevant plans, specs, modeling information and/or engineering calculations.
5. Print and mail your FINAL Application to:

**DTE Energy's Energy Efficiency Program for Business**
P.O. Box 11289
Detroit, MI 48211
or
**Fax to:** 877.607.0744
or
Submit electronically by clicking here SUBMIT

Mail, fax or email all manufacturers' specifications and other supporting documents to our office. In your mailing, on your cover sheet or in your subject line, please include the customer name and project number: DTE-(year)(5-digit number). If you don't have a project number, make sure you enter your customer name.

dteenergy.com/savenow 33 V1:10/01/14

# 2015 New Construction/ Major Renovation Application

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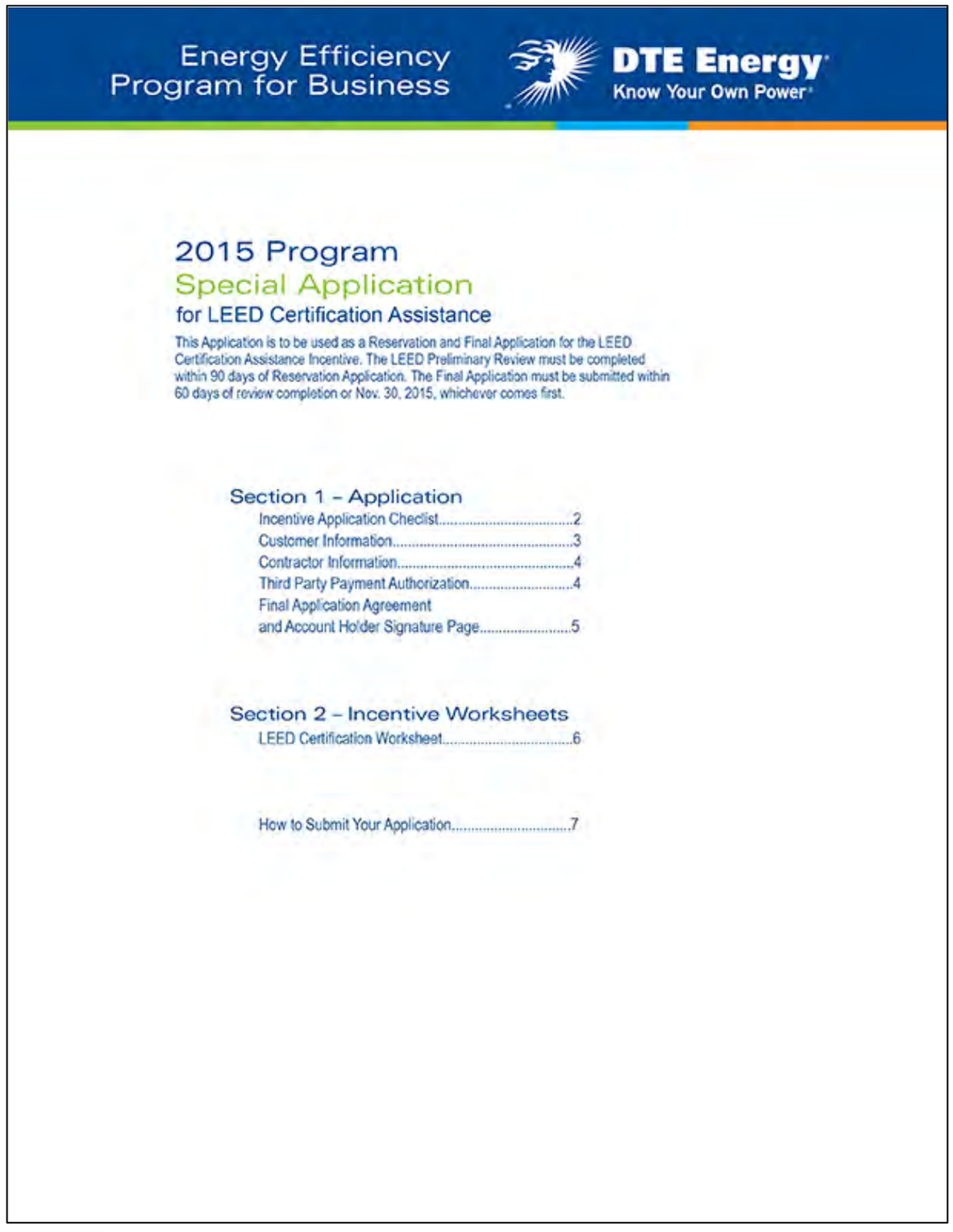
## Certification Assistance:

- To apply for the $1,500 incentive, you must complete this stand-alone document – which serves as both the Reservation and Final Application.



