MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

ENERGY SERVICES & COMMUNITY ENERGY MANAGEMENT

Julie Staveland, Manager/State Energy Program Specialist
Miles Biel, Community Programs Coordinator

EGLE Energy Services

- Designated State Energy Office for the Federal Department of Energy
- Federal and State Funding for programs
- We promote healthy communities, economic growth, and environmental sustainability through energy efficiency and renewable energy by offering a variety of programs to catalyze growth and jumpstart Michigan entities to reach their own energy goals.

EGLE Energy Services Programs

- Energy Planning & Policy
- Roadmaps
- Water Energy Nexus
- Charge Up Michigan & Charge Up MI Fleet
- Agriculture & Rural Businesses Incentives
- Small Manufacturers Energy Waste Reduction
- Clean Tech Development
- K-12 Public School HVAC Assistance
- Clean Energy for Low-Income Communities
- Community Energy Management

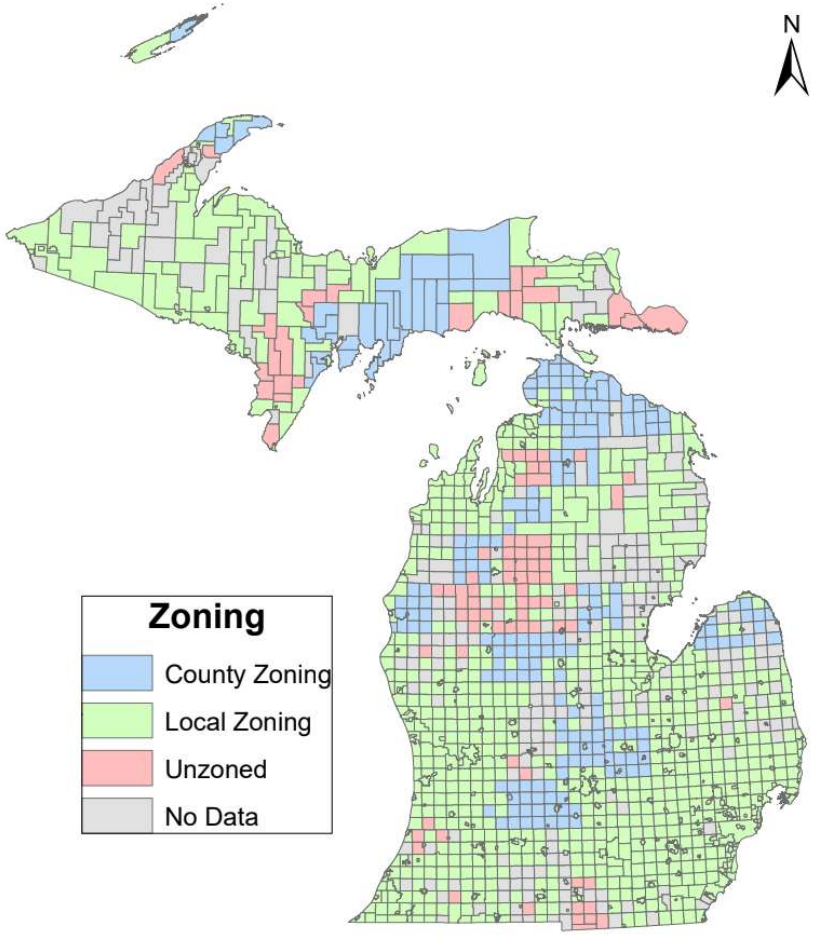
Energy Planning & Policy

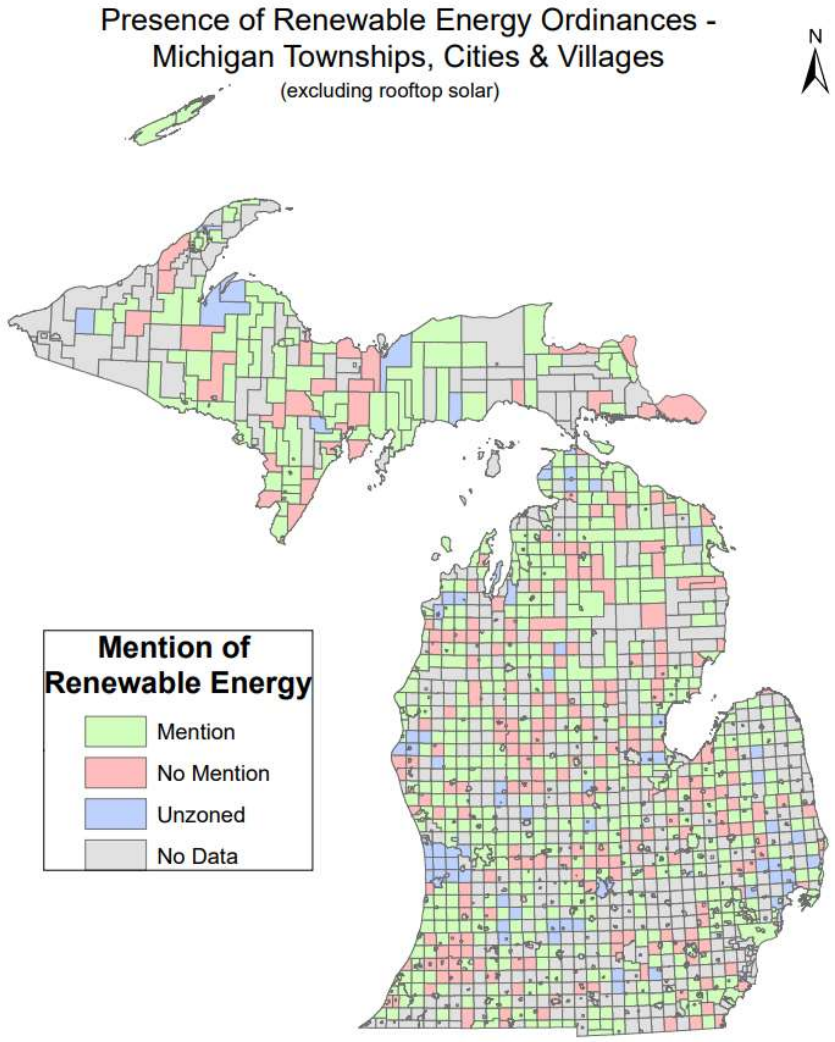
- Database of zoning for renewable energy
- Survey of local governments
- Repository of templates, guidance, FAQs, case studies, new content as needed
- Real-time consultation
- This webinar series!

