



**AGENDA**  
CHARTER TOWNSHIP OF MERIDIAN  
ENVIRONMENTAL COMMISSION  
REGULAR MEETING  
August 3, 2022 7 pm

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Town Hall Meeting Room, 5151 Marsh Rd, Okemos

1. CALL MEETING TO ORDER
2. PUBLIC REMARKS
3. CHANGES TO/APPROVAL OF AGENDA
4. APPROVAL OF MINUTES
5. NEW BUSINESS  
Catherine Ferguson's inquiry about public notice before pesticides are applied in public places.  
  
**Note:** There may be a simple opt-in option to receive announcements and social media alerts through our Communications Dept. if we can find out in advance.
6. OLD BUSINESS  
Climate Sustainability Plan Updates  
(drafts/comments here: [https://drive.google.com/drive/u/0/folders/1SbEWt-oRErviNffrv8Lp\\_8XHMDWiXfw](https://drive.google.com/drive/u/0/folders/1SbEWt-oRErviNffrv8Lp_8XHMDWiXfw) ; current plan available at <https://bit.ly/climatesustainabilityplan>)
7. REPORTS AND ANNOUNCEMENTS
8. PUBLIC REMARKS
9. ADJOURNMENT

# Environmental Commission Meeting: May 4, 2022

## SUMMARY

The Environmental Commission reviewed the Climate Sustainability Plan while noting areas for improvement and additions.

## AGENDA & MINUTES

Agenda approved and minutes approved with some changes.

## CLIMATE SUSTAINABILITY PLAN UPDATE

McConnell explained the reorganization of the Climate Sustainability Plan. The transportation section and energy sections were combined, and the names of people related to each section are also listed. McConnell also suggested expanding the water section to include more water sustainability issues. Regarding solid waste and recycling, there is now a team to focus on the organic recycling who is working out specifics for food waste diversion, composting, anaerobic digestion, and more.

McConnell proposed taking the lead on editing the plan and having a go-to person for each of the three sections. Possible improvements to the plan were discussed. Colby and Lafferty suggested expanding on or adding a food and agriculture section. The implications of housing security and food security were considered as more areas to expand on. The importance of communication between other teams was acknowledged to expedite make sure everything is covered.

The advantages and disadvantages to formally adopting the climate plan into the master plan or adopting it by reference was discussed with Dan Opsommer. The main area of concern is what method will be the easiest to make amendments to the plan. Adopting the plan by reference might make it easier to change. A five year schedule of revision is expected to be maintained along with objectives for each time frame.

There is a need for more communication with external sources for more information about climate sustainability. McConnell suggested Frazier lead the initiative and he agreed.

The potential to expand on public education is discussed with options to include specifics in an implementation plan along with the Climate Sustainability Plan. Grasseschi suggests adding educational goals at the end of each section.

Sarver discussed the energy team's status on the plan. He outlined three objectives. Objective one about township policies and procedures and electrifying buildings and vehicles with solar energy, the second objective is to increase renewable energy at township facilities, and the third objective is to increase solar installations from 97-250 by 2025 and education homeowners on solar power. There has been some previous success in public education and use of solar power.

Options for future public outreach are considered. A news story with HOMTV and an educational campaign with the director of public works were two avenues. The video could be updated and used on a yearly basis. The communications department can be used for outreach and to assist in proofreading and branding as the final procedural step. Harvey suggests collaborating with other communities for public messaging.

## DEVELOPMENTS

- A future development of the old Haslett supermarket is discussed with its effects on the wetlands in the area. It was suggested to request a parcel list based on the wetland layer from GIS. A letter could go out to inform about not putting chemicals into the landscape.

- The possibility of new developments having to include electric car charging ports and the implications of that were considered.
- The expansion of the Haslett Village Square was discussed since a detention basin would have to be added. McConnell mentioned adding trees to the area could be more beneficial to limit storm water than the default of just adding grass.

### **WETLAND EDUCATION TEAM**

Grasseschi shared the Wetland Education Team successes including...

- Prime Meridian magazine featuring wetland information and photo
- Wetland Buffer informational flyer was developed and mailed to 33 landscaping contractors
- 107 views of the Native Plant Class at the Harris Nature Center
- “Gardening with Wetland Buffers” class through MSU Extension
- Wetland Walks

### **ENVIRONMENTAL JUSTICE**

Grasseschi reports that it is important to start with DEI Training to address environmental justice concerns.