Energy Efficiency Program for Business

DTE Energy®
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2015 Program
Special Application
for LEED Certification Assistance

This Application is to be used as a Reservation and Final Application for the LEED Certification Assistance Incentive. The LEED Preliminary Review must be completed within 90 days of Reservation Application. The Final Application must be submitted within 60 days of review completion or Nov. 30, 2015, whichever comes first.

Section 1 – Application



Section 2 – Incentive Worksheets

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# Remember our website for Trade Allies:

## dteTradeAlly.com

# Something for our Trade Allies

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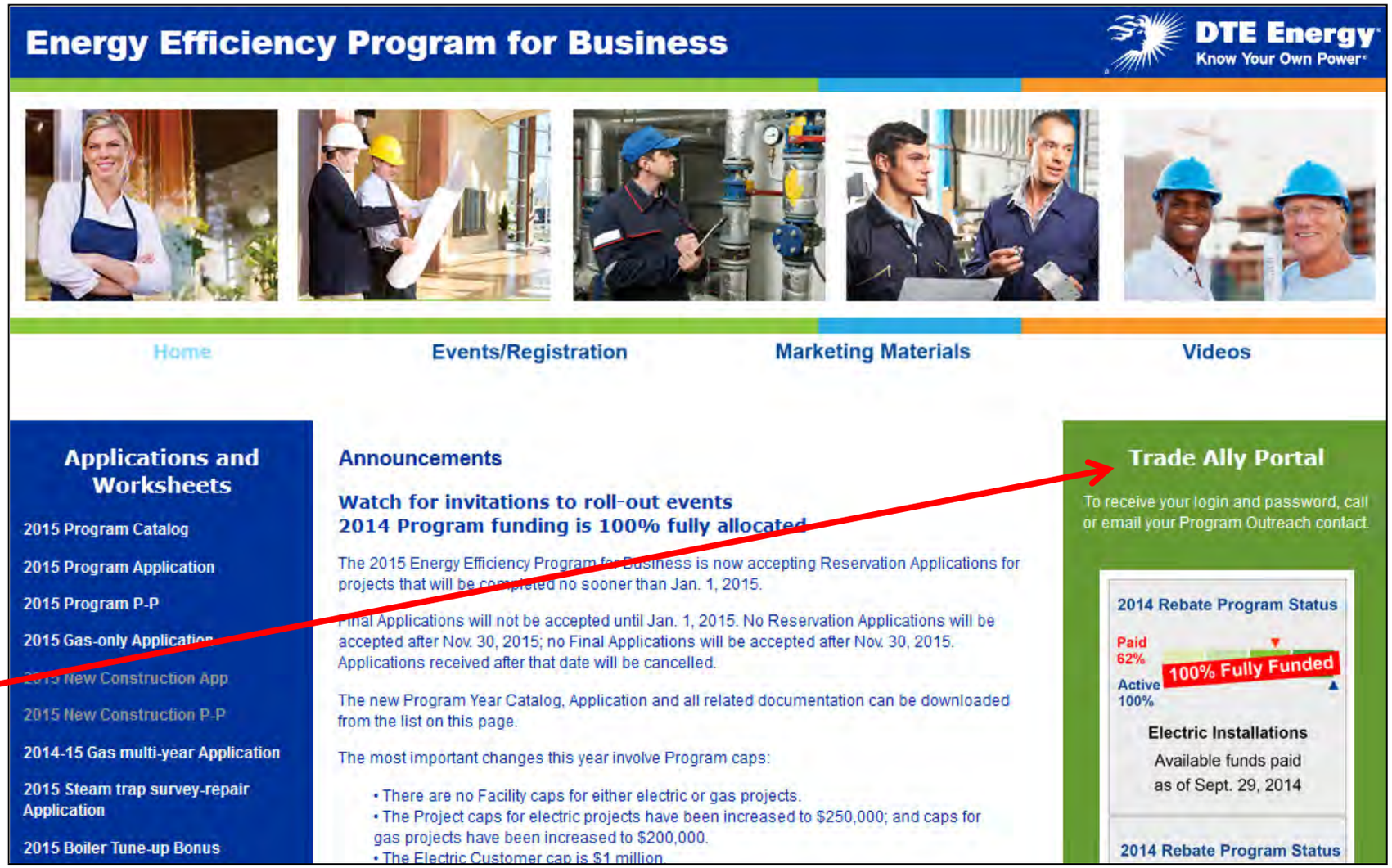
## dtetradeally.com