GRAHAM SUSTAINABILITY INSTITUTE
UNIVERSITY OF MICHIGAN

EGLE

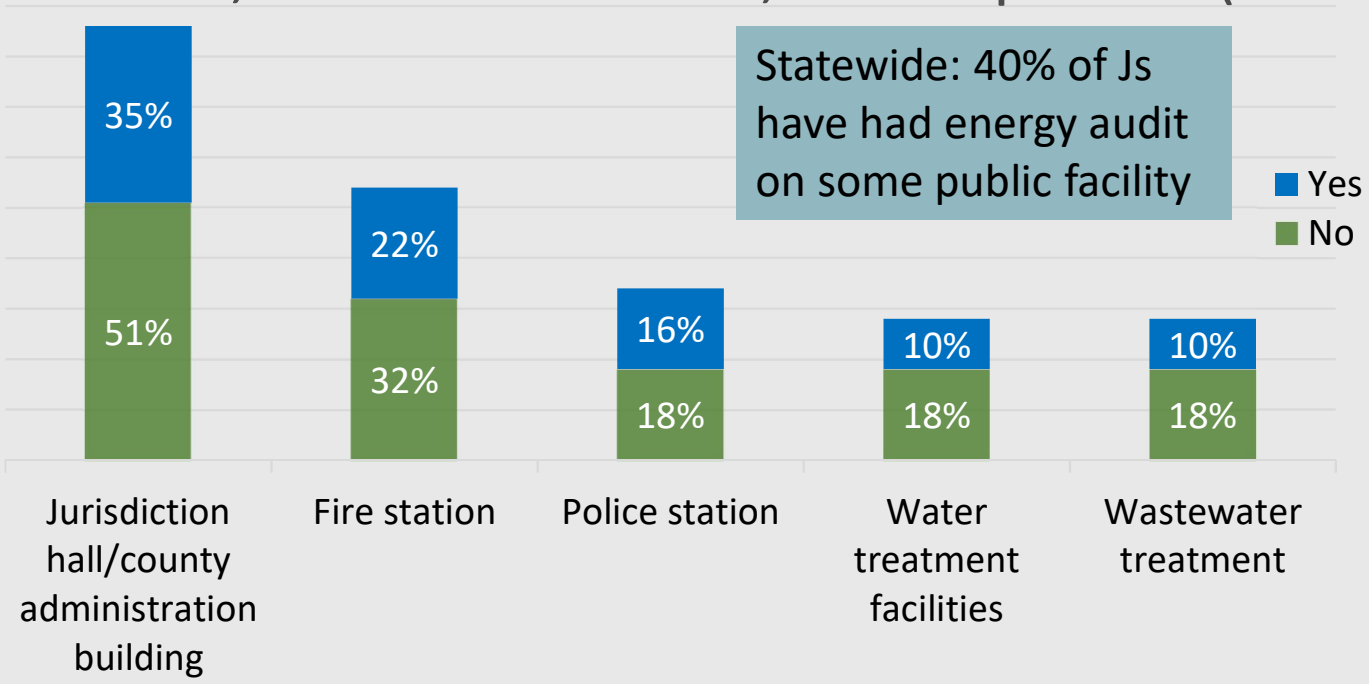
DATABASE OF ZONING





MICHIGAN LOCAL ENERGY SURVEY (MiLES)

- Goal: better understand local officials' perceptions & likelihood of engaging in future energy management activities
- Sent to 1,856 local units - 1,350 responses (72.7%)



ROADMAPS

- Energy Storage Roadmap
  - An energy storage roadmap to determine energy storage potential in Michigan and develop recommendations to inform investment and policies regarding energy storage.

- Energy Asset Roadmap
  - Develop asset maps and a supply/value chain mapping analysis for clear, concise implementation plans identifying strategic intervention actions to accelerate sector growth.

- Cleantech Roadmap
  - A clean technology roadmap to identify, evaluate and make recommendations to enhance Michigan's cleantech research and development capabilities.

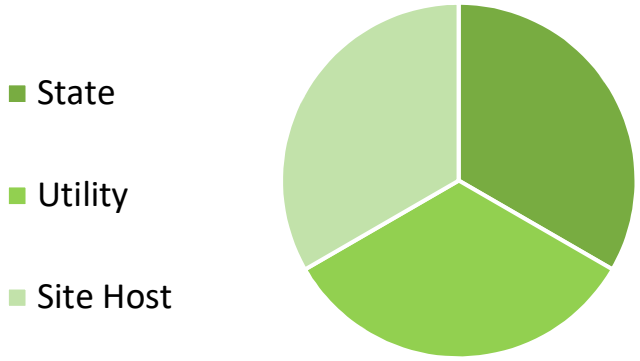
- Geothermal Sector Roadmap
  - A geothermal sector roadmap, to identify and map strategic interventions, to expand and enhance Michigan's geothermal manufacturing sector.