### **LPAB**

Grasseschi reports that LPAB did not formally meet in April but instead toured the Lake Lansing preserve to see the site of the controlled burn.

### **GRANTS**

A recycling grant of a quarter million dollars has been obtained in hopes to expand recycling facilities. The food groups and parks have also been able to obtain grants from the state and other sources. McConnell raised the question of if more action is needed to obtain more grants for future projects. Lafferty mentioned a workshop for grant writing from the Michigan Recycling Coalition. She also discussed other grants that could be applied for.

### **STAFF & COMMISSIONER NEWS**

- Lafferty ran a recycling audit at Williamson Middle School.
- Harvey discussed collections at the green fair and weeding at the rain garden at Burcham and Park Lake.
- Lafferty helped run the MSU move-out donations.
- Hirschert – Walton helped coordinate planting trees and will continue trying to have trees planted at the high school.

# Environmental Commission Meeting: June 1, 2022

## SUMMARY

The Environmental Commission reviewed the Climate Sustainability Plan with a focus on the food and compost section.

## AGENDA & MINUTES

Agenda and minutes approved.

## CLIMATE SUSTAINABILITY PLAN UPDATES

Lafferty discussed information about the proposed food and compost section with goals of decreasing waste in landfills. Colby discussed why the focus is on both food decomposing and composting. She also highlighted the several environmental impacts along the whole food system including harvesting. This leads into creating larger goals addressing the food system in the plan. She cites supporting local farmers as important and also education. Lafferty discussed the ways to reduce organic materials in landfills with composting working best for a sporadic supply but a digester working best for a continuous supply. The Michigan Good Food Charter has been used as a reference for strategies. Jackson raises the question of how to influence the public, and it is recognized that there will be an educational component with possibly incentives for businesses. Community gardens were discussed as a way to involve the public, and the status of several existing gardens was addressed. Grasseschi mentioned how gardens could help people care more about their food. Colby talked about how to ensure the education component focuses on sustainability. Frazier questioned if the township would have the ability to offer tax credits to businesses, and McConnell said that could be raised to the treasurer's office.

Colby asked about the level of detail that should be included in the plan compared to what will have to be known outside of it. The current plan has a lot of background detail and could be written in a more concise manner. Grasseschi suggests a consistent format for each section. McConnell says that the goal is to have overarching objectives with the strategies focusing on the specifics. The current plan can be used as a template. Addressing crossover between topics within the plan will help for topics that can go in multiple sections.

McConnell discussed where issues of environmental justice and diversity equity and inclusion would be added to the plan. The plan could be evaluated for where to address these issues without them being at the forefront of the plan.

## REPORTS & ANNOUNCEMENTS

- The township received gold recognition for the Green Community Challenge. Recognition for this award could go out to Harvey, trustees, citizen led teams, the wetland education group, the green team, and the food team. The recognition gives the township access to a grad student for a couple months. The application for the award could provide insight to the sustainability plan with where points are awarded.
- Four green grants were funded, and promotions for the grants are being created. Some promotions include the butterfly garden, rain garden, and Haslett Community Church.
- Harvey explained a natural shoreline demonstration at Lake Lansing. The shoreline will be at Lake Lansing Park South and will go out for bid soon.
- Supervisor Jackson discussed her excitement for the sustainability plan and the discussions related to it.
- The wetland team sent out a document to landscapers about the wetland ordinances, and a future notice will go out to the public for education on what a wetland buffer is. The notice was reviewed to be sent out to those in a wetland or adjacent, and it was approved. A wetland demonstration garden will be going in at Central park.

**WETLAND EDUCATION TEAM (KG edits)** Grasseschi shared the successes of the Wetland Education Team including...

- Revisions to the design of the Wetland page
- Residential Wetland buffer notice. Grasseschi asked and received commissioner feedback before they were mailed.
- Collaboration between EC, LPAB, and Parks for the first demonstration buffer to be planted at Central Park on 6/4/22. Grasseschi invited commissioners to attend.
- Wetland Walks
- Identifying a team protocol for vetting educational information
- LPAB: Grasseschi shared the 2017 Climate Sustainability Plan with LPAB and feedback included adding a section of Native Vegetation along with Native Trees. Planting a Native Meridian will start this month as MCC collected thousands of native seeds from parks and preserves around the Township.
- Sarver from the energy team talked about transportation at their meeting with main objectives of encouraging citizens to be safe commuters, converting township vehicles to electric, land-use planning, and encouraging public transit and carpooling. Jackson brought up issues with information on public transit.
- Recycling will be added as a topic of discussion along with wetlands for the next meeting.
- Township welcoming signs will be going up coming into the township and also municipal areas.