**Get:**

- Announcements
- Up-to-date funding gauges
- All Program documents:
  - Applications
  - Forms
  - Addenda
- **Trade Ally Portal**



# Something for our Trade Allies

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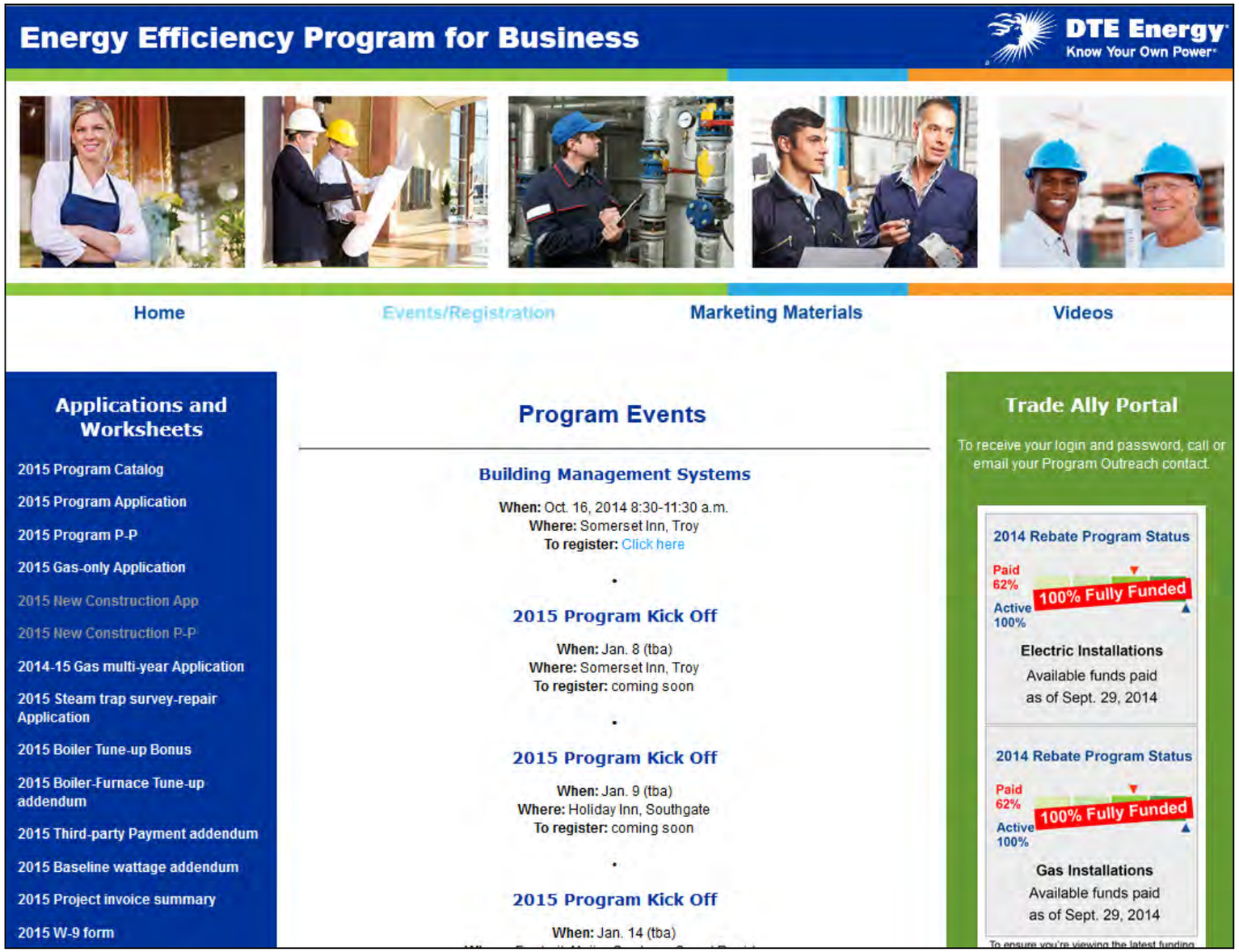
## dtetradeally.com

**Get:**

- Information about upcoming events – and the registration link for each.



