

## **KALAMAZOO TOWNSHIP CLIMATE ACTION PLAN**

### ***DOING OUR PART TO ADDRESS THE CLIMATE CRISIS***

**(4/11/2022 version presented to the Township Board)**

#### **INTRODUCTION**

All of us understand that the climate crisis represents the most severe and persistent threat to the continued flourishing of human civilization and to the natural world that supports it. The question is: what can we - Kalamazoo Township government, employees, and citizens - do on a local scale about such an overwhelming threat.

To have a viable Climate Action Plan we need to work in three areas. First, the Township has direct control over its buildings, vehicles, and other direct purchases and assets. Second, the Township works in cooperation with other governmental entities, such as the Kalamazoo County Road Commission, Kalamazoo Regional Water/Wastewater Commission, etc. Third, the Township can encourage positive actions of its residents through ordinances and education.

This is intended to be a living document that articulates the research and recommendations of the Township Climate Committee. As technologies evolve, we will improve its recommendations to help strengthen Kalamazoo Township's ability to reduce carbon emissions and mitigate negative environmental impacts in the Township. However, it should not be construed as making policy changes or granting budgetary authority without further Board action.

The motivating idea behind this plan is the following: every policy, budgetary decision, or action will be considered by the Township Board, staff, and other township bodies in light of its impact on the climate crisis.

**GOAL:** Commit the Charter Township of Kalamazoo to a just and equitable transition toward reaching carbon neutrality by 2040. Our ability to do this will rely on appropriate financial and regulatory assistance and collaboration with other state and federal entities, including but not limited to the County of Kalamazoo and adjacent local governments.

#### **OBJECTIVE 1: ESTIMATE KALAMAZOO TOWNSHIP CURRENT GREENHOUSE GAS (GHG) EMISSIONS AND THEN MONITOR AND DOCUMENT FUTURE EMISSIONS**

The Climate Committee built a current baseline of GHG emissions using the Simplified GHG Emissions Calculator (SEGC) by the EPA. As of August 2021, we have entered the township building energy bills from 2019 and the amount of vehicle fuel purchased in 2020.

The Climate Committee will calculate the fuel consumption for the Township's maintenance tools, such as lawnmowers, weed whackers, etc.

For Township vehicles, 28,484 gallons of gasoline and 1,532 gallons of diesel were purchased in 2020, equating to 266 Metric Tons (MT) of CO<sub>2</sub>.

The Township purchased 2,754,648.3 Kbtu of natural gas for heating, hot water, and cooling in its buildings, equating to 150 MT of CO<sub>2</sub>.

In 2019, the Township purchased 349,000 kWh of electricity for buildings equating to 209 MT of CO<sub>2</sub> emissions.

From July 2019 thru June 2020, the Township used 773,130 kWh of electricity on street lighting equating to 463.3 MT of CO<sub>2</sub>.

Based on these data, the Township generated about 1088 MT of CO<sub>2</sub> in a year. Of that, 42% was generated to light our streets, suggesting that using more efficient streetlights would help the Township reduce its carbon footprint.

## **OBJECTIVE 2: IMPLEMENT ENERGY EFFICIENCY AND GREENHOUSE GAS REDUCTION STRATEGIES**

This category includes implementing technologies and practices to reduce energy use directly, and moving energy uses to the electrical grid, which we anticipate will become less carbon-intensive in coming years.

**2.1) Install Energy-efficient Streetlights:** Consumers Energy owns and manages 1546 streetlights in Kalamazoo Township. Funded by a special assessment, Kalamazoo Township pays the utility for the energy used. Beginning in 2020, as older lamps burn out, Consumers Energy replaces the older, high-pressure sodium lights with energy-efficient, 3000K LED streetlights. As of June 2021, the utility replaced 314 (20%) older streetlights with LEDs and expects to replace 3-4% of older lights each year (Trustee Steve Leuty). Kalamazoo Township continues to interact with the utility to seek opportunities to accelerate the conversion to LEDs. LED streetlights are more efficient and last 20-25 years. If we had solar operated LED streetlights, there would be zero carbon emissions.