**PUBLIC REMARKS**

- It was encouraged to strengthen communications between other township sources like the treasurer, and Jackson acknowledged they will reach out to the treasurer's office.

## Water Management

Water and how it is managed impacts almost all aspects of society, in particular health, food production, water supply and sanitation, and the functioning of ecosystems. Higher temperatures and changes in extreme weather conditions due to climate change are projected to affect rainfall, river flows groundwater, and water quality. Water management is an important Township responsibility and pollution prevention and wetland preservation are priorities. One of the most significant Climate Change impacts in Meridian Township will be more major rain events that lead to flooding.



Drinking water and wastewater systems account for approximately 2 percent of energy use in the United States, adding over 45 million tons of greenhouse gases annually. As much as 40 percent of operating costs for drinking water systems can be for energy.<sup>1</sup>

### Past and Current Progress:

Meridian Township Public Works and Engineering maintains, repairs and operates the water distribution system; which includes 158 miles of water mains, 12,000+ water services, 15,000+ water meters, over 15,000 remote readers, over 1,900 fire hydrants, and two 500,000 gallon elevated storage tanks. The Township's web site has information on storm water management and pollution prevention including the following topics: Pollution Isn't Pretty, How to Properly Wash Pavement and Your Car, Pesticides and Fertilizers, Green Infrastructure and Low Impact Development, and Managing Riparian Lands.

The Township is a member of the East Lansing Meridian Water & Sewer Authority and purchases treated water from the Authority for areas of the Township north of Bennett Road and Kinawa Dr. The Township purchases treated water from the Lansing Board of Water & Light for areas south of Bennett Road and Kinawa Dr.

The Township enacted a wetlands protection ordinance that is more protective of wetlands than State regulations. The Township ordinance stipulating "no net loss" of wetlands means that wetlands drained or filled must be replaced by a wetland of equal or greater size. This includes wetlands as small as .25 acres. The Township maintains a wetland inventory and incorporates wetlands considerations into the site plan review process, including setbacks from natural features such as wetlands.

Wetlands cover over 25% of Meridian Township (5,778 of 20,160 acres). Wetland types in the Township include emergent marshes, wet meadows, forested swamps, and two rare or special types of wetlands called prairie fens and vernal pools. Prairie fens are rare wetlands dominated by sedges, grasses, and flowering herbaceous plants that occur in areas with organic soils and cold, calcium- and magnesium-rich groundwater that reaches the surface through seeps and springs. An example of a prairie fen can be found in Meridian Township's Davis-Foster Preserve. Vernal pools are small, shallow, seasonally flooded wetlands or waterbodies that typically occur in forests and are wet in the spring for at least two months and dry by late summer or fall. Because vernal pools dry up, they lack fish predators and, as a result, provide critical breeding habitat for frogs, salamanders, and insects including some species that only occur in or depend on vernal pools for their survival (e.g., fairy shrimp, blue-spotted and spotted

<sup>1</sup> Sustainable Water Infrastructure: Energy Efficiency for Water Utilities, U.S. Environmental Protection Agency, April 24, 2017

salamanders, wood frogs). These species are important components of the food chain and energy-nutrient cycles that support healthy, resilient ecosystems. Vernal pools also provide habitat for many other animal and plant species including common species such as wood ducks, great blue herons, painted turtles, and deer, and rare, threatened, or endangered species. Although these wetlands are not rare in Michigan, they have limited protection under current wetland regulations given their small size (generally smaller than 1 acre and most under 0.25 ac).