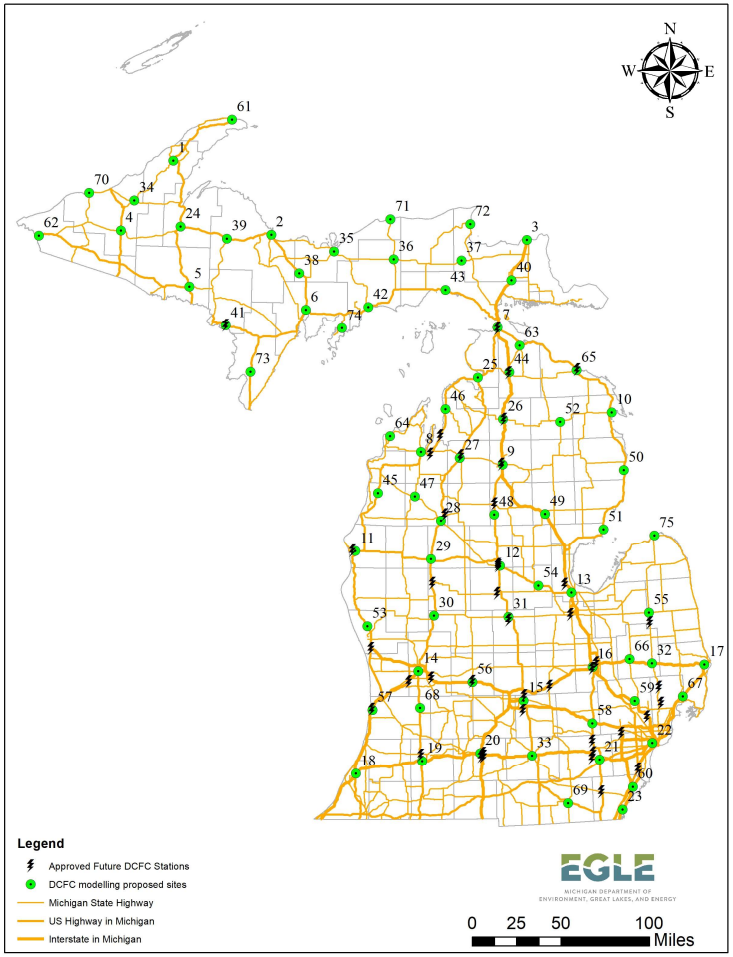
EGLE

CHARGE UP MICHIGAN & CHARGE UP MI FLEET

MSU study to identify optimal locations for EV chargers to ensure feasibility of all long-distance trips for electric vehicle (EV).

EV Charger Infrastructure Cost

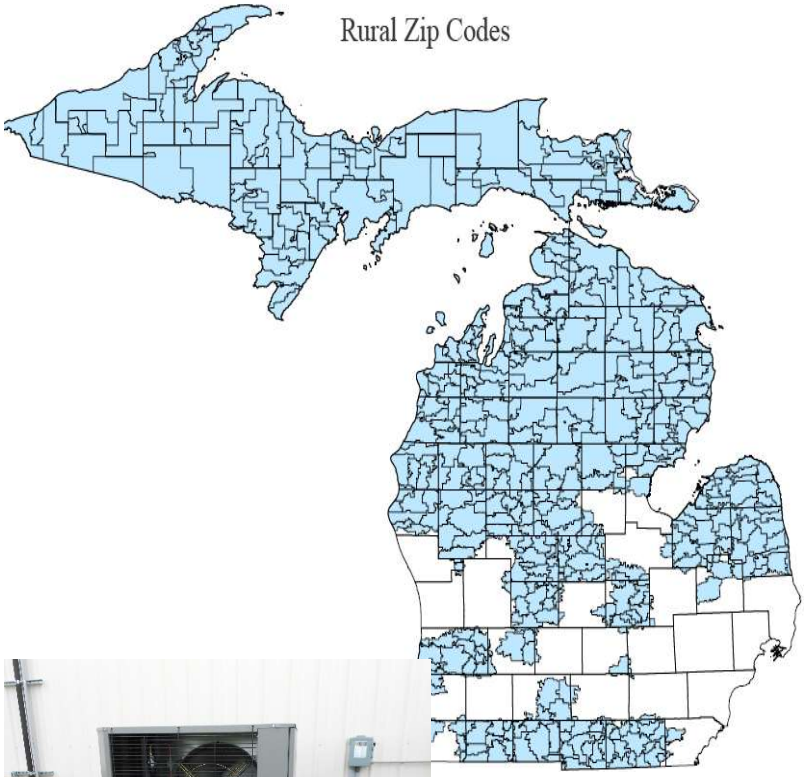




EGLE

Agriculture & Rural Businesses Incentive Program

- Roadmap completed in 2019
  - Rural represent 20.6% of total population in Michigan and over 90% of land area
  - Provide more financing options
  - Better access to information for customers
- Incentive Program
  - Open to agribusinesses AND
  - Rural small businesses, public entities, and non-profits
  - Wide range of energy efficiency projects
- Prior Projects
  - Meat Processors, Green Houses, Grocery Stores, non-profits
  - Lighting, insulation, windows, cooling systems,



