

24th Annual Ohio

# Energy Management

C O N F E R E N C E

## Workshop H

**Energy Efficiency Grants and Loan  
Financing, Energy Planning and Technical  
Assessments, Case Studies and  
Best Practices Training**

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**Tuesday, February 18, 2020  
1:45 p.m. to 3 p.m.**

## Biographical information

**Anthony Howard, Manager, Energy Office**  
**Ohio Development Services Agency**  
**77 S. High St. 26th Floor, Columbus, OH 43215**  
**614-466-3185      anthony.howard@development.ohio.gov**

Anthony Howard has served as Manager of the Energy Office of the Ohio Development Services Agency for the past five years. In this capacity, Mr. Howard has managerial responsibility for a number of programs to include: the US DOE sponsored State Energy Program for Ohio, the Energy Loan Fund, the Energy Loan/Loss Reserve Program, and the Ohio Coal Research & Development Program.

Prior to his work with the Energy Office, Mr. Howard spent 13 years in technology-based economic development culminating in his position as Assistant Deputy Chief of the Technology and Innovation Division of the Ohio Department of Development (ODOD). At ODOD, Mr. Howard had programmatic and staff supervisory responsibilities for the Ohio Third Frontier, the Edison Centers and Edison Incubators Programs, the Manufacturing Extension Partnership, and the Technology Investment Tax Credit Program.

Prior to his time with the State of Ohio, Mr. Howard spent 10 years in higher education, most recently as an Associate Director of Grants and Contracts at the Ohio State University Research Foundation and earlier as a Senior Research Associate at the University of Tennessee Institute of Technology Management.

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**Manny Anunike, PhD, Energy Specialist**  
**Ohio Development Services Agency, Office of Energy**  
**77 S. High St. 26th Floor, Columbus, OH 43215**  
**614-466-4092      Fax: (614) 466-1864      manny.anunike@development.ohio.gov**

Manny Anunike is an Energy Specialist with the Ohio Development Services Agency, where he is responsible for manufacturers, commercial, municipalities, colleges and universities, local school districts, and hospitals energy efficiency and renewable energy initiatives. He also performs technical reviews of energy efficiency and renewable energy projects' development and deployment, Energy Loan Funds, Loan Loss Reserve, Conversion Facilities Tax Exemption, and Power Siting Board applications.

He earned his 5-year professional degree in architecture from Southern University's College of Engineering, Louisiana, a Master's degree from Minnesota State University, Minnesota; as well as a PhD from the University of Dayton, Ohio. Dr. Anunike is a Senior Member of The Association of Energy Engineers.

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**Nikhila Rao, General Manager, Graphet Data Mining**  
**431 Ohio Pike Suite 203-N, Cincinnati, OH 45255**  
**(513) 474-4870 ext 202      nrao@graphet.com**

Ms. Nikhila Rao is a certified One-2-Five diagnostic facilitator and is responsible for supporting site sustainability needs and has oversight for Graphet's state, utility and corporate energy efficiency program deliverables. Ms. Rao has a BS in Engineering and an MBA in Information Systems from the University of Cincinnati.