Wetlands provide many natural benefits or ecosystem services and play an important role in maintaining healthy watersheds and communities. These benefits or services are even more critical in light of climate change. However, wetlands continue to face a number of threats including climate change. Protecting, managing, and restoring wetlands in the Township will ensure that they continue to provide essential benefits and services that will help the Township mitigate and adapt to risks and impacts associated with climate change in the following ways:

1. Water quantity management – Climate change is predicted to increase air temperatures and alter the timing, amount, frequency, and nature of precipitation in Michigan, including the potential for more precipitation in the fall and winter and less in the summer; increased evaporation, an overall drier climate and drier soils/drought conditions, particularly in the summer, and increased frequency of extreme/severe weather events. These changes could lead to lower water levels in lakes, rivers, streams, and the groundwater table. Wetlands act as sponges, temporarily holding and storing water, and providing water for surface and groundwater recharge.
2. Water quality protection – Climate change can increase storm intensity and increase frequency of severe storms, resulting in increased stormwater runoff. This will increase erosion and input of pollutants that runoff from land into the water, impacting water quality for drinking water, recreational use, and fish and wildlife habitat. Wetlands are often referred to as “kidneys” in the landscape. Through cycles of wetting and drying, combined with the bacteria and plants that live in wetlands, they can store, alter, and/or filter out pollutants such as excess nutrients, heavy metals, and petroleum products, and help maintain or improve water quality.
3. Hazard management – By acting as sponges and temporarily holding and slowly releasing water, wetlands can buffer the effects of extreme storm events which are predicted to increase in frequency and severity with climate change and reduce flooding and erosion in the Township. Flooding from more frequent and severe storm events has already caused increased flooding and property damage in the Township. Maintaining and increasing wetlands in the Township can reduce the potential for these impacts in the future in light of climate change.
4. Habitat/wildlife protection – Wetlands are vital to Michigan's wildlife as well. Acre for acre, they produce more wildlife and plants than any other Michigan habitat type. Over 50% of the plants and over 40% of the animals in Michigan utilize wetlands for at least part of their life history, including over 40% of the rare, threatened and endangered species in Michigan. Wetlands can reduce the effects of climate change-related drought and heat on wildlife by providing a source of water or moist, cool conditions or habitats. As the climate changes, wetlands also provide a corridor or stepping stones on the landscape that may help species move to more suitable habitats. As mentioned earlier, wetlands can also help reduce potential impacts to water quality due to climate change. Protecting wetland extent, condition, and diversity will help support fish and wildlife populations and habitat in the Township and in Michigan.

5. Carbon sequestration – Wetlands also can mitigate or reduce climate change by storing carbon, primarily in the soil but also in the vegetation and dead leaf litter. Wetlands only cover about 5-8% of the Earth’s land surface but are estimated to store between 20-30% of earth’s total soil carbon. Globally, wetlands store ~225 billion metric tons of carbon, which is equivalent to carbon emissions from ~189 million cars/year. Wetlands currently cover about 4% of the surface area of the contiguous U.S. (excluding Alaska and Hawaii) but the total amount of carbon currently stored in wetland soils, peat, litter and vegetation in the U.S. is undetermined; no comprehensive inventory of soil carbon has been completed in the United States. Maintaining, restoring, and increasing wetlands in the Township will help maintain and increase the carbon stored in these wetlands

Objective e.1: Decrease water usage at Township facilities.

#### Strategies

1. Use building audits to determine which water fixtures to upgrade.
2. Amend purchasing policy to require that when purchasing or replacing new toilets only low flow fixtures will be purchased.
3. Install waterless urinals where appropriate.
4. Implement, as funds allow, a system to capture and use rainwater and gray water for turf and landscape irrigation at municipal facilities.

Objective e.2: Reduce storm water runoff.

#### Strategies

1. Partner with the Ingham County Drain Commissioner on reduction in storm water runoff.
2. Review and change policies as needed to accommodate expected changes in storm surges and extreme weather events.
3. Increase the number of street trees.
4. Use porous pavement, rain gardens, bioswales, riparian buffers, and retention ponds as appropriate. Use township parks and other properties to demonstrate these strategies.
5. Provide credits on water bills for rain barrels, porous pavement, and rain gardens.
6. Encourage projects that reuse storm water for irrigation purposes.
7. Discourage development within wetlands, floodplains, floodplain fringe areas, and water retention areas. Strengthen the Township wetlands ordinance in order to increase wetland acreage in the Township.

Objective e.3: Provide educational opportunities concerning water conservation and management.