# Something for our Trade Allies

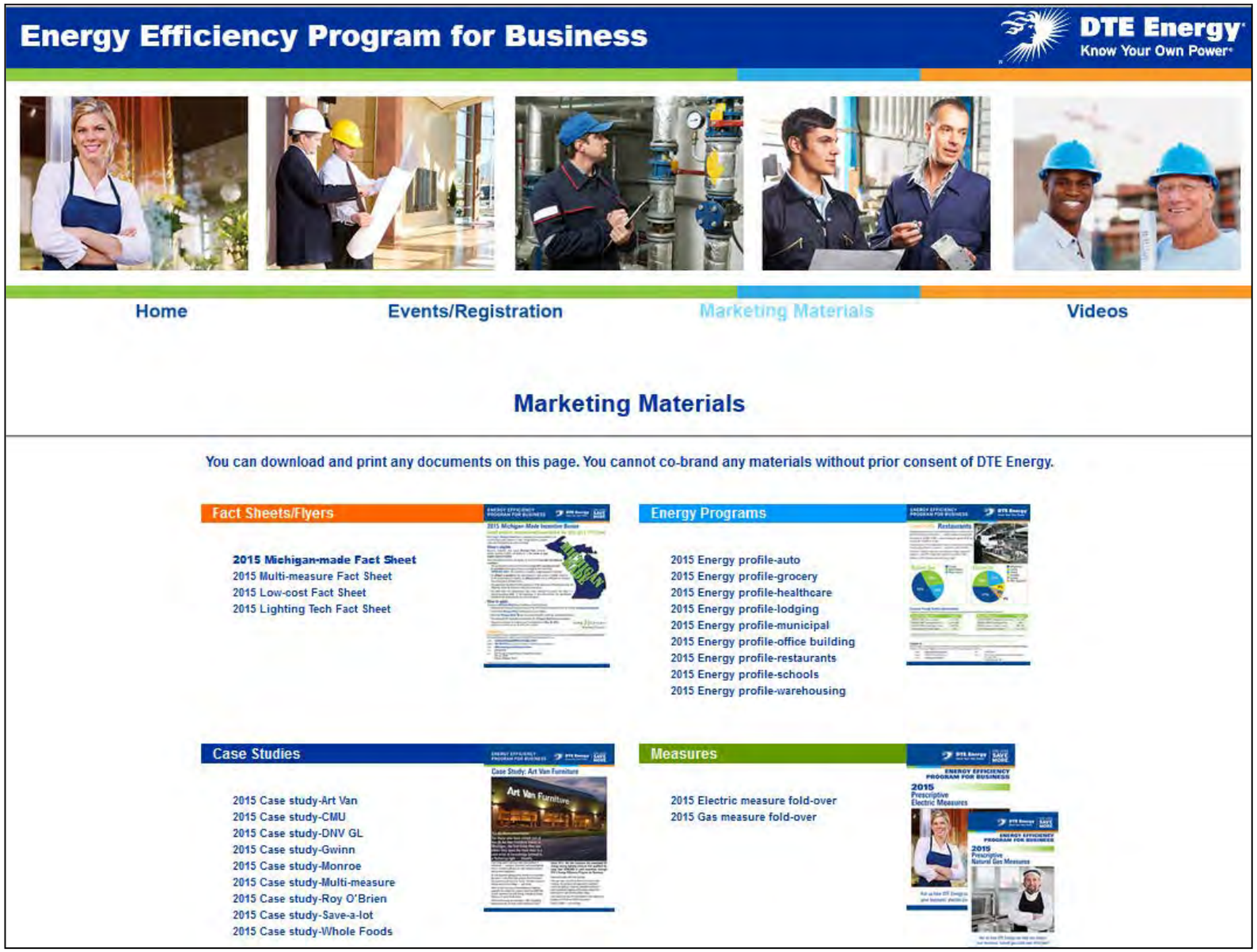
DTE Energy®
Know Your Own Power®

## dtetradeally.com

**Get:**

- Copies of every piece of marketing material we produce:
  - Special offers
  - Case studies
  - Energy Profiles
  - Measure fliers (fold-overs)