24<sup>th</sup> ANNUAL OHIO  
ENERGY  
MANAGEMENT  
CONFERENCE

Tuesday, Feb 18, 2020

# Energy Efficiency and Energy Finance Programs

Manny Anunike, PhD

Energy Specialist

Energy Section, Office of Community Assistance

# Energy Efficiency and Energy Finance Programs

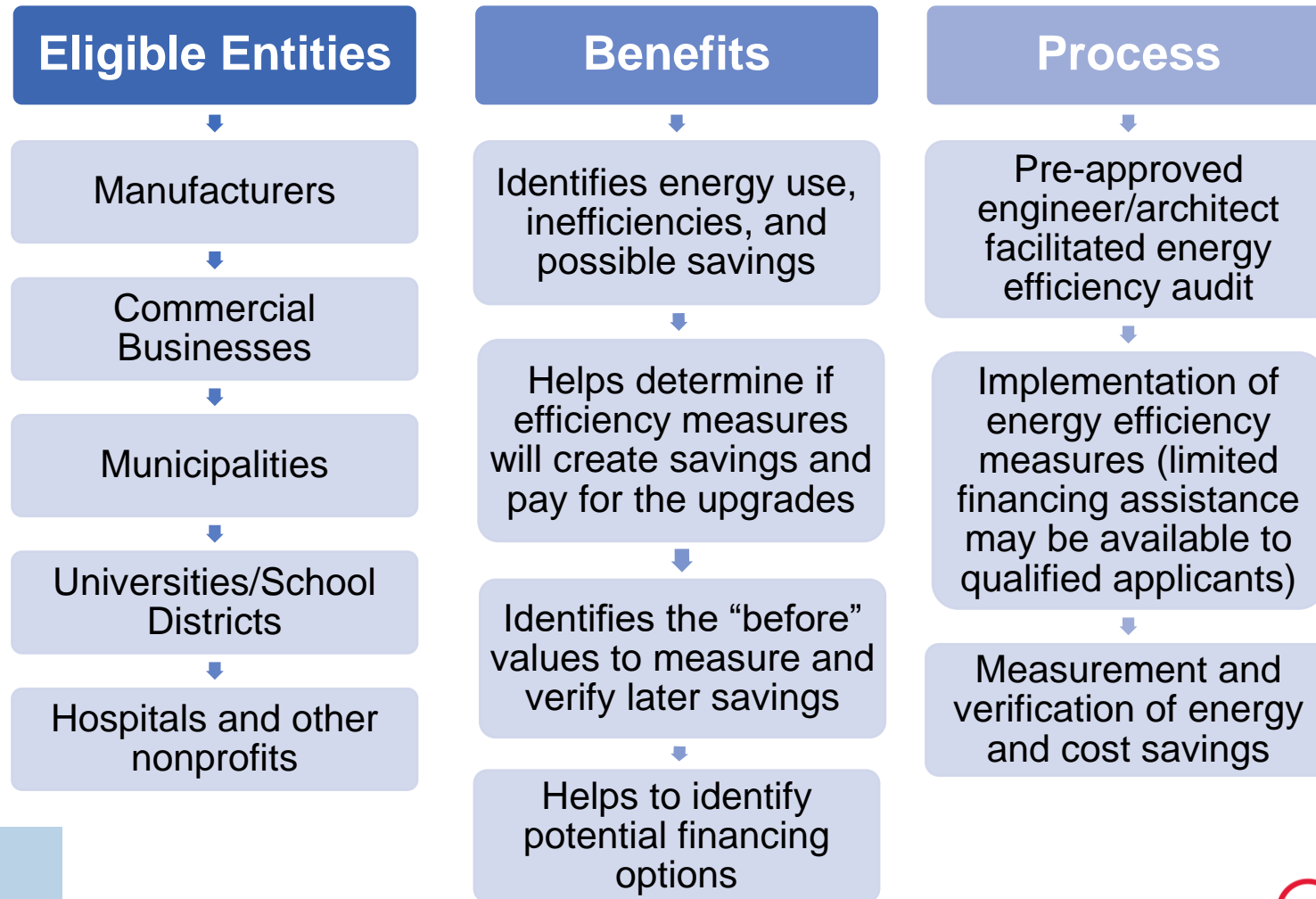
## Ohio Development Services Agency (Development)

- Energy Efficiency Program (EEP)
- Energy Financing Programs (Energy Loan Fund & Loan Loss Reserve Programs)
- Energy Efficiency Training Opportunities