Small Manufacturers Energy Waste Reduction Incentive Program

- Manufacturers in Michigan account for 19.38% of the total economic output of the state.
- Incentive Program
  - Open to small manufacturers
  - To implement energy efficiency activities.
- The program will pilot renewable energy, energy storage, and backup generation adoption when combined with significant energy efficiency implementation.

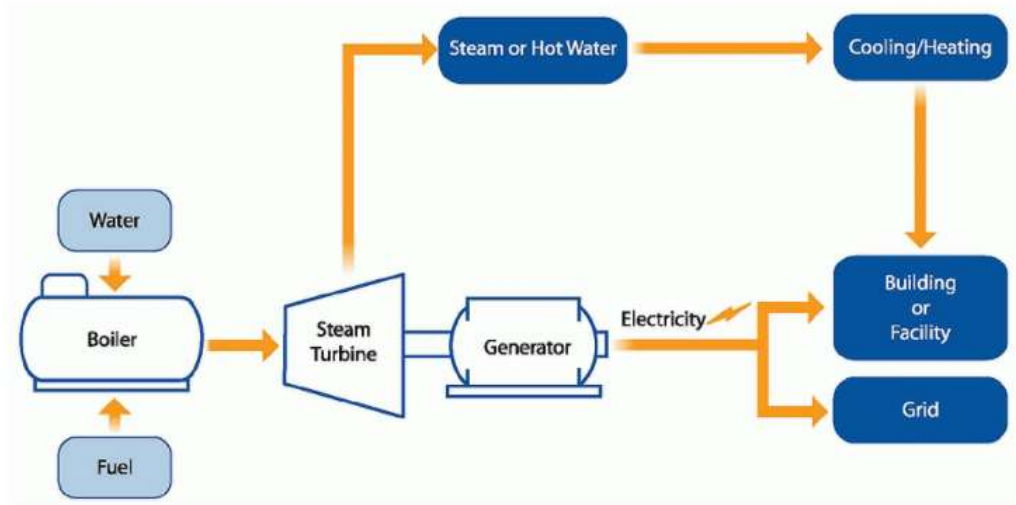
Technical Assistance Pilot for Combined Heat and Power (CHP)

CHP is an energy efficient technology that generates electricity and captures the heat that would otherwise be wasted to provide useful thermal energy—such as steam or hot water—that can be used for space heating, cooling, domestic hot water and industrial processes.

Offering combined heat and power (CHP) feasibility study matching grants to entities in Michigan likely to significantly benefit from CHP implementation at their facilities.

The goal is to accelerate CHP adoption in Michigan by increasing access to advanced technical assistance to facilities considering its adoption.

Steam Boiler with Steam Turbine



Clean Tech Development

- Clean Energy Technical Assistance Pilot

Funding to not-for-profit technology and business development organizations to complete well defined projects intended to advance and bring to market clean energy technology, product or service of their Michigan based client (i.e. individual or small business).

- Cleantech Product Launch Program

The program is partnership with Lawrence Technological University (LTU) Hardware Accelerator to demonstrate innovation in clean technologies, and to help small businesses move their cleantech ideas from prototype to the marketplace.

- Michigan Match Assistance Pilot Program

Provide matching funds to eligible businesses to partially cover the cost share requirement under competitive federal clean energy technology development grant programs.

K-12 Public School HVAC Assistance

Provide technical assistance and funding for energy efficiency and HVAC upgrades as needed to help schools reopen.

Clean Energy for Low Income Communities (CELICA)

- Address low-income energy challenges & access to alternative energy
- State, community, and energy service providers partnerships
- Sustainable model that works for Michigan communities

#1

Cherryland Electric Cooperative

March 2018

#2

L'Anse village by the bay

October 2019

#3

Investor-Owned Utility

T.B.D.