#### Strategies

1. Use signs, brochures, and other outreach materials to describe why we conserve water and what the Township is doing to conserve water, alternatives to fertilizer use and how it affects stream ecosystems, drought resistant grasses, native plants, rain barrels, water efficient appliances such as low-flow toilets, and how one’s water usage compares to a typical home’s water usage.
2. Use media, web page, HOM-TV, public forums, and other means to encourage water conservation.

Objective e.4: Explore opportunities for water efficiency improvements within Meridian’s water supply and sewage treatment systems.

#### Strategies

1. Work with East Lansing Sewage Treatment Plant and Lansing Board of Water and Light to identify ways to

- reduce water use and sewage.
- 2. As a member of the East Lansing Meridian Water & Sewer Authority, identify ways to reduce water use.
- 3. Review water safety and supply plans and strategies.

Objective e5: Provide education on how critical wetlands are to climate sustainability

#### Strategies

1. Help decision makers and the community identify wetlands
2. Help the decision makers and the community understand wetlands' critically important function of water filtration, flood protection, absorbing carbon, providing critical wildlife habitat, etc.
3. Provide educational materials on wetland benefits, laws, and ordinances via township website, brochures, and flyers

Objective e6: Identify and continue to monitor and/or measure the amount and condition of wetlands remaining

#### Strategies

1. Utilize EGLE Wetland Viewer
2. Utilize Meridian Township GIS system
3. Work with researcher/contractor to map and monitor amount, distribution, and condition of wetlands in the Township on a regular basis (e.g., every 5-10 years).
4. Assess whether wetlands in the Township are adequately protected (e.g., whether vernal pools are adequately protected, are all wetlands adequately buffered, etc.) and address gaps in protection
5. Provide signage to identify wetlands throughout the township
6. Identify and ensure high quality or high functioning wetlands in the township are protected; determine criteria and process for identifying these wetlands

Objective e7: Increase wetland acreage

#### Strategies

1. Discourage development within wetland, floodplains, and water retention areas
2. Encourage to infill development
3. Continue to purchase land preserves
4. Identify potential areas that could be restored to wetlands on Township property and initiate restoration efforts

Objective e8: Increase wetland's functionality by extending wetland buffers

#### Strategies

1. Educate the community and contractors/builders/landscapers on wetland buffers
2. Continue the work of the Wetland Education Team's "Build Back the Buffer" education initiative along with any future wetland restoration educational efforts and projects
3. Continue to build the Meridian Conservation Corps and Vernal Pool Patrol
4. Utilize Meridian Township's Native Plant Guide and sample plant plan guides
5. Create and/or extend demonstration areas throughout the community
6. Educate residents/businesses on ways to successfully create and maintain a natural vegetation buffer
7. Utilize the Harris Nature Center Native Plant Sale and other native plant retail opportunities
8. Continue to offer educational opportunities to safely remove invasive species
9. Use signage to identify buffer areas
10. Determine if current wetland buffers are adequate for all wetland types and modify if necessary

### **c. Recycling and Waste Reduction**

Recycling is an important environmental action taken by most Meridian Township residents and businesses. Recycling saves resources, prevents pollution, supports public health, and creates jobs. Harmful chemicals and greenhouse gasses are released from rubbish in landfill sites. It takes less energy to create new items from recycled materials than it does to create new products from raw materials.

Past and Current Progress:

For over a decade Meridian Township has partnered with citizen groups and waste haulers and recycling providers to provide recycling options to residents. During this time, Meridian has offered drop-off for yard waste, paper, metal, glass, and #1-#2 plastic at its Recycling Center and Transfer Station at 5976 E. Lake Drive in Haslett. This has been expanded to include electronics, Styrofoam/expanded polystyrene, green glass, and batteries. In addition, useable household furniture and knick-knacks are often reclaimed and refinished for resale. **Tom suggestions updating)**

In 2005, Granger, who serves the majority of single-family residential customers in the Township, began providing curbside recycling at no charge to their customers in 1-5 unit single-family dwellings. Also, in 2006, the Meridian Township Citizen's Recycling Advisory Committee formed and offered the first bi-annual community-wide recycling day. In 2007, Meridian hired a Recycling Coordinator to assist with recycling efforts in the township.

In 2015, larger residential recycling carts were offered, which helped increase recycling rates in the residential sector in 2016. In addition, more materials were collected at our Recycling Center.