**2.2) Purchase Energy Efficient Vehicles and Light Equipment:** The Committee recommends a policy requiring Battery Electric Vehicles and non-gasoline equipment unless they are not feasible.

**2.2.1)** Use Clean Cities Network Resources and Michigan Clean Cities Fleet Consulting Service ([michigancleancities.org](http://michigancleancities.org)) to help with planning our fleet EV transition. Register the Township with Consumers Energy "PowerMIFleet" program. Research adding EV charging infrastructure to existing Township buildings.

**2.2.2)** Apply for "Charge Up Michigan" grant to install Electric Vehicle Supply Equipment (EVSE) at new Eastwood Fire Station. This could be for Township-owned vehicles only, and/or include charging spaces in public parking, with a charging network agreement. Electrical supply will be sized to easily install future EV expansion.

**2.2.3)** Utilize “Alternative Fuel Data Center” Tools [www.afdc.energy.gov](http://www.afdc.energy.gov) , EGLE’s “EV Planning Resources for Communities” and other resources for planning.

### **2.3) Develop Energy Efficient Buildings**

**2.3.1) Township Buildings:** In recent years, the Township implemented significant, energy-efficiency improvements, including a new HVAC system, an insulated membrane roof for the Township office, and lighting systems in the fire stations and Township office building and parking lot.

**2.3.2)** Consumers Energy carried out an audit on Township buildings in Summer 2021 (four fire stations, Township Hall, Grand Prairie Golf Course Clubhouse). We are evaluating recommendations, which fall mainly in the areas of lighting, heating and cooling, and a new controller for the golf course water pump.

**2.3.3)** We agree that there is a need for a more in-depth evaluation of our buildings, focusing on insulation, infiltration, window efficiency, and HVAC efficiency.

As each building is evaluated, the Township will need to plan for and perform the recommended upgrades. Apply for the Catalyst Communities “Community Energy Management” funding to carry out the audit above, and possibly help to fund some of the upgrades. [Michigan.gov/Energy>Funding Opportunities>Community Energy Management Program](http://Michigan.gov/Energy>Funding Opportunities>Community Energy Management Program)

**2.3.4) Standards for new construction and renovations:** Proposals for future construction of new buildings or renovation of existing buildings should include consideration of meeting LEED standards or other renewable and energy efficiency standards. It is not necessary to pay for the credential, but documentation should be given to the Board that these considerations have been undertaken.

On October 25, 2021, the Township Board passed a motion “To approve the Phase 2 work for the new Eastwood Fire Station, authorizing DLZ Architects and Engineering for a total cost of \$580,333, and to authorize Manager Mitchell to sign the contract and associated documents, subject to the understanding that the design team will interact with the Township Climate Committee to consider proposals to expand renewable energy production and maximize energy efficiency in the design of the station, in order to approach net-zero energy use as closely as feasible subject to budgetary constraints and design requirements.”

**2.4) Practice Circular Economy:** The circular economy attempts to use recycled material to make a product and then to recycle the end product. An example of this is: buying post-consumer recycled paper and then recycling the paper when done.

The Township has already used its significant economic power to have a Township recycling program. This helped to reduce the waste going into the landfills and it encourages the use of recycled materials, such as recycled plastics and paper.

To build on this circular economy commitment, the Township could now be working with its suppliers to determine if they are working on Climate Action Plans, and recycling. It should prioritize using suppliers who have recycling plans with their products and who are implementing Climate Action Plans to reduce their toxins and their energy usage.

The Township can also ask for Safety Data Sheets. These are required by OSHA for all hazardous materials in end-user products. By asking for these SDS's it might determine which supplier uses the safest materials. An example of this is, who uses the fewest and safest hazardous materials in the dry cleaning products used to clean the police uniforms. By using fewer known hazardous materials, the Township is helping the circular economy.

This is an evolving (circular) area. As more companies look to recycle, more uses for recycled materials are developed. Therefore, both the Township and the Climate Committee should be constantly monitoring whether the Township is using the best product available in the circular economy.

### **OBJECTIVE 3: USE RENEWABLE ENERGY**

Renewable energy systems are becoming more cost-effective as advances in technology lead to increased efficiencies and the cost of traditional power sources increases. Kalamazoo Township will develop and identify opportunities to install solar, wind, geothermal, and other renewable energy systems at Township facilities and facilitate installations elsewhere. The current strategy will be focused on solar upgrades since many opportunities exist.