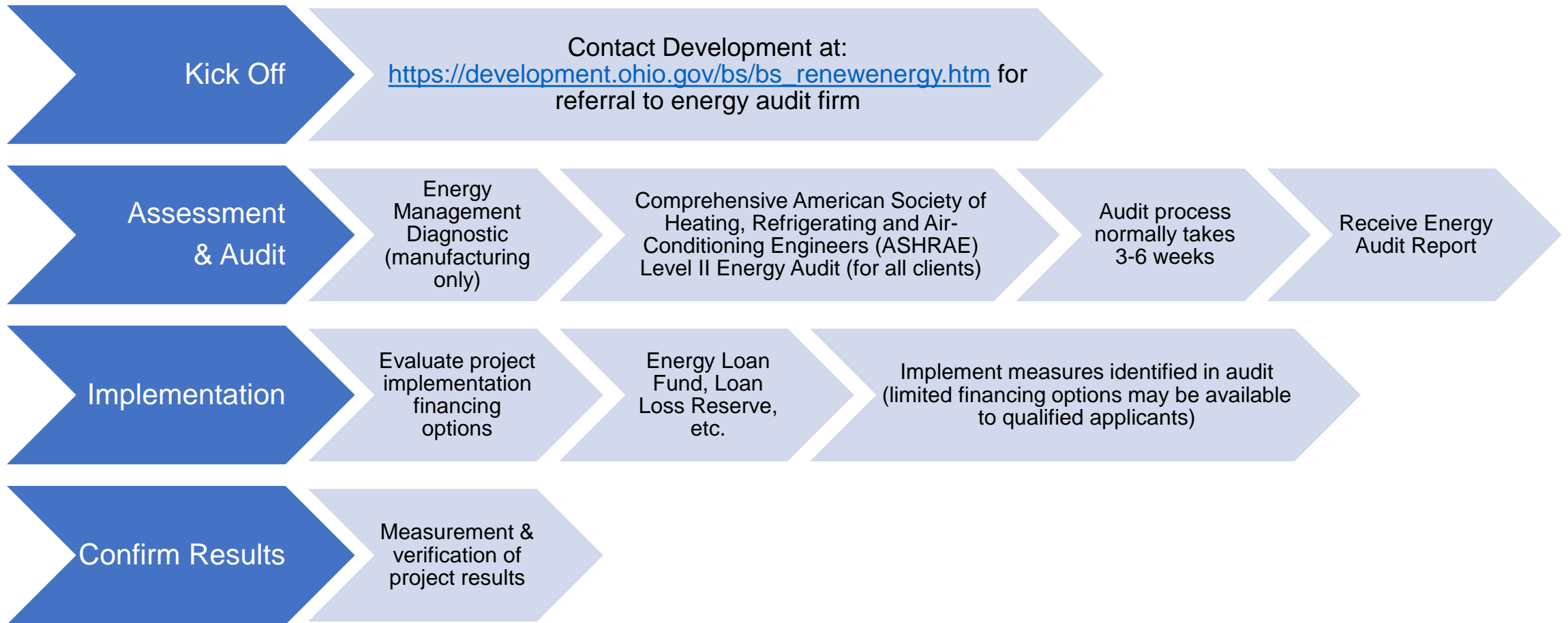
# Development's EEP

Development's EEP is a comprehensive energy efficiency program aimed at helping businesses, manufacturers, nonprofits, schools, hospitals, colleges/universities, and local governments to reduce energy use and improve energy efficiency, which will result in lower energy and operations costs.

# EEP Eligible Entities/Benefits/Process



# EEP Process



# EEP Process Detail

## Energy Management Diagnostic

- 1 to 2-hour meeting for manufacturing sites, with facilitator
- NO charge

## ASHRAE Level II Audit

- For manufacturing AND non-manufacturing sites

## Final Audit Report

- Existing facility conditions analysis
- Energy use patterns and utilities analysis
- Energy efficiency measures analysis & recommendations
- Potential funding strategies and resources (Energy Loan Fund, Loan Loss Reserve, etc.)
- Measurement & Verification strategies



# EEP Energy Audit Grants

	Manufacturers	Non-Manufacturers
Qualifications	All Ohio manufacturers	Facility > 10,000 sq. ft.
Development grant funding	75% of total audit cost, up to \$22,500	50% of total audit cost, up to \$15,000
Customer share	Remaining 25%, plus any amount >\$30,000	Remaining 50%, plus any amount >\$30,000
Development and client pay engineer/auditor directly		

# EEP Contractors/Energy Auditors

## Manufacturing Sectors:

**Energility LLC**, Columbus, OH  
Justin Kale  
(614) 746-9276  
[justin@energility.com](mailto:justin@energility.com)

**Go Sustainable Energy LLC**, Columbus, OH  
Greg Raffio  
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**Graphet Data Mining**, Cincinnati, OH  
Nikhila Rao  
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**JCC Energy Controls**, Akron, OH  
Jack Ceisa  
(330) 285-5491  
[jack@jccenergysolutions.com](mailto:jack@jccenergysolutions.com)