**Download and print them out at your office!**



# Something for our Trade Allies

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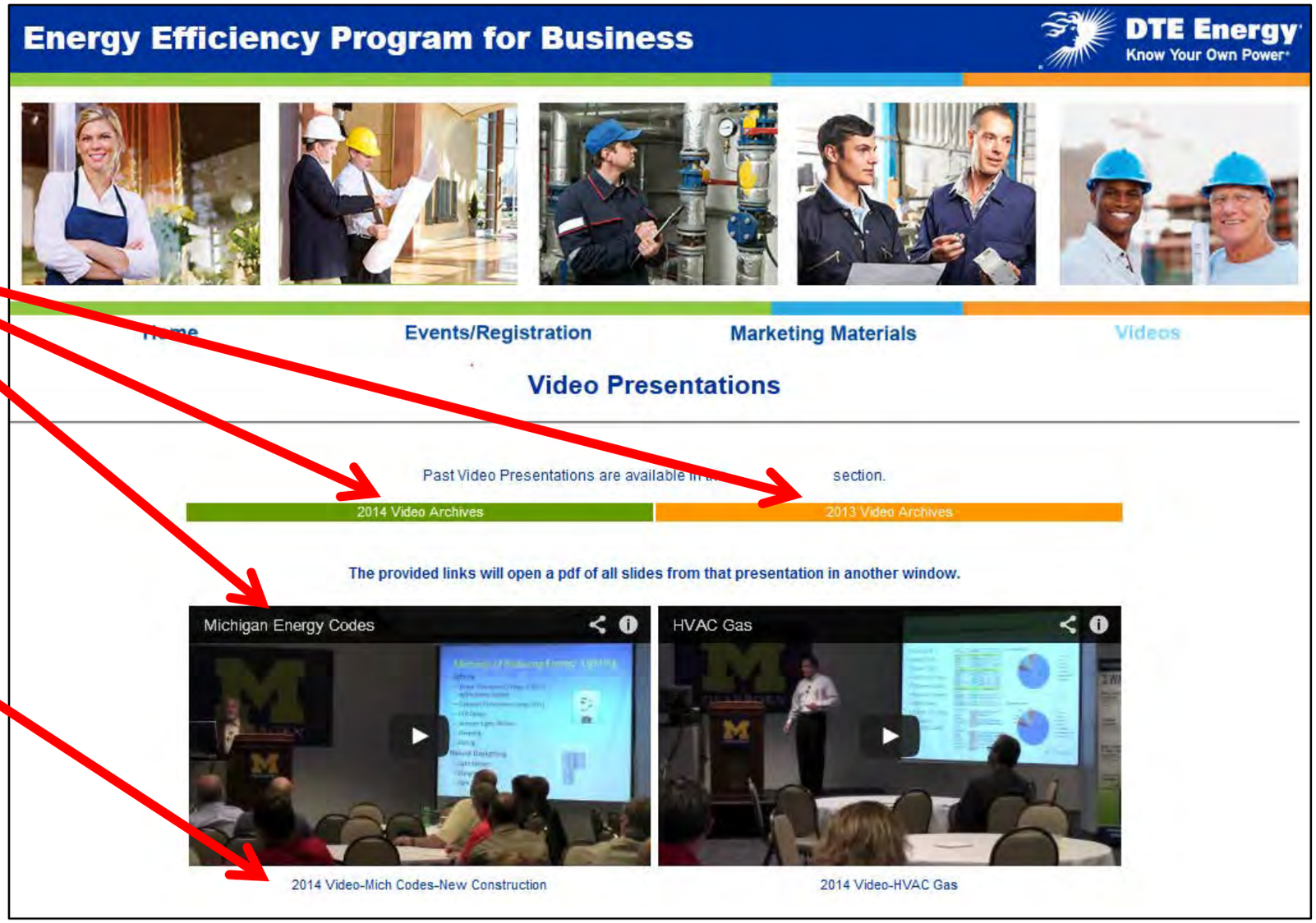
## dtetradeally.com

**Watch:**

- Videos of our presentations – organized by Program year…

…and follow along with our slide shows!



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# QUESTIONS?

# ENERGY EFFICIENCY PROGRAM FOR BUSINESS

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## If you have questions, please contact our office

Email: saveenergy@dteenergy.com

Phone: **866-796-0512** (press option 3)

Fax: **877-607-0744**

Website: dteenergy.com/savenow

Website: dtetradeally.com

: www.linkedin.com/in/dteenergysaveenergy