#### **Objective c.1: Increase recycling in owner-occupied dwelling units.**

##### Strategies

1. Collaborate with Granger, Emterra, local municipalities, and others to promote recycling and best practices to reduce contamination and waste.
2. Expand the use of 96 gallon carts and remove disincentives for recycling.
3. Expand marketing and outreach to promote existing recycling services and options.
4. Collaborate with regional municipalities, the Regional Recycling Coordinating Committee (R2C2), and other neighborhoods, organizations, and others to increase recycling.

#### **Objective c.2: Expand recycling in multi-family housing and in other commercial settings.**

##### Strategies

1. Establish an additional recycling drop-off facility in partnership with Granger and the State of Michigan.
2. Review Township purchasing policies for waste reduction opportunities including the use of supplies that are compostable or higher recycled content.
3. Promote and expand current recycling efforts in multi-family housing.
4. Explore ordinances, policies, and programs that encourage recycling.
5. Provide technical assistance to managers and occupants of multi-family housing/apartments.
6. Review internal township recycling practices, procedures, and participation.

#### **Objective c.3: Offer community- and region-wide recycling events and other partnerships including expanded recycling facilities and options.**

##### Strategies

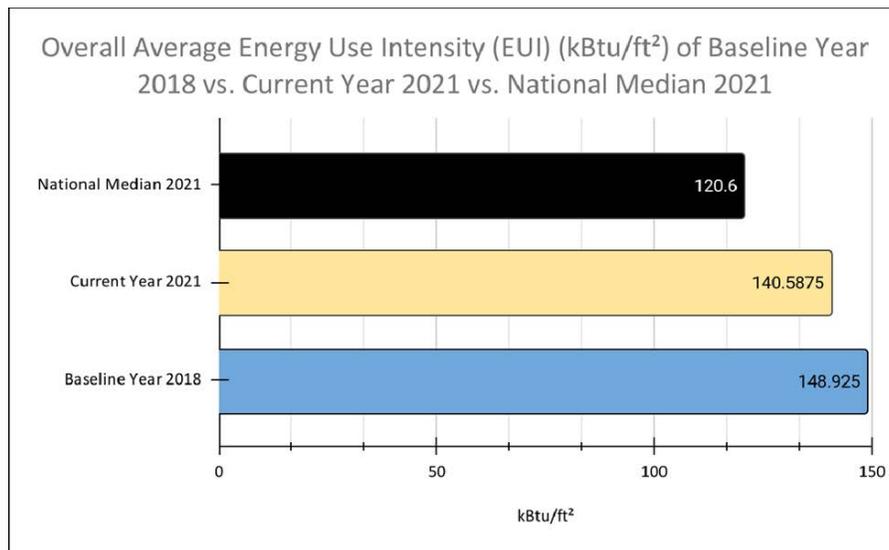
1. Establish an additional recycling drop-off facility in partnership with Granger and the State of Michigan.
2. Increase recycling, composting, and reclamation of lumber, food, cooking oil, etc. at Meridian's Recycling Center.
3. Partner with local business, farmers market, schools, neighborhoods, governments, departments, parks, churches, and others to promote and offer recycling events and enhanced recycling opportunities.
4. Promote Ingham County household hazardous waste collections.
5. Explore collaborative processing and/or transfer of recyclables locally and/or in the region.
6. Identify and implement food, cooking oil/grease, composting, and related organic material recycling options.
7. Provide educational opportunities concerning the 5 R's: Refuse, Reduce, Reuse, Repurpose, & Recycle including simple instructions reduce "wishcycling" and contamination.
8. Improve signage that promotes recycling and directions to recycling drop off facilities.
9. Promote re-usable bags, bottles, plastic waste reduction, compostable single-use alternatives, etc.
10. Consider an annual solid waste audit and participation in EGLE's Municipal Measure Program.