EGLE

Water Energy Nexus

Estimates put 16% of the nation's water supply is lost from leaky water mains.

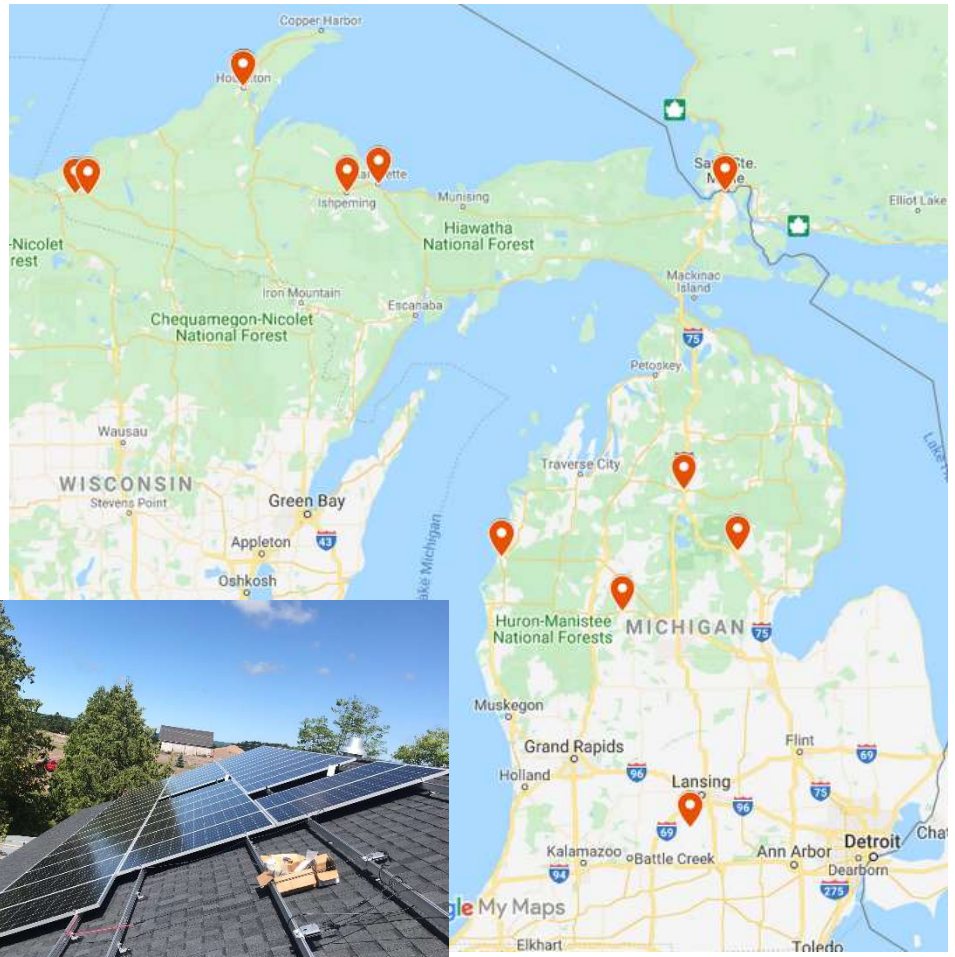
Water leaks = significant energy loss from the pumping, treatment of the water in the drinking water system.

Lead service lines not just a health concern, but lines at the end of useful life = water leaks.

Replacing lead service lines represent a significant opportunity for energy savings while also improving the health of residents.