## Non-Manufacturing Sectors:

**Energility LLC**, Columbus, OH  
Justin Kale  
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[justin@energility.com](mailto:justin@energility.com)

**JCC Energy Controls**, Akron, OH  
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**University of Dayton – School of Engineering**  
Andrew Chiasson, Ph.D.  
(937) 229-2835  
[achiasson1@udayton.edu](mailto:achiasson1@udayton.edu)

## Ohio K-12 Public Schools:

**Plug Smart**  
Jarret Kelley  
(614) 230-7256  
[jarret.kelley@plugsmart.com](mailto:jarret.kelley@plugsmart.com)

**University of Dayton – School of Engineering**  
Andrew Chiasson, Ph.D.  
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# Development's Energy Efficiency Finance Programs

Energy Loan Fund & Loan Loss Reserve Fund

# Energy Loan Fund

## Low-interest loans

- For improvements to existing structures
- Energy efficiency
- Renewable energy

## Expected results

- Energy use reduction > 15%
- Payback < 15 years
- Economic impacts: job creation/retention, community improvements
- Improvement in environmental quality

## Loan details

- \$250,000 - \$2,500,000
- 1% - 3% interest for most applicants

# Energy Loan Fund

- Eligibility
  - Manufacturers
  - Commercial Businesses
  - Public Entities (including local governments)
  - Nonprofits
  - Hospitals
  - Colleges/Universities
  - Ohio K-12 School Districts

# Energy Loan Fund

- \$9.5 million available in both FY 20 and FY 21
  - \$5.5 million in increments of \$250,000 – to \$2.5 million for most applicants and interest at 1 – 3%
  - \$4 million in increments of \$250,000 – to \$1 million for Ohio public K-12 school districts and interest as low as 0.25%
- More information or to apply
  - [https://www.development.ohio.gov/bs/bs\\_energyloanfund.htm](https://www.development.ohio.gov/bs/bs_energyloanfund.htm)

# Loan Loss Reserve Fund

Offers credit/collateral enhancement of up to 50% of a qualified energy efficiency project on an existing structure

Administered in partnership with eligible Ohio Port Authorities as they originate loans for energy projects. A minimum of 15% energy savings and a simple payback period of 15 years or less is required

\$18 million originally available for this program. \$5.1 million remaining

# Loan Loss Reserve Fund



- Participating Ports
  - Cincinnati
  - Cleveland-Cuyahoga County
  - Columbus-Franklin County
  - Dayton-Montgomery County
  - Lake County
  - Lorain County
  - Summit County
  - Toledo-Lucas County

<https://www.ohioportauthorities.com/>



# EEP Customer Case Studies

# Case Study

## Cincinnati Art Museum (Nonprofit)

### Cincinnati, OH

Baseline Energy Cost	\$583,488/year
Projected Energy Savings	\$296,724 (51%)
Estimated Project Costs	\$1,715,790
Rebate Potential	\$76,836
Simple Payback	5.06 years
Chilled Water Savings	\$133,288 (23%)
HVAC Savings	\$132,655 (23%)
Utilities Savings	\$30,841 (5%)