## a. Energy Efficiency

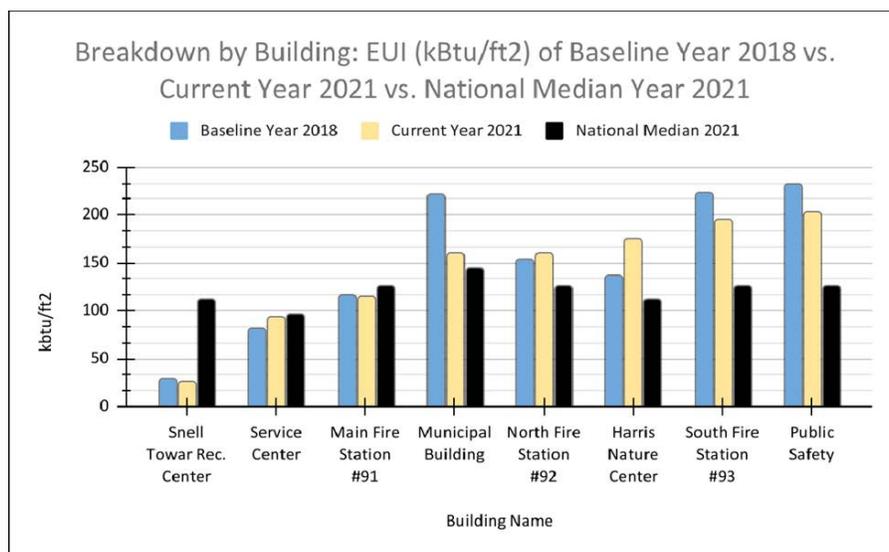
Energy efficiency remains one of the quickest, safest, and most cost-effective ways to reduce greenhouse gas emissions and save money. Energy efficiency also offers other important security benefits, helping reduce power outages, shortages, and risk of grid failure during times of peak energy use.

Meridian has invested in significant energy saving measures over the years. More recent improvements include a major overhaul of the HVAC system in the Municipal Building and LED office lighting improvements in the Public Safety, Municipal, and Service Center Buildings.

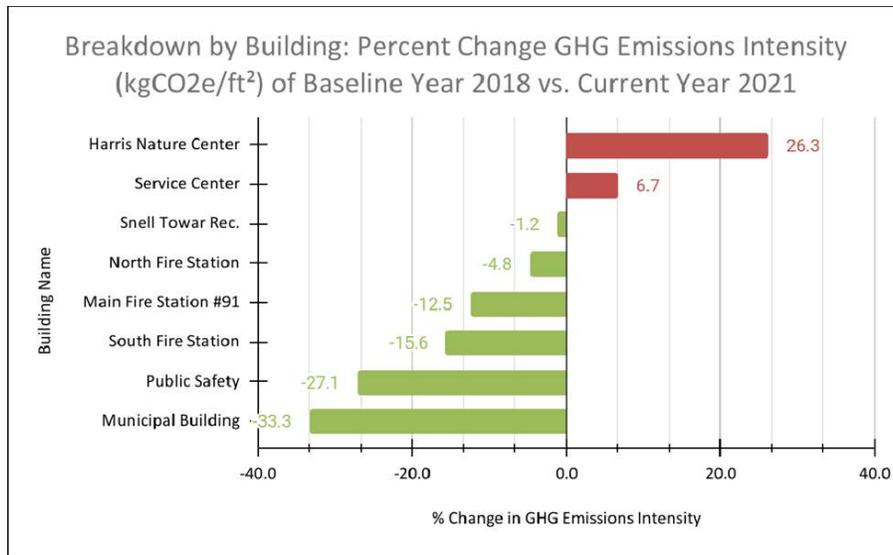
An Energy Benchmarking Study 2018-2021 revealed progress in energy savings. The average overall Energy Use Intensity (EUI) of buildings improved by 5.6% or 8.3 (kBtu/ft<sup>2</sup>) as illustrated below. However, the average EUI in 2021 is still about 16% higher than the National Median, indicating room for improvement.



The chart below illustrates the performance of Meridian’s major buildings compared to the national average. Buildings on the far right have the greatest opportunity for improvement and savings.



This chart shows a significant reduction in greenhouse gas emissions for most Township buildings.



The most improved building GHG emissions intensity was the Municipal Building with a 33.3% reduction followed by Public Safety with 27.1%, South Fire Station with 15.6%, Main Fire Station #91 with 12.5%, and Snell Towar Rec. with 1.2% reductions in GHG emissions intensity. The building with the least improved GHG emissions intensity was the Harris Nature Center with an increase of 26.3% followed by the Service Center with 6.7% increase in GHG emissions intensity.

Meridian has opportunities for energy savings, water savings, greenhouse gas reductions, and cost saving in its building, but also in its vehicle fleet and in streetlighting. Meridian Township spent \$734,000 on energy and water in 2021. This includes natural gas, electricity, propane, and streetlighting.