**3.1)** Investigate feasibility of photovoltaic panels on Township buildings. (Trustee Leuty + Manager Mitchell)

**3.2)** Investigate feasibility of a “solar farm” on Township property.

**3.3)** Investigate the possibility of owning fractional shares in renewable energy production (Community Solar or similar programs)

### **OBJECTIVE 4: SEEK TO IDENTIFY FUTURE CHALLENGES ARISING FROM CLIMATE CHANGE AND IMPLEMENT STRATEGIES TO IMPROVE RESILIENCE (ADAPTATION STRATEGIES)**

Identifying potential and unavoidable threats to our residents from climate change, and in what sequence we may face them, has been difficult. Examples might include inadequate storm sewer capacity to handle extreme rainfall events, or a need for cooling stations to serve many of our residents during a protracted heat wave (or heating stations if power outages in winter interrupt residential heating systems) coincident with a widespread power failure. We need to do more research to characterize and plan to respond to these.

Information provided below was abstracted and simplified from the Fourth National Climate Assessment section on Midwest impacts of climate change:

Biodiversity and Ecosystems - Parks and undeveloped land in the Township may house species and ecosystems that are at risk from temperature increases, habitat loss, pollution, nutrient inputs, and invasive species. Restoration of natural systems, use of green infrastructure, and conservation efforts, especially of wetlands, help protect people and nature from climate change impacts.

Human Health - Climate change will worsen existing health conditions and introduce new health threats by increasing the frequency and intensity of poor air quality days, extreme high temperature events, and heavy rainfalls; extending pollen seasons; and increasing disease-carrying pests and insects. We can expect to experience substantial, yet avoidable, loss of life, worsened health conditions, and economic impacts as a result of these changes. Improved basic health services and increased public health measures— including surveillance and monitoring—can prevent or reduce these impacts.

Transportation and Infrastructure - Stormwater management systems, transportation networks, and other critical infrastructure will experience impacts from changing precipitation patterns and elevated flood risks. Over time the annual cost of adapting stormwater systems to more frequent and severe storms may increase significantly beyond what is now required. Green infrastructure can reduce some of the negative impacts by using plants and open space to absorb stormwater.

Community Vulnerability and Adaptation - At-risk communities are becoming more vulnerable to climate change impacts such as flooding, drought, and increases in urban heat islands. Integrating climate adaptation into planning processes offers an opportunity to better manage climate risks now. Developing knowledge for decision-making in cooperation with vulnerable communities will help to build adaptive capacity and increase resilience.

## **OBJECTIVE 5: DEVELOP CLIMATE-FRIENDLY TOWNSHIP ORDINANCES, POLICIES AND PROGRAMS**

Revise Township ordinances and procedures to ensure that they encourage energy conservation and the use of renewable energy.

### **Existing Policies:**

**5.1)** The Township has adopted, and recently revised, a Wind and Solar Renewable Energy Systems Ordinance as part of its Zoning Ordinance, based on input solicited from the University of Michigan's Graham Sustainability Institute.

**5.2) Non-motorized Transportation Plan:** The Township Board recently (June 2021) approved a revised Plan, which will help prioritize efforts to improve walkability in our neighborhoods.

**5.3) Complete Streets Policy** (ongoing review)

**5.4) Township support of Transit:** continue our historical support of CCTA (we opted in all of our precincts), encourage increased ridership, encourage use of electric vehicles by CCTA and KCTA.

**5.5) Single hauler garbage and yard trimming collections:** Adopted in 2015, Ordinance 577 provides for a single garbage hauler for all Township residences selected by a competitive bid to reduce the number of heavy vehicles on our streets, thus reducing wear on our roads and GHG production in garbage collection.

**5.6) Recycling Program:** The Township's curbside recycling program began in Spring 1989 as a pilot (likely the first program in a Michigan township), which grew within months to serve all 1-4 unit housing structures. In 2020, approximately 80% of eligible households participated.