Customer contact: Mark Crousore, Building & Grounds Facilitator

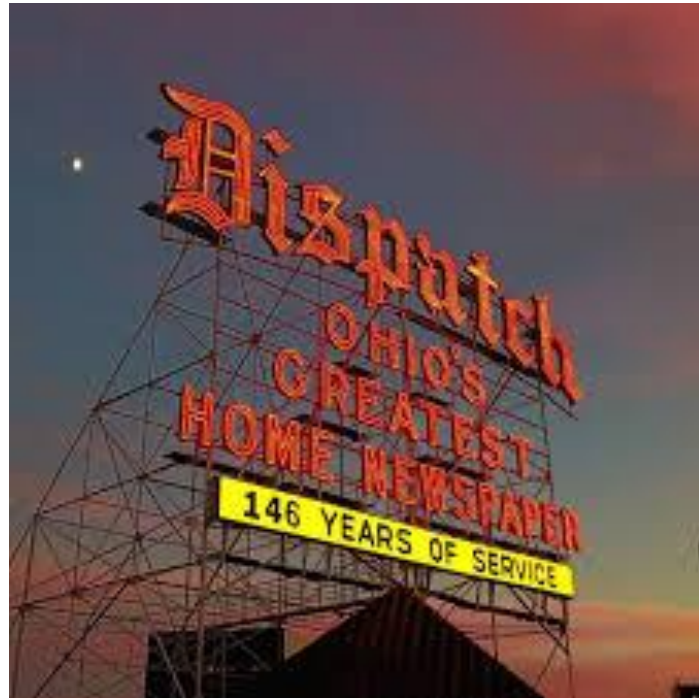


# Case Study

## Columbus Dispatch (Printing Industry)

### Columbus, OH

Customer contact: Kelly Cline



Baseline Energy Cost	\$1,238,839/year
Projected Energy Savings	\$407,134 (33%)
Estimated Project Costs	\$843,349
Rebate Potential	\$99,452
Simple Payback	2.1 years
Chilled Water Savings	\$46,505 (3.8%)
Compressed Air Savings	\$16,767 (1.4%)
HVAC Savings	\$202,238 (16%)
Steam Savings	\$23,206 (1.9%)
Lighting Savings	\$141,534 (11.4%)

# Case Study

## Replex Plastics, Inc.

### Mt. Vernon, OH

Baseline Energy Cost	\$181,147/yr.
Projected Energy Savings	\$32,325 (18%)
Project Costs	\$29,199
Rebate Potential	\$5,370
Simple Payback	11 months
Lighting Savings	\$11,071(34%)
HVAC Savings	\$21,254 (66%)
Total	\$32,325

Customer contact: Mark Schuetz,  
President



# Energy Efficiency & Finance Programs Contacts

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Columbus, Ohio 43215

[https://development.ohio.gov/bs/bs\\_renewenergy.htm](https://development.ohio.gov/bs/bs_renewenergy.htm)

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[https://www.development.ohio.gov/cs/cs\\_llr.htm](https://www.development.ohio.gov/cs/cs_llr.htm)



Development  
Services Agency

# Energy Efficiency Training Opportunities

## Ohio Center for Industrial Energy Efficiency (OCIEE)

Nikhila Rao

OCIEE Program Coordinator

431 Ohio Pike Suite 203-N

Cincinnati, OH 45255

O: (513) 474-4870 ext. 202

[nikhila\(at\)graphet.com](mailto:nikhila(at)graphet.com)