Community Energy Management

- Energy Management Technical Assistance & Funding
  - Communities
  - Public K-12 Schools



EGLE

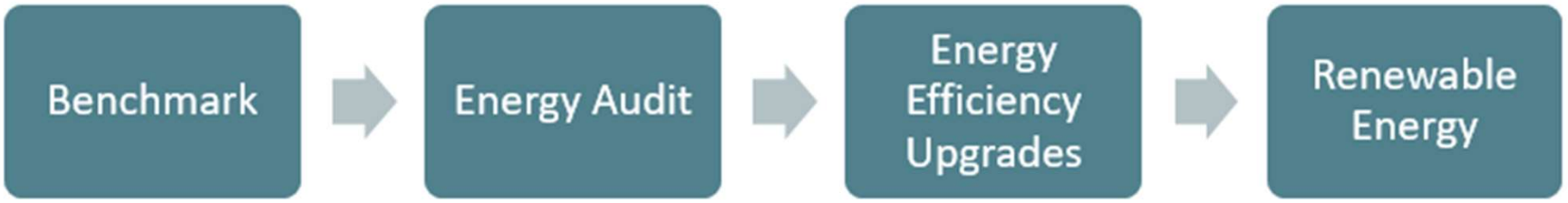
MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

Miles Biel

BielM@Michigan.gov / 517-256-6709

Community Energy Management: The Big Idea

- You tell us what you need!
- Assistance is available!
- We meet you wherever you are on the energy management spectrum.
- Order of operations!



Community Energy Management: Benchmarking

- If you're not measuring it, you can't manage it.
- Not just measuring your building – measuring against others.
- Energy Star Portfolio Manager

Community Energy Management: Auditing

ASHRAE ENERGY AUDITS

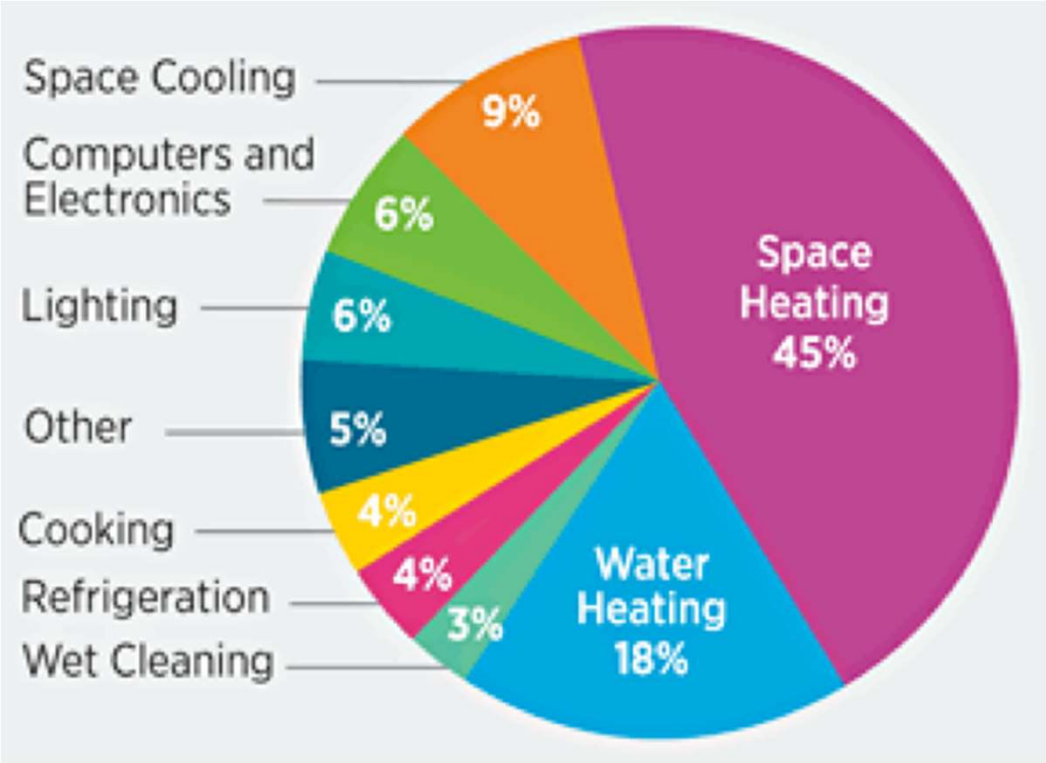
The following highlights what is involved in each level of an ASHRAE energy audit.