#### Energy Expenditures in 2021

Street Lights	\$396,821
Electricity	\$249,939
Natural Gas	\$64,336
Water	\$20,791
Propane	\$2,483
Total	\$734,370

Several energy audits have been performed over the years including one in 2015 (<http://bit.ly/phase-ii>) and a Building Performance review (<http://bit.ly/energy-performance-17>). These studies have helped guide efficiency investments. New energy audits will help identify additional measures to pursue in the years to come.

Meridian has also launched a streetlighting inventory to assist in keeping track of future improvements, outages, and street light districts. Meridian's ongoing support for the Michigan Municipal Association for Utility Issues ([MI-MAUI](#)) has served as a means to collaborate with other municipalities to negotiate mutually beneficial policies with Consumers Energy and other utility providers.

Objective a.1: Achieve significant energy cost savings and carbon emission reductions in Township facilities.

Strategies:

1. Complete implementation of recommendations from the EcoWorks' Benchmarking Study and Consumers Energy's Building Performance with Energy Star Study.
2. Update energy audits through Consumers, and develop a partnership with MSU's new DOE grant funded IAC pilot program, etc.
3. Continue to track municipal energy consumption within the City's Portfolio Manager account and update energy consumption metrics at least quarterly.
4. Prioritize energy efficiency opportunities at Municipal Building, Public Safety, South Fire Station, Harris Nature Center and North Fire Station.
5. Obtain Energy Star designation for township buildings where possible with a focus on the Municipal Building.
6. Explore opportunities to include energy saving in the Employee Handbook.
7. Explore opportunities to include LEED criteria or the equivalent for projects undertaken by the Township. LEED criteria include measures related to energy efficiency, renewable energy, recycling and waste management, transportation, and water management.
8. Budget funds for energy efficiency assessments a minimum of once every five years. Utilize the Revolving Energy Fund as needed. Consider utilizing the Revolving Energy Fund for energy audits, heat pump at Harris, or other demonstration projects.
9. Address sustainability implications in proposals for capital improvements. Township Manager will consider criteria related to energy efficiency, renewable energy, waste management, transportation, and water management when developing a capital improvement plan.
10. Prioritize weatherizing and electrifying the Harris Nature Center first. Explore switching from a propane energy system to a cold weather heat pump system at the Harris Nature Center. In many cases switching from propane to a heat pump results in energy and cost savings. The Harris Nature Center is the only building benchmarked that utilizes propane for heating.
11. Resolve inverter connection issue with solar array at Harris Nature Center and create a solar meter for the Harris Nature Center in Portfolio Manager to add the missing electricity data. Please note that the energy usage and GHG emissions data would have looked different if the solar array electricity generated and used would have been reported.

Objective a.2: Explore other opportunities and partnerships to achieve energy savings.

Strategies:

1. Identify and pursue State and Federal grant funding, pilot programs, and utility programs.
2. Pursue and build a partnership with MSU's new DOE grant funded IAC pilot program to provide free energy assessments to all qualifying Township facilities, which includes information on all available incentives and grants that the Township may pursue. ,
3. Further build partnerships with programs such as Michigan Green Community Network, EcoWorks, Clean Cities, Sustainability Forums, and expand collaboration with other local governments in our region.
4. Increase tree canopy throughout the township and especially in business areas to reduce cooling loads. Consider the potential for future solar energy installations when deciding placement of trees. Propose ordinance changes and provide incentives for existing businesses to upgrade their parking lots and landscaping to increase tree cover and shade to be energy efficient and environmentally friendly.
5. Create incentives for the use of white roofs or green roofs to reduce cooling loads.
6. Identify opportunities and remove barriers to support the construction of accessory dwelling units, and

other housing options that indirectly affect energy consumption by improving density, reducing transportation costs, or improving resource efficiency.

Objective a.3: Provide educational opportunities for Township staff and residents about energy consumption, energy savings opportunities, and utility incentives.

Strategies:

1. Create an in-house “Green Team” involving interested staff that can help with outreach and brainstorming.
2. Improve delivery of information and data on energy consumption to building managers, Township staff, accounting/budgeting staff, and financial managers using Portfolio Manager and other tools.
3. Provide energy efficiency information to Township residents so they are aware of Township efforts and energy efficiency opportunities and programs to help improve their own homes, businesses, and neighborhoods.