# Ohio Programs Provide Required Elements for Energy Efficiency Results

## Incentives & Financing

- Energy Loan Fund
- Grant funded audits and implementation

## Subject Matter Expertise

- Facilitators provide Ohio Energy Efficiency Program outcomes

## Information & Education

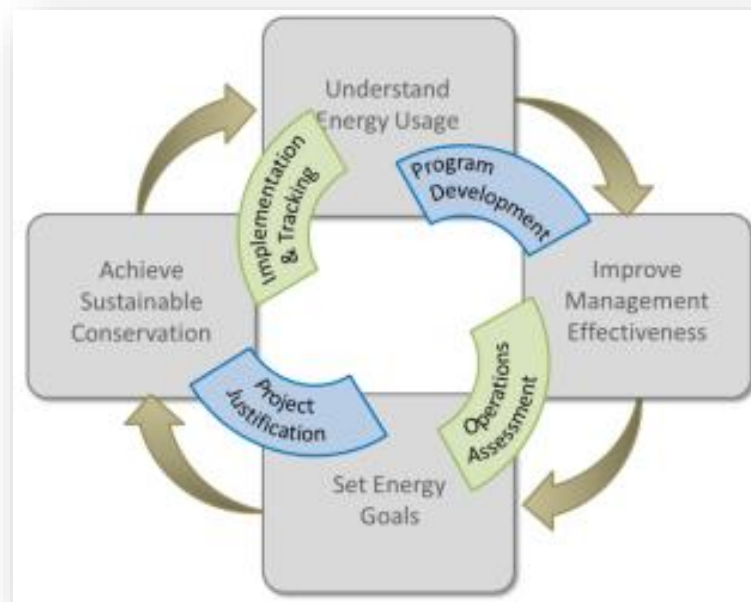
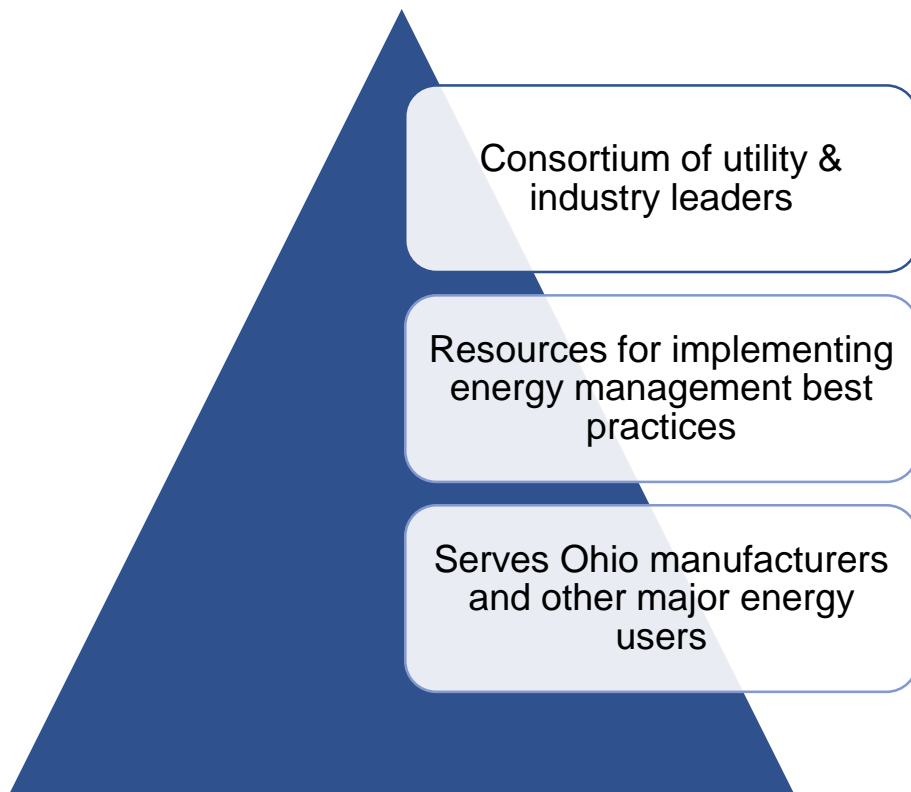
- Best Practices Training coordinated by Ohio Center for Energy Efficiency (OCIEE)

# OCIEE for Training & Outreach

- OCIEE's mission is to assist with energy efficiency education and best practices training
- OCIEE improves the competitiveness of Ohio industry through:
  - increased energy efficiency
  - reduced operating costs
  - improved environmental performance

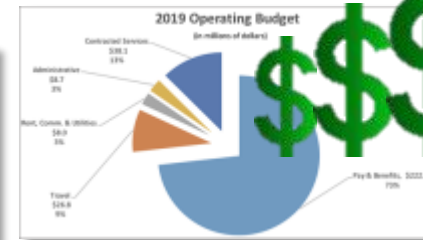
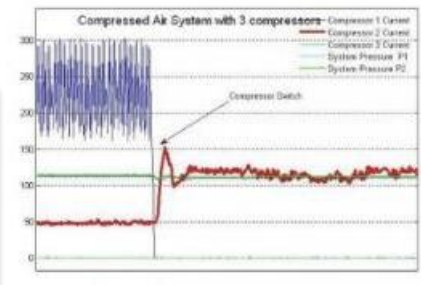
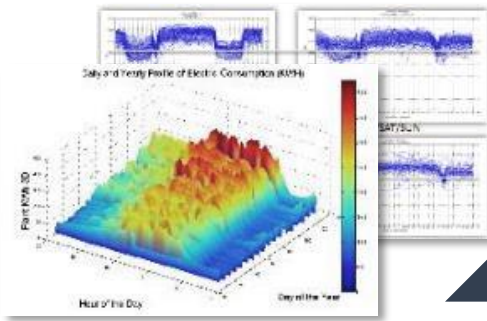