Type of Audit	Highlights
LEVEL 1	• Rapid assessment of building energy systems
	• Building energy benchmark
	• High-level definition of energy system optimization opportunities
	• Outline applicable incentive programs
LEVEL 2	• Detailed building survey of systems and operations
	• Breakdown of energy source and end use
	• Identification of energy-efficiency measures (EEMs) for each energy system
	• Range of savings and costs for the EEMs
	• Spotlight on operational discrepancies
	• Outlining priorities for limited resources, next steps, and identification of EEMs requiring more thorough data collection and analysis (Level 3)
LEVEL 3	• Longer-term data collection and analysis
	• Whole-building computer simulation calibrated with field data
	• Accurate modeling of EEMs and power/energy response
	• Bid-level construction cost estimating
	• Investment-grade, decision-making support

EGLE

Community Energy Management: Energy Efficiency Upgrades

- Anything that leads to energy savings!
  - LED lighting
  - HVAC upgrades
  - Smart thermostats
  - Mechanical tune-ups
  - Building automation systems
  - Variable frequency drives
- Lowest Cost vs. Shortest Simple Payback vs. Most Overall Savings



Energy Efficiency Considerations

- Rebates!
  - Check with your utility provider
  - Be mindful of deadlines
  - Work with your contractor
- Speaking of contractors…
  - Also check with your utility provider
    - “Trade Allies”

Community Energy Management: Renewables

- Right-size your solar!
  - Solar costs 17-23 cents per kWh reduced
  - Energy efficiency costs about 8 cents per kWh reduced
- Avoid too much of a good thing!

The Year That Was…

Community Energy Management Program

- 11 grantees across the state
- Municipalities, schools, housing authorities, economic development regions
- Audits, lighting upgrades, new HVAC, and solar

Success Stories!

Gladwin Zettle Airport
425 kWh generation in the month of June
On track to pay for itself within 20 year expected lifespan

Even More!

City of Evart
New HVAC system, insulation in multiple buildings,
new high bay lighting, unit heaters.

New Program Year

- More Funding!
- More Grantees!
- No Required Matching Funds!
- Priority given to communities that have not previously received funding through CEM program.
- Projects to conclude July 31st 2021

Do I Qualify?

- Of Course!
- Municipalities, public and other no-cost K-12 schools, public higher education institutions, and other public or community-serving organizations.
- Priorities given to low-income, Rising Tide communities, communities impacted by coal plant closures, and rural communities.
- Avoid ground breaking, new/modified environmental permits, and modification of historical buildings.

New Program

- Energy Services tailoring programs to help address needs in the wake of COVID-19.
- Funding earmarked for food security – upgrading cold storage for facilities serving at-risk populations.
  - Food banks, soup kitchens, homeless shelters, halfway houses, havens for abuse victims, etc.

Why Cold Storage?

- Make up a large chunk of operating costs.
- Upgrades typically costly.
- Better able to service stakeholders and provide more meals through cost savings
- Feeding America has seen 50% increase in number of people seeking assistance and anticipates a national supply gap of 8 billion meals. (source: https://www.feedingamerica.org/take-action/coronavirus)

Eligible Projects

- Any areas and devices used for storing and maintaining foodstuffs (cold storage rooms, walk-in coolers, freezers, refrigerators, etc.)
- Proposed projects can include installation of LED lighting within a cold storage room, installation of new refrigeration compressors, electronically commutated motors, evaporator fan motor controls, automatic high-speed cooler doors, or the replacement of conventional freezers and refrigerators with Energy Star models.
- $15,000 per applicant.

What Else?

- Not a grantee? Call us anyways!
  - Technical expertise and consultation
  - Speaking engagements/community outreach
  - Questions about other programs/departments

Michigan Department of

Environment, Great Lakes, and Energy

Questions?

- Julie Staveland, stavelandj@Michigan.gov
- Miles Biel bielm@Michigan.gov

Upcoming Webinars

- 10/14/20 Business Sustainability UNCENSORED
- 10/15/20 The Michigan Energy Code Adoption Process
- 10/22/20 Energy Benchmarking for Municipal Facilities
- Nov. 2020 Catalyst Communities Training

www.Michigan.gov/Energy