**5.7) Yard Waste program:** The Township contracts to provide seasonal spring and fall collections of tree leaves and brush since 1994 (in response to a state ban on yard trimmings in landfills). In addition, residents can manage their yard trimmings by using two, local, private drop-off sites, composting and mulching grass clippings in their yards, or subscribing to weekly yard waste collection from the Township's single-hauler.

#### **Proposed Policies:**

**5.8)** Ask Planning Commission to study ordinance amendments allowing for greater density in some areas of the Township.

**5.9) SolSmart:** The Township will work to achieve SolSmart certification, a national designation program designed to recognize communities that have taken key steps to address local barriers to solar energy and foster the growth of mature local solar markets. [www.solsmart.org](http://www.solsmart.org) (Miller)

#### **OBJECTIVE 6: FACILITATE RESIDENT EDUCATION:** (Trustee Glass and Jennifer Drake)

**6.1)** Establish a goal of publishing at least one climate-related article in every Township newsletter or at least mention the climate crisis and some part of the Township's plan to address it.

**6.2)** Create and maintain a climate action page on the Township website, with links to this plan (when adopted), a summary of the Township's efforts to address the climate crisis, and other organizations to which the Township belongs or with which the Township collaborates.

**6.3)** Develop a social media focus on the climate crisis.

**6.4)** Have representation of the Climate Change Committee at neighborhood gatherings to provide information to residents about reducing our carbon footprint.

**6.5)** Coordinate tours (virtual or in person) of local homes, new and retrofitted, that demonstrate steps toward reaching carbon neutrality. (The Climate Change Committee will work on this for 2022.)

**6.6)** Publicize through the Township newsletter and website the Consumers Energy “Bring Your Own Charger” rebate program. [bringyourowncharger.com/consumersenergy](http://bringyourowncharger.com/consumersenergy) (Miller)

#### **OBJECTIVE 7: COLLABORATE WITH OTHER ENTITIES**

**7.1)** Continue participating in the Michigan Green Communities Challenge. <https://migreencommunities.com/>

**7.2)** Seek participation with other county, regional or state-level initiatives. Report what others are doing back to the Township Climate Committee.

**7.3)** Research and consider joining the US Mayors Climate Protection Agreement

**7.4)** As appropriate, have a representative give presentations at meetings of Environmental Committees of other government entities or obtain reports from them.

**7.5)** Collaborate with the Kalamazoo Climate Crisis Coalition.

#### **OBJECTIVE 8: TRACK PROGRESS TOWARD REACHING GOALS**

The Climate Committee anticipates making quarterly reports to the Township Board. As progress is made in prioritizing investments in climate mitigation, the Climate Committee will make proposals to the Board for undertaking the infrastructure improvements identified above.

#### **OBJECTIVE 9: CREATE A SUSTAINABLE CLIMATE CHANGE COMMITTEE**

A Recommendation for Budget and Staffing. All members of the Climate Change Committee have come to realize that undertaking the research, writing, and collaboration needed to implement this plan to the extent and speed required to be fully responsive to the climate crisis is highly unlikely on an all-volunteer basis or by adding duties to existing staff and elected officials. Moreover, existing budget realities clearly do not allow for hiring a full-time climate change coordinator position within the Township.

The County consists of various governmental entities such as townships, cities, villages, school districts, transportation districts, etc. To ensure coordinated efforts and to get cost efficiencies from size, members of the Climate Change Committee are in conversation with our partners in Kalamazoo County to explore opportunities for collaboration, including, in time, the possibility of sharing a climate position. This position could be hosted by the County and participating partners would share financial support and then benefit from shared efforts in planning and implementation.

Note 1: Tesla has created a unit to work with Police Departments. Their cars have currently been converted to police vehicles in a few jurisdictions and the results have been favorable.

Not including the seven Fire Trucks, the Township has approximately 40 vehicles. Our current rate of replacement appears to average 3-4 a year. If we continue with that rate, but replace our vehicles with electric vehicles, we would be converted in 10-15 years.

The Fire Trucks would take longer. There currently are electric Fire Trucks on the market and again the reports are favorable. Fire engines appear to have a life of 25+ years. This means vehicles purchased today will still be operational into the 2040's.