# OCIEE Serves Ohio's Energy Champions



MASTER Best Practices for Energy Intensive Systems and Applications

# Framework for Energy Management Best Practices



Analyze Existing Facility Conditions

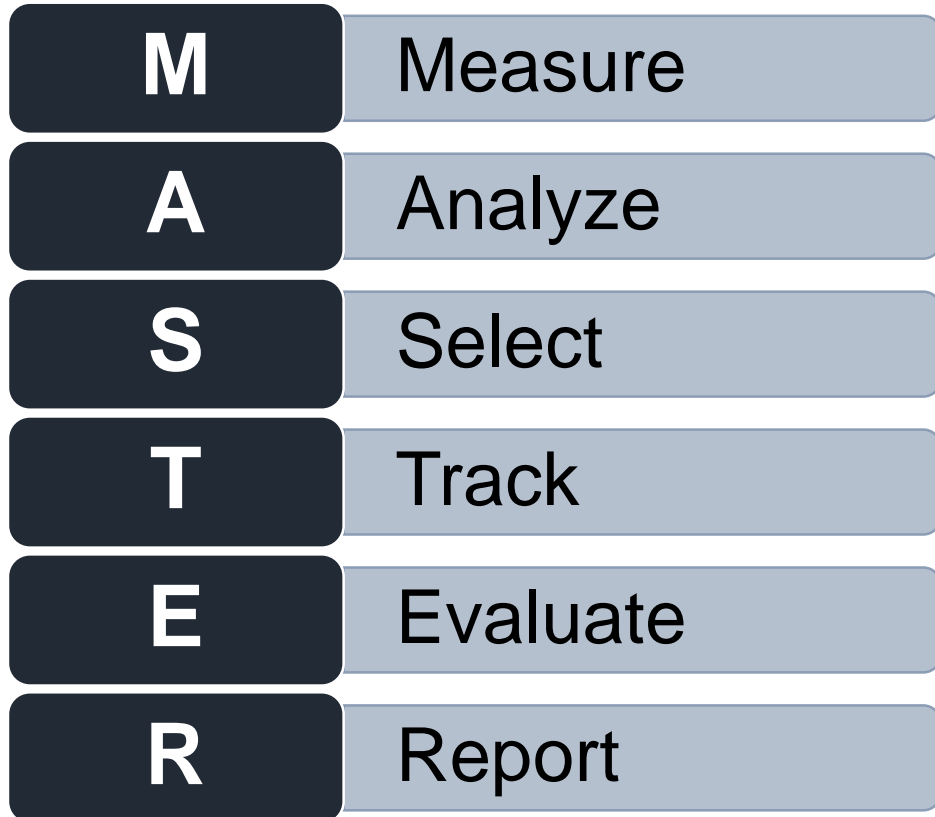
Evaluate Energy Usage Patterns

Identify Opportunities and Analyze Feasibility

Funding Strategies

Measurement & Verification Strategies

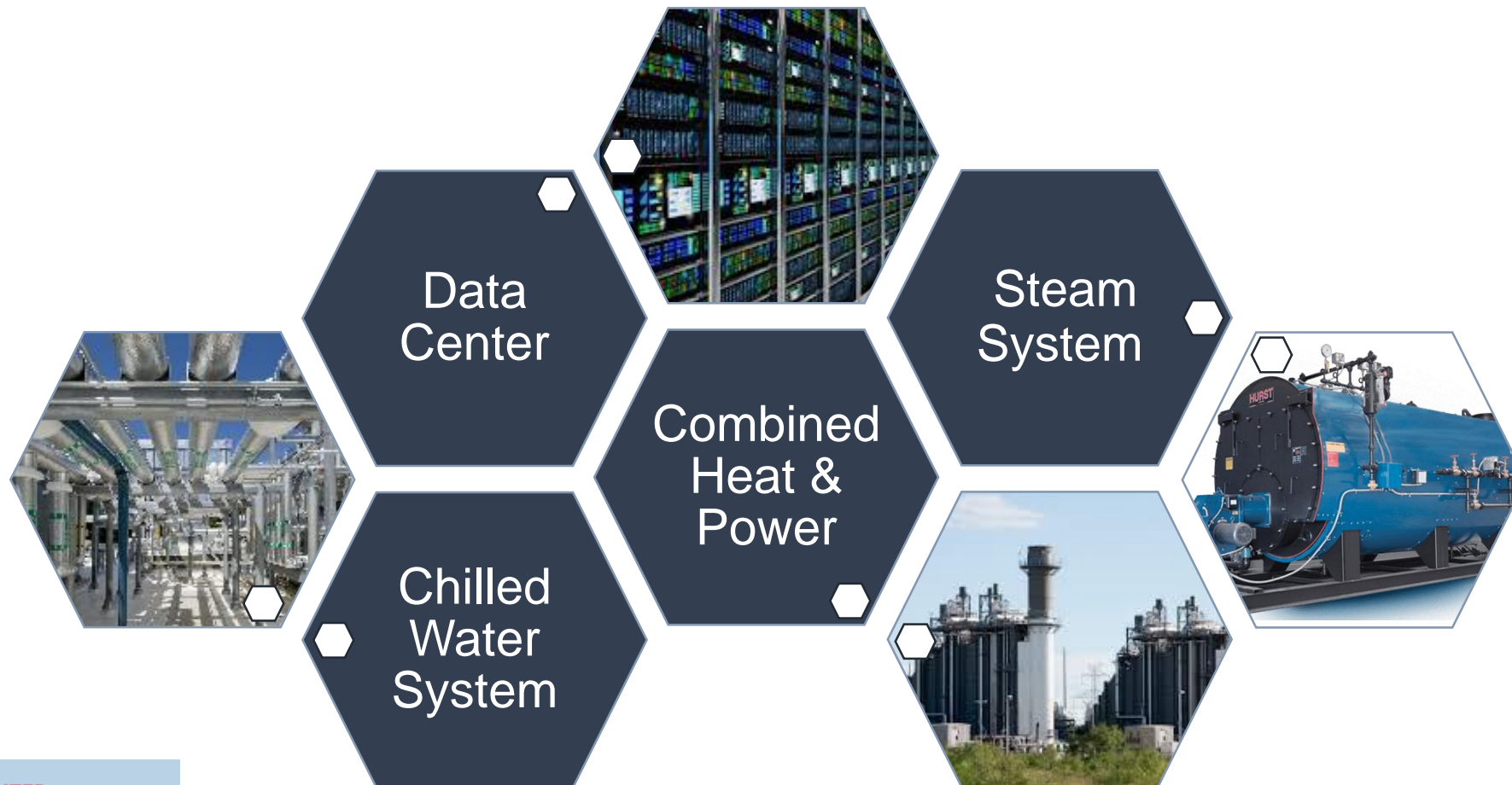
# Energy Champions MASTER Best Practices for Energy Efficiency



Training sessions help energy champions to:

- achieve their ideas
- ease energy decision making
- prioritize top energy management actions to implement
- set targets and track metrics
- report progress and accomplish business goals

# Training for Energy Intensive Systems



# 2019 OCIEE Program Highlights

Training Topic	Location	Attendees	Date
Energy Efficiency Financing Programs, Best Practices, Training, & Energy Audits	Columbus, OH	22	February, 2019
Networked Lighting	Columbus, OH	44	May, 2019
Data Center Strategy: New Technologies	Columbus, OH	65	July, 2019
Combined Heat & Power	Circleville, OH	23	September, 2019
Data Center Strategy: Server Rooms	Dayton, OH	20	September, 2019

Workshop/Conference	Location	Attendees	Date
Manufacturers Education Council	Columbus, OH	445	February, 2019
Dayton Green Expo	Dayton, OH	200	September, 2019
Energy Storage Building Efficiency	Warren, OH	125	September, 2019





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