

Town of Manlius, New York Climate Action Plan

**Compiled by the Central New York
Regional Planning and Development Board**

Adopted 7/26/23

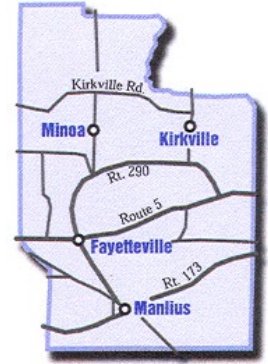
Town of Manlius

301 Brooklea Drive

Fayetteville, NY 13066

Town of Manlius

John Deer, Town Supervisor



Welcome!

The Town of Manlius is proud to provide this Climate Action Plan, built from our own residents' passion for sustainability. This plan will serve as a guide to current and future municipal officials, residents, and business owners interested in affecting climate mitigation and sustainability initiatives locally. We hope that readers will appreciate the information about what actions the Town has already taken in addition to the planned municipal actions. Community participation is a key component of this plan which includes a long list of future actions to be taken as both a town and a community.

By working together to achieve the actions included in this Plan, we can do our part to mitigate climate change while realizing other benefits such as reduced municipal operating costs and improved air quality in our community.

As the first Certified Bronze Climate Smart Community in Onondaga County, the Town of Manlius is truly a leader in sustainability and is available as a resource to neighboring communities and to those in the greater Central New York region who are interested in similar climate action planning and mitigation efforts. We look forward to making our community, region, and New York State more sustainable for years to come.

I'd like to close by thanking our community members who have made this Climate Action Plan and sustainability in general a priority for the Town of Manlius. Local government plays an essential role in fighting climate change and provides an amazing opportunity to make a real impact. If this Climate Action Plan convinces you that you can make a difference, please reach out to Sustainable Manlius to get involved!

Supervisor John Deer

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Acknowledgements

This Climate Action Plan (CAP) was compiled by the Central New York Regional Planning and Development Board (CNY RPDB) in support of the *Envision Manlius: Sustainability Plan* initiative which is a combination comprehensive planning and climate action planning process.

This project has been funded in part by the Climate Smart Communities Grant Program, Title 15 of the Environmental Protection Fund through the New York State Department of Environmental Conservation.

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Central New York Regional Planning and Development Board (CNY RPDB)

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Sustainable Manlius and the Climate Action Planning Subcommittee

- **Sara Bollinger:** Sara is Deputy Supervisor for the Town of Manlius and lives in the Village of Fayetteville. She is a Management Consultant serving clients throughout Upstate New York. Environmental sustainability is something her clients are increasingly concerned about.
- **Elaine Denton:** Elaine is a Manlius Town Councilor and graphic designer. As a mom of three, she is extremely concerned about what the climate crisis means for her children's future. This CAP will be a great guide for the town and community to take action to reduce emissions and combat climate change.
- **Ingrid Gonzalez-McCurdy:** Ingrid lives in the Town of Manlius. As a graduate of the Maxwell School of Citizenship and Public Affairs, she had the opportunity to study transportation's impacts on carbon emissions and the resulting warming of our planet. She researched electric vehicle infrastructure for her Capstone project with input from town residents. She is an Adjunct Faculty Member in the Leadership and Human Resources Program at the Madden School of Business at LeMoyne College. This Climate Action Plan work is important to her to address the imbalances that have occurred in our ecosystem that we anticipated and now see visibly, including extreme weather patterns, loss of wildlife habitat, and negative impacts on healthy air and water supply.
- **Kuki Haines:** Kuki is a resident of the Town of Manlius and is very interested in actions homeowners can take to be more sustainable.
- **Katelyn Kriesel:** Katelyn is a resident of the Village of Manlius and a Town Councilor in the Town of Manlius. She is also a Financial Advisor who focuses on Socially Responsible Investing and a mother of two daughters. Working on the Climate Action Plan is important to Katelyn because she is committed to taking climate action in all parts of her personal and professional lives and wants to be a part of the plan to implement these critically important policies.
- **Alice Massa:** Alice is a landscape and garden historian with a Master of Science in Historical Landscape Restoration from the University of Connecticut. She has supported

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the goals of Sustainable Manlius since the committee was formed. Alice worked on garden restoration in Monticello, Virginia and was a garden historian and writer in Germany. After moving to Fayetteville, Alice designed and shared science programs at The MOST, taught at F-M High school, and has continued to enjoy the parks and walking and bike trails with family. She also served on the Tree Commission and contributed to the Town of Manlius Comprehensive Plan.

- **Craig Polhamus:** Craig lives in the Village of Fayetteville and has over forty years of experience in the construction field, including extensive experience with renovation projects. A Licensed Architect in New York State since 1989 and currently working with Zausmer-Frisch, Scrutton & Aggarwal, Craig is Chair of the Historic Preservation Committee of the Village of Fayetteville, serves on the Comprehensive Planning Committee for Fayetteville, is Chair of EarthFest 2023, and is a member of the Sustainable Manlius Committee for the Town of Manlius, among participating as a member and/or volunteer for several other local committees. Craig is a long-standing member of the American Institute of Architects (1992 to present) and served as the local chapter AIACNY president in 1997. He currently serves as a member of the Committee for the Environment. In 2019 Craig started a Podcast entitled *Sustainable Development for the Soul* with over 27 episodes focused on the UN Sustainable Development Goals.
- **Brad Sauve:** Brad is a resident of the Village of Manlius and works in the Village of Fayetteville as a Local Manager for Verizon Communications. Climate action planning is important to him to ensure responsible and sustainable use of resources, and to protect our air and waterways from irreversible damage.
- **Jennifer Staples:** Jennifer lives and works in the Town of Manlius. She is a retired attorney, but her passion lies in working to leave the piece of land that she lives on better for the environment than it has been for many generations. She is extremely proud of the environmental work that the Town of Manlius is doing, especially including the drafting of this important Climate Action Plan.
- **Heather Waters:** Heather is a Town Councilor, mediator, and venture fundraiser who grew up in the Town of Manlius and returned with her husband and young son in 2013. She is proud that we have a commitment to smart growth and climate action, as she feels our kids and young leaders following us are counting on it.
- **Peter Wirth:** Peter lives in the Village of Fayetteville, within the Town of Manlius. Currently retired, he previously worked providing public relations services to issue oriented organizations. A life-long political activist, he embraced the ideals of the first Earth Day. He installed solar panels on his home 12 years ago and is working to get his home off fossil fuels. While individual action is important, Peter feels that only a community-wide approach toward climate change will reduce carbon emissions to avoid the devastating impact brought by an ever-increasing CO₂ concentration in the atmosphere.

Additional Town of Manlius officials

- **Rob Cushing:** Town Highway Superintendent,
- **John Deer:** Town Supervisor,
- **Ann Oot:** Town Manager,
- **Thomas Poitras:** Town Code Enforcement Officer, and
- **Allison Weber,** Town Clerk.

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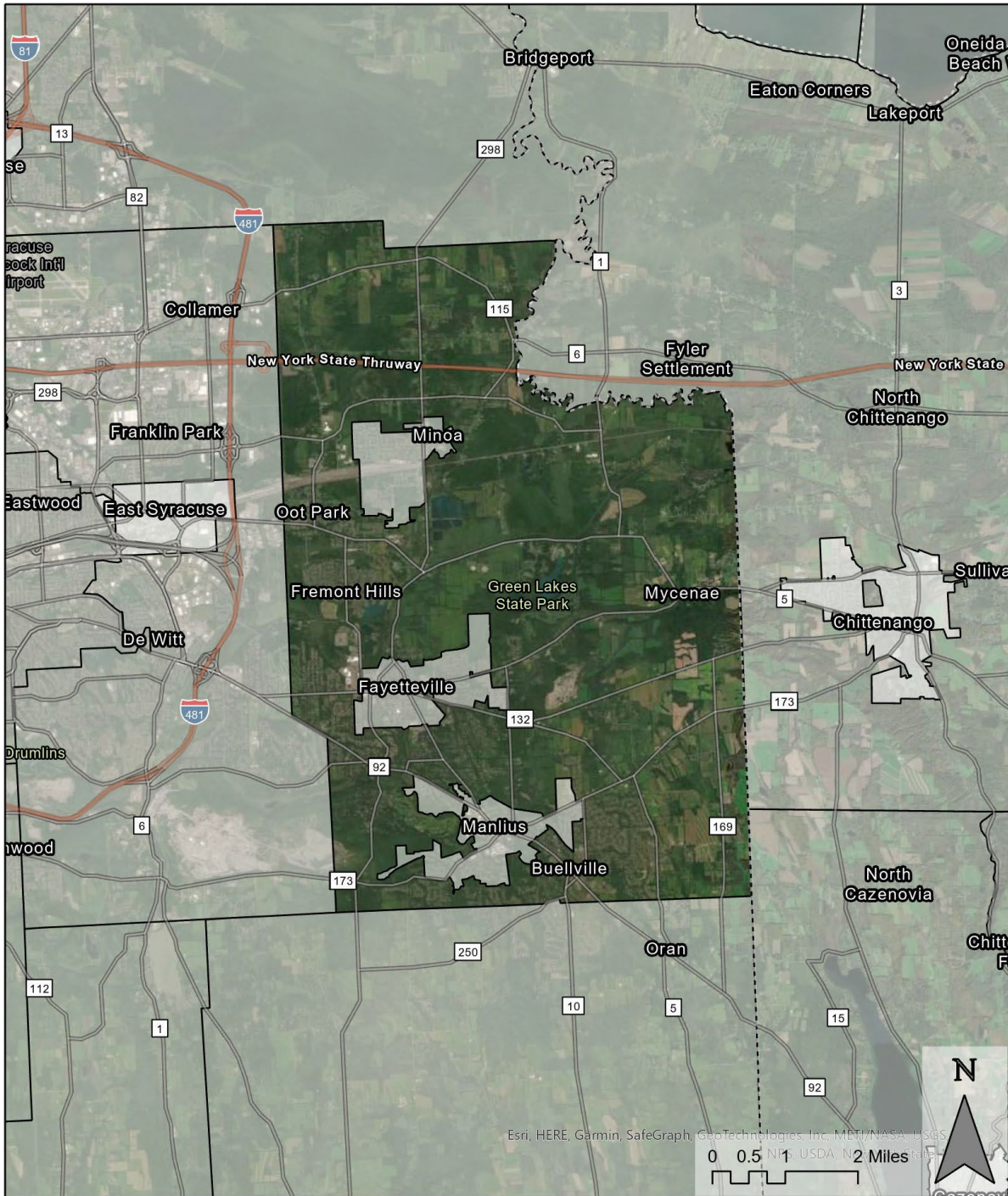
Executive Summary

New York State (NYS) is already experiencing the impacts of climate change and has made climate mitigation one of the top priorities for the state. Currently, 382 local governments have adopted the NYS Climate Smart Communities (CSC) Pledge to reduce greenhouse gas (GHG) emissions and prepare for the effects of a changing climate. The Town of Manlius is joining other communities to lead the way by launching Climate Action Plans to strategically implement actions that will result in reduced energy demand and GHG emissions.

The creation of a Climate Action Plan (CAP) for the Town of Manlius will not only address climate protection, but it will also result in energy savings and advance community goals for economic development and public health and safety. By choosing to act now, the Town of Manlius is taking a leadership role in mitigating the impacts of climate change and aligning its goals with New York State's Climate Leadership and Community Protection Act (also known as the Climate Act), which requires a reduction in GHG emissions of 40 percent by 2030 and 85 percent by 2050 (below 1990 levels) with the ultimate goal of net zero by 2050 (with the remaining 15 percent reductions through carbon sequestration of various types).

The Town has agreed on a short-term goal of reducing municipal greenhouse gas emissions by 30% and community emissions by 40% by 2030 and a long-term goal of becoming net zero for municipal operations and the community as soon as possible, but no later than 2050. This CAP includes an extensive list of emissions reduction actions that the Town has already implemented, is planning to implement, and/or could consider implementing in the future to help reach these goals. It should be noted that this CAP is focused on the Town of Manlius not inclusive of the Villages of Fayetteville, Manlius, or Minoa, though the Town may benefit from encouraging each of the Villages to update their Climate Action Plans (in the case of Fayetteville and Minoa) or to create a Climate Action Plan (in the case of the Village of Manlius) and work together on implementing overlapping actions.

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Data obtained from the NYS Office of Information Technology Services and Esri. This map was created for planning purposes only; the CNY RPOB does not guarantee the accuracy or completeness of this map. Last updated on Thursday, March 2, 2023.

Town of Manlius CAP Focus Area

Figure 1: Map of the Town of Manlius showing the focus area of the CAP is the Town outside of the Villages.

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I. Definitions

Brownfield: According to the US Environmental Protection Agency, a brownfield is a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

Carbon Sequestration: Carbon sequestration refers to capturing and storing carbon dioxide from the atmosphere. There are various methods for carbon sequestration, including geologic sequestration, where carbon dioxide is stored in underground geologic formations, or biologic sequestration, where carbon dioxide is stored in vegetation, soils, woody products, and aquatic environments. See <https://www.usgs.gov/faqs/what-carbon-sequestration> for more information.

Climate Action Council: The New York State Climate Action Council is a 22-member appointed body that was formed to create a roadmap to achieve the State’s bold clean energy and climate goals. See <https://climate.ny.gov/resources/climate-action-council/> for more information.

Climate Action Council’s Scoping Plan: The Scoping Plan is the framework for how New York will reduce greenhouse gas emissions and achieve net-zero emissions, increase renewable energy use, and ensure all communities equitably benefit in the clean energy transition. See <https://climate.ny.gov/resources/scoping-plan/> for more information.

Climate Leadership and Community Protection Act (CLCPA): On July 18, 2019, the Climate Leadership and Community Protection Act (also known as the CLCPA or Climate Act) was signed into law. New York State’s Climate Act is among the most ambitious climate laws in the nation and requires New York to reduce economy-wide greenhouse gas emissions 40 percent by 2030 and no less than 85 percent by 2050 from 1990 levels.

Community distributed generation (CDG): Community distributed generation, or CDG, is often used interchangeably with “community solar,” though it can apply to other forms of renewable energy. CDG allows multiple customers to participate in a non-utility-owned offsite renewable energy system by subscribing their electric account. Subscribers pay nothing to participate and see monthly savings on their utility bill.

Community solar: Community solar, often used interchangeably with “CDG,” allows multiple customers to participate in a non-utility-owned offsite solar project, often called a solar farm, by subscribing their electric account. Subscribers pay nothing to participate and see monthly savings on their utility bill.

Emissions: For the purposes of this climate action plan, when the term “emissions” is used, it refers to emissions of greenhouse gases.

Energy Management System (EMS): Energy Management Systems are tools for tracking, controlling, and optimizing energy use in a building.

Green Building Code: Green building codes refer to standards that could be adopted to make new building projects more efficient and/or more sustainable than what is required by code.

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Examples of green building codes include the NYStretch Energy Code (<https://www.nyserdera.ny.gov/All-Programs/Building-Energy-Code-Development-Compliance-and-Enforcement-Training-and-Resources/NYStretch-Energy-Code-2020>) , LEED (<https://www.usgbc.org/leed/benefits-leed>), WELL (<https://www.usgbc.org/articles/what-well>), or Passive House (https://passivehouse.com/02_informations/02_passive-house-requirements/02_passive-house-requirements.htm) , among others.

Greenhouse gases (GHGs): Greenhouse gases trap heat in the atmosphere and contribute to global climate change. Different gases have different effects on the atmosphere. For the purposes of this climate action plan, the focus is on carbon dioxide, methane, and nitrous oxide.

Heat pumps: Heat pumps provide both heating and cooling by moving heat in or out of a building. When heating, heat pumps take advantage of the heat found naturally in the air and ground, transferring that heat from the outside in, even when it's cold outside. When cooling, heat pumps operate similarly to air conditioners, pulling heat out of the building. Air source heat pumps, ground source heat pumps (or geothermal), and heat pump hot water heaters are extremely efficient and, because they are powered by electricity, can run on renewable energy.

HVAC: HVAC stands for heating, ventilation, and air conditioning and refers to the heating and cooling systems in buildings.

LEED: LEED stands for Leadership in Energy and Environmental Design and is a green building rating system. See <https://www.usgbc.org/leed/benefits-leed> for more information.

MTCO_{2e}: MTCO_{2e} stands for metric tons of carbon dioxide equivalent and is a standard unit of measurement for greenhouse gas emissions. Since each greenhouse gas has a different impact on the atmosphere, known as a Global Warming Potential (GWP), the unit MTCO_{2e} allows compiling emissions from a variety of greenhouse gases.

Net zero: According to the United Nations, net zero means cutting greenhouse gas emissions to as close to zero as possible, with any remaining emissions re-absorbed from the atmosphere, by oceans and forests for instance.

NYStretch Energy Code: NYStretch-2020 is a supplement to the 2020 Energy Conservation Construction Code of New York State, developed by NYSERDA, and available for voluntary adoption by local governments as a more stringent local energy code. It is anticipated that there will be future iterations of the NYStretch code as the State Energy Code is updated.

Property Assessed Clean Energy (PACE) Financing: According to EIC's website, EIC Open C-PACE (Property Assessed Clean Energy) is operated by Energy Improvement Corporation (EIC) and provides long-term alternative financing to fund clean energy projects in commercially owned buildings. PACE has to be authorized by municipalities with tax lien authority (typically cities and counties within CNY) in order for it to be available for commercial entities to utilize. See <https://www.eicpace.org/eicopenpace> for more information.

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Solar PV (Photovoltaics): According to the US Energy Information Administration’s website, a photovoltaic (PV) cell, commonly called a solar cell, is a nonmechanical device that converts sunlight directly into electricity. Visit <https://www.eia.gov/energyexplained/solar/photovoltaics-and-electricity.php> for more information.

Safe Routes to School: According to the National Center for Safe Routes to School, Safe Routes to School programs aim to make it safer for students to walk and bike to school and encourage more walking and biking where safety is not a barrier. See <https://www.saferoutesinfo.org/> for more information.

Smart growth: According to Smart Growth America, smart growth is an overall approach to development that encourages a mix of building types and uses, diverse housing and transportation options, development within existing neighborhoods, and robust community engagement. See <https://smartgrowthamerica.org/what-is-smart-growth/> for more information.

Sustainable Manlius: Sustainable Manlius is the Town of Manlius’s environmental committee made up of community and board members. Sustainable Manlius is working to start the transition towards renewable energy, raise awareness of environmental issues, and promote sustainable public policy in the Town of Manlius. See <https://www.townofmanlius.org/243/Sustainable-Manlius> for more information.

Transit-oriented development (TOD): According to the NYS Department of Transportation, Transit Oriented Development (TOD) is the creation of compact, walkable, and livable communities centered around high quality transit systems. See <https://www.dot.ny.gov/programs/smart-planning/tools> for more information.

Weatherization: Weatherization refers to insulating and air-sealing a building so that it is energy efficient and comfortable year-round.



TIMELINE History

Below is a brief history of sustainability efforts in the Town of Manlius, starting with the Formation of the Sustainable Manlius committee.

FEB 2020

SUSTAINABLE MANLIUS COMMITTEE FORMED

The Town of Manlius holds the first Sustainable Manlius committee meeting at the Town Hall.

The Town adopts the Climate Smart Communities pledge and becomes a Registered Climate Smart Community.

APRIL 2020

REGISTERED CSC

JAN 2021

DESIGNATED CEC

The Town earns Clean Energy Communities designation through NYSERDA's program, earning a \$5,000 grant for completing four high impact actions.

The Town hosts the first Earth Fest in a series of webinars focused on sustainability initiatives.

APRIL 2021

EARTH FEST YEAR 1

MAY 2021

GHG INVENTORIES COMPILED

Community-wide and municipal operations greenhouse gas emissions inventory reports are compiled for the Town of Manlius.

The Town becomes the first Certified Bronze Climate Smart Community in Onondaga County.

MARCH 2022

CSC CERTIFIED BRONZE

APRIL 2022

EARTH FEST YEAR 2

The Town holds the first in-person Earth Fest at the Fayetteville Free Library including an electric vehicle showcase and green organizations and vendors.

Partially funded by the DEC's Climate Smart Communities grant program, The Town forms the Climate Action Planning subcommittee and begins work on the Climate Action Planning effort.

AUG 2022

CAP SUBCOMMITTEE FORMED

NOV 2022

EV CHARGING STATIONS INSTALLED

Mostly funded through the DEC's Zero Emissions Vehicle Infrastructure Rebate program and National Grid Make Ready program, the Town installs EV charging stations at Town Hall that are available to the public.

The draft CAP was released for public feedback in April 2023.

APRIL 2023

DRAFT CAP RELEASED TO PUBLIC

APRIL 2023

EARTH FEST YEAR 3

Together with the Village of Fayetteville, the Town hosts the third Earth Fest at Canal Landing Park

II. Introduction

Background

The Climate Smart Communities Program represents a partnership between New York State and local governments to reduce energy use and GHG emissions while working to adapt to a changing climate. The required ten elements of the Climate Smart Communities Pledge are:

1. Build a climate-smart community.
2. Inventory emissions, set goals, and plan for climate action.
3. Decrease energy use.
4. Shift to clean, renewable energy.
5. Use climate-smart materials management.
6. Implement climate-smart land use.
7. Enhance community resilience to climate change.
8. Support a green innovation economy.
9. Inform and inspire the public.
10. Engage in an evolving process of climate action.



The Town of Manlius adopted the ten-element Climate Smart Communities Pledge as a commitment to greenhouse gas (GHG) emission reduction and climate change adaptation, and it became a Bronze Certified Climate Smart Community in March of 2022. The Climate Smart Communities Certification program recognizes communities that have gone beyond the ten pledge elements by completing and documenting mitigation and adaptation actions at the local level. Certified communities, like the Town of Manlius, are the foremost leaders in the state in terms of climate action. Communities can achieve certification at the Bronze or Silver level (Gold is under development).



Figure 2: Representatives from the DEC, the Towns of Manlius, Owasco, and Richland and the Village of Pulaski celebrate Climate Smart Communities Certification achievements at a press event at the Manlius Town Hall, May 24, 2022.

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As a part of the town's comprehensive planning process and building upon the municipal and community greenhouse gas (GHG) inventories, the Town decided to compile a Climate Action Plan (CAP). This CAP uses the GHG inventories as a baseline to outline a pathway towards reducing emissions across sectors in the community and for municipal operations.

It is important to note that local governments like the Town of Manlius do not have direct control over the majority of emissions that are created in the community by businesses and individuals. However, there are actions the Town of Manlius government can take to influence positive change in terms of reducing GHG emissions. For example, the Town cannot ban the use of gas-powered vehicles, but it can work with partners to educate its residents about the state's plan to require that all new cars and trucks sold in the state must be zero-emission vehicles by 2035 and to encourage early adoption through community-based outreach campaigns. This CAP will describe the types of actions the local government can implement to reduce emissions from municipal operations and to encourage emissions reductions within the wider Manlius community.

Climate Change and Greenhouse Gases

Climate change is recognized as a global concern. Scientists have documented changes to the Earth's climate including the rise in global average temperatures and sea levels during the last century. An international panel of leading climate scientists, the Intergovernmental Panel on Climate Change (IPCC), was formed in 1988 by the World Meteorological Organization and the United Nations Environment Program to provide objective and up-to-date information regarding the changing climate. In its 2021 Sixth Assessment Report, the IPCC states that **“Human activities, principally through emissions of greenhouse gases, have unequivocally caused global warming, with global surface temperature reaching 1.1°C above 1850–1900 in 2011–2020.”**¹

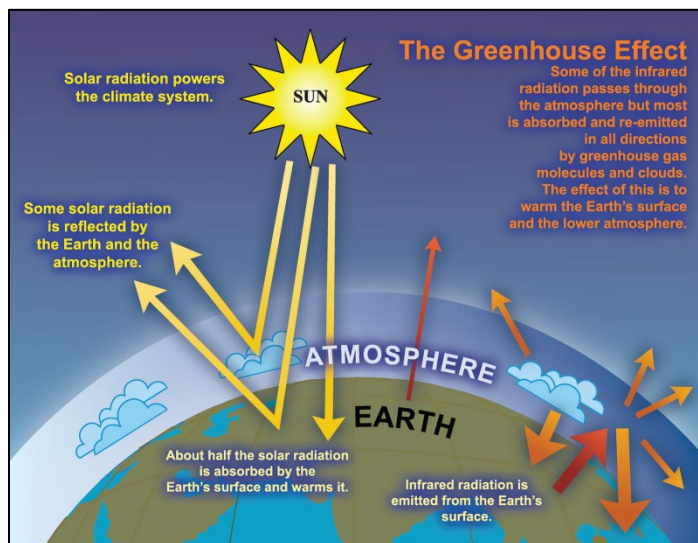


Figure 3: The Greenhouse Effect

The rising trend of human-generated GHG emissions is a global threat. The increased presence of these gases affects the warming of the planet by contributing to the natural greenhouse effect, which warms the atmosphere and makes the earth habitable for humans and other species (see Figure 3).² Mitigation of GHGs is occurring in all sectors as a means of reducing the impacts of this warming trend. However, scientific models predict that some effects of climate change are inevitable no matter how much mitigative action is taken now. Therefore, climate mitigation actions must be paired with adaptation measures to continue efforts to curb emissions contributions to global warming, while simultaneously improving the capacity of communities to adapt to changing conditions so that they are able to withstand climate change impacts and

¹ IPCC. 2021. *Sixth Assessment Report*. <https://www.ipcc.ch/report/ar6/syr/>

² IPCC Working Group. https://wg1.ipcc.ch/publications/wg1-ar4/faq/wg1_faq-1.3.html

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maintain social, economic, and environmental resilience in the face of uncertainty. Climate adaptation can take shape through infrastructure assessments and emergency planning, as well as through educational efforts to raise public awareness about potential climate change impacts.

New York State outlined projected climate impacts and vulnerabilities in its 2011 ClimAid assessment and 2014 supplement (ClimAid Report).³ The ClimAid report projects changes to ecosystems (e.g., increased presence of invasive species and shifts in tree composition), while water quality and quantity may also be impacted due to changes in precipitation. Potential beneficial economic impacts were also identified, such as a longer recreation season in the summer, and a longer growing season for the agricultural sector due to rising temperatures. Scientific evidence suggests that the impacts of global climate change will be different in various regions and will include temperature shifts, more extreme heat events, sea level rise and coastal flooding, more frequent intense precipitation events, and human health risks.

We have already experienced the effects of a changing climate in New York State and abroad,⁴ and the need for action to address climate mitigation and adaptation is imperative. The goal of building community resilience in order to protect the health and livelihood of residents and natural systems serves as a motivating factor in the assessment of greenhouse gas contributions and effective sustainability planning.

The Purpose of a Climate Action Plan

Using municipal and community-wide emissions inventories as a baseline, a CAP evaluates ways a community can reduce greenhouse gas emissions, sets emissions reduction targets, and prioritizes actions to help mitigate climate change. This CAP also identifies the extent to which local actions support New York State's goal for a clean-energy economy.

In July 2019, Governor Cuomo signed the Climate Leadership and Community Protection Act (CLCPA or Climate Act) into law. The CLCPA is New York State's ambitious emissions reduction plan with the goal of making electricity 70% renewable by 2030 and 100% carbon neutral by 2040, reducing GHG emissions 40% below 1990 levels by 2030 and 85% below 1990 levels by 2050, implementing 6,000 MW of solar by 2025, 3,000 MW of energy storage by 2030, and 9,000 MW of offshore wind by 2035 (see Figure 4).

³ NYSERDA. 2014. *Climate Change in New York State: Updating the 2011 ClimAID Climate Risk Information*. <https://www.nyserra.ny.gov/About/Publications/Research%20and%20Development%20Technical%20Reports/Environmental%20Research%20and%20Development%20Technical%20Reports/Response%20to%20Climate%20Change%20in%20New%20York>

⁴ NYSERDA. 2014. *Climate Change in New York State: Updating the 2011 ClimAID Climate Risk Information*. <https://www.nyserra.ny.gov/About/Publications/Research%20and%20Development%20Technical%20Reports/Environmental%20Research%20and%20Development%20Technical%20Reports/Response%20to%20Climate%20Change%20in%20New%20York>; and National Climate Assessment. 2014. *Climate Change Impacts in the United States*. <https://nca2014.globalchange.gov/>.

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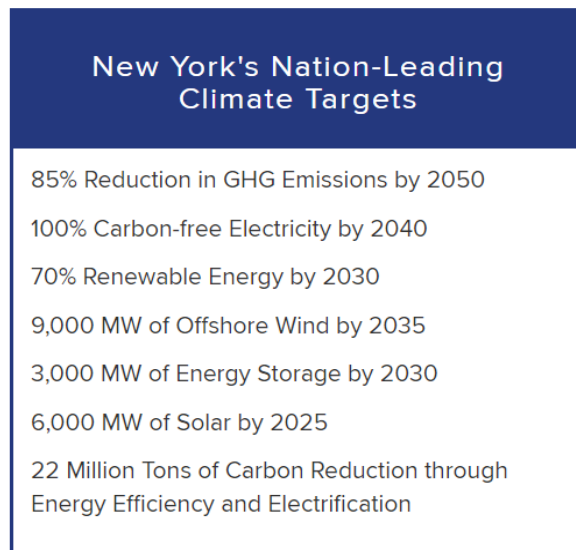


Figure 4: Overview of the CLCPA targets

In December 2022, the [Climate Action Council's Scoping Plan](#) was approved and adopted. The Scoping Plan outlines recommended policies and actions to help meet the goals and requirements of the nation-leading Climate Act, including actions such as requiring zero-emissions heating equipment in new construction single-family and low-rise buildings in 2025 and requiring 100% light-duty zero emissions vehicle sales by 2035.

Municipal governments play an important role in helping to reach these targets through local action and influence. This CAP provides goals for reducing emissions from municipal operations and from the Manlius community and includes specific recommendations for sectors such as land use and transportation, the built environment, renewable energy, waste and recycling, and green space, agriculture, and other. The objectives of this Climate Action Plan are to:

- (1) Provide municipal elected officials, community leaders, and residents with information and support to advance sustainability programs throughout the community;
- (2) Identify opportunities for emission reduction programs and initiatives; and
- (3) Engage and encourage local participation in greenhouse gas emission reduction strategies.

It is important to note that the Town plans to implement this CAP given Town budget constraints and prioritizing lower-cost, higher-impact actions. In addition, the Town of Manlius also recognizes the importance of incorporating fairness and affordability considerations in climate change mitigation efforts. It is important that the cost of certain actions be borne by those who can afford it to mitigate the cost burden on those who cannot and who otherwise would be disproportionately impacted by the effects of climate change. To this point, several of the mitigation strategies discussed later in this document include suggestions for targeting outreach and/or resources to lower-income residents and neighborhoods that may need additional assistance in participating in or benefiting from climate mitigation activities.

It is also important to note that the emissions reduction strategies noted in this document will not only benefit the Manlius community in terms of reducing emissions. Many of the actions will

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also benefit the Town and community members economically, both directly and indirectly. The most obvious example is through energy efficiency measures that reduce the amount of energy used, therefore reducing energy costs. Renewable energy also will reduce operating costs and yield long-term energy cost savings. Supporting the clean energy sector at the municipal level also supports related jobs and services in the community, allowing the community to benefit from the clean energy economy.

There are also many health benefits from reducing local pollution caused by burning fossil fuels, including preventing premature mortality, heart attacks, respiratory disorders, cancer, stroke, and asthma.⁵ The financial cost of implementation of the actions suggested in this document should therefore be considered compared to the cost of inaction, from a financial standpoint as well as for the health and wellbeing of the community.

A Climate Action Planning subcommittee composed of municipal representatives and community leaders was formed from the larger Sustainable Manlius committee in late summer 2022 and met monthly through spring 2023 to discuss emission reduction goals and specific strategies for reaching them. The committee agreed on a short-term goal of reducing municipal greenhouse gas emissions by 30% and community emissions by 40% by 2030 and a long-term goal of becoming net zero for municipal operations and the community as soon as possible, but no later than 2050. While the committee recognizes that these goals are aggressive, they are consistent with current NYS goals and are also in line with Federal net-zero goals.⁶ These goals were discussed with the Town Board, and feedback on the goals was requested from the public as well. There was a consensus among those who provided feedback that these goals made sense for the Town of Manlius.

⁵ Information gathered from multiple sources, including: Harvard T. H. Chan School of Public Health. *Fossil Fuels & Health*. <https://www.hsph.harvard.edu/c-change/subtopics/fossil-fuels-health/> and Mailloux, Nicholas A., Abel, David W., Holloway, Tracey, and Patz, Jonathan A. May 16, 2022. *Nationwide and Regional PM2.5-Related Air Quality Health Benefits From the Removal of Energy-Related Emissions in the United States*. <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022GH000603>.

⁶ The NYS Climate Act mandates a 40% emissions reduction from 1990 levels by 2030 and an 85% reduction from 1990 levels by 2050, with a goal to achieve carbon neutrality by 2050. The federal government currently has a goal of reaching net zero no later than 2050.



Figure 5: The first in-person Earth Fest event was hosted by the Town in April 2022 at the Fayetteville Free Library. The event included an electric vehicle showcase and tabling by green organizations and vendors.

Framework for this CAP

As noted previously, local governments like the Town of Manlius do not have direct control over the majority of emissions that are created in the community. However, local governments do have the ability to exert important influence in areas that indirectly impact community-wide emissions, as described below.

- **Municipalities have power over land use.**
 - The permitting of renewable energy facilities, like solar and wind farms and battery energy storage, is critical to meeting the state's clean energy targets, and municipalities play a critical role in defining rules and processes for local development.
 - While it is hoped that we will transition to zero-emission vehicles (primarily battery-electric light- and medium-duty vehicles but probably also hydrogen fuel cell heavy-duty vehicles like buses and long-haul freight trucks), the "smart growth" agenda is still critical to facilitate public transit and non-motorized forms of travel by allowing/incentivizing mixed-use and higher density development.
- **Municipalities have police powers to address public health and safety.**
 - Municipalities can pass a local law to enforce green building codes, such as the NYStretch Energy Code, in their community.
- **Municipalities control vital public infrastructure.**
 - Some municipal facilities (e.g., wastewater treatment facilities or streetlights) are very energy-intensive, and upgrades to more efficient technology can provide substantial cost savings as well as emissions reductions.
 - Some municipal facilities (e.g., waste-to-energy facilities or wastewater treatment facilities) can be leveraged to provide lower-carbon forms of electrical and thermal energy to the community.
- **Municipalities purchase lots of energy and energy-intensive materials and employ lots of people.**

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- By installing renewable energy on their facilities or properties, or subscribing to community solar projects, or purchasing Renewable Energy Certificates, local governments can lower the carbon footprint of their energy purchases.
- Municipalities can implement enforceable green purchasing policies which require the use of lower-carbon products.
- Municipalities can encourage or incentivize (e.g., free bus passes or free parking) their employees to take public transit, carpool or use a zero-emission vehicle, and can offer remote working and meeting options.
- **Municipalities set the local economic development agenda and policies.**
 - Municipalities can enact policies (e.g., Payments In Lieu Of Taxes (PILOTs), "density bonuses," or waivers of minimum parking requirements) that encourage or even require the use of clean energy technologies and sustainable building practices by commercial businesses.
 - Municipalities can establish partnerships with local educational institutions, businesses, and non-profit organizations to address the workforce development needs for emerging clean energy markets, especially for disadvantaged communities.
- **Municipalities can "walk the talk" and set a powerful example for residents and businesses in the community.**
 - By organizing local Community Choice Aggregation programs, including those with opt-out community distributed generation (CDG), municipalities can provide an affordable alternative for residents in the community to purchase green electricity, and they can earn points through the NYSERDA Clean Energy Communities and DEC Climate Smart Communities Programs for doing so.
 - Municipalities can support local education efforts to promote electric vehicles or community solar, heat pumps and other clean technologies and earn points and grants through the NYSERDA Clean Energy Communities and DEC Climate Smart Communities Programs for doing so.
 - Municipalities can purchase electric vehicles and install charging stations and other clean technologies on their own property to demonstrate their viability.

It should also be noted that that Town contains a wealth of carbon sequestration and storage resources through streams, wetlands, marshes, park lands, and forested areas. Conserving and building on these resources will assist in the Town's long-term sustainability goals.

Finally, municipalities like the Town of Manlius can create Climate Action Plans such as this one that address these and other policies. It is very important that local elected officials support these measures, not only for their own communities but also to send an important signal to their neighboring municipalities, the state, and federal policy makers that they must do what is necessary at those levels to facilitate local action. The Town may benefit from encouraging each of the villages to update their Climate Action Plans (in the case of Fayetteville and Minoa) or to create a Climate Action Plan (in the case of the Village of Manlius) and work together on implementing overlapping actions. Since each municipality has their own set of local regulations, policies, and plans, there will need to be a concerted effort to move the whole town in the direction of sustainability.

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It is also important for local elected officials to solicit community input during the preparation of climate action plans (see below) and to publicize and promote the plan once it is completed.



Figure 6: Mostly funded by state and utility grants, in November 2022, the Town installed two dual port level 2 EV charging stations at Town Hall that are available to the public.

Public Outreach

It was very important to the Town that the public was engaged in this climate action planning process and public feedback was incorporated into this plan. In the fall of 2022 when the planning process kicked off, the CAP subcommittee created a public outreach and engagement strategy to ensure that public engagement was a central pillar in the process. There were several ways in which the Town encouraged public involvement in this process.

In October 2022, the Town launched a public outreach survey to gather input. The goal was to make the community aware that the CAP was in process and gauge public interest in climate change mitigation actions. It was important to the Town that the CAP took into consideration what the community felt was most important while incorporating the state goals and being realistic about what community members are willing to do.

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The subcommittee was very active in spreading the word about the CAP survey. Outreach efforts included:

1. Emailing a notice about the survey to the whole Sustainable Manlius marketing listserv.
2. Hanging flyers at local hot spots.
3. Placing flyers at the Comprehensive Planning open house events at the local libraries.
4. Including a notice about the survey in multiple Town newsletters.
5. Reaching out to have an article written about the survey and CAP process which was printed in the local paper, the Eagle Bulletin.
6. Posting about the survey on the Sustainable Manlius and personal social media pages, including NextDoor.
7. Sending out a notice about the survey via PeachJar to the Fayetteville Manlius School District distribution list (1,832 emails sent).
8. Including a notice about the survey in a Onondaga East Chamber newsletter.
9. Including a notice about the survey in a Climate Change Awareness and Action (CCAA) newsletter.
10. Announcing the survey at Town Board meetings.

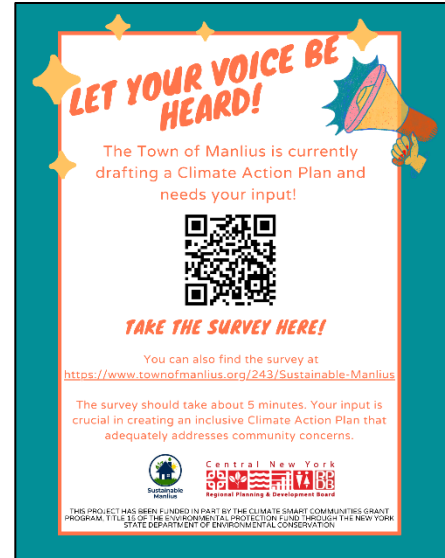


Figure 7: Flyer used to promote the CAP community survey

The survey was officially closed on February 7, 2023. There were 412 responses to the survey, the majority of which identified as Town residents (86%), homeowners (78%), car owners (76%), and concerned citizens (61%). The vast majority, 51%, of respondents said they currently commute to work driving a fossil fuel-powered car, with about 32% responding that they don't work (are retired, unemployed, stay-at-home parent, etc.), and 21% responded that they telecommute. Only about 10% said they drive an electric vehicle or plug-in hybrid vehicle, about 6% said they bike or walk, and less than 2% said they take the bus.

The majority of respondents said they make every attempt to reduce greenhouse gas emissions in their day-to-day actions and are very concerned about climate change and its effect on their community, see Figures 8 and 9 below.

Town of Manlius Climate Action Plan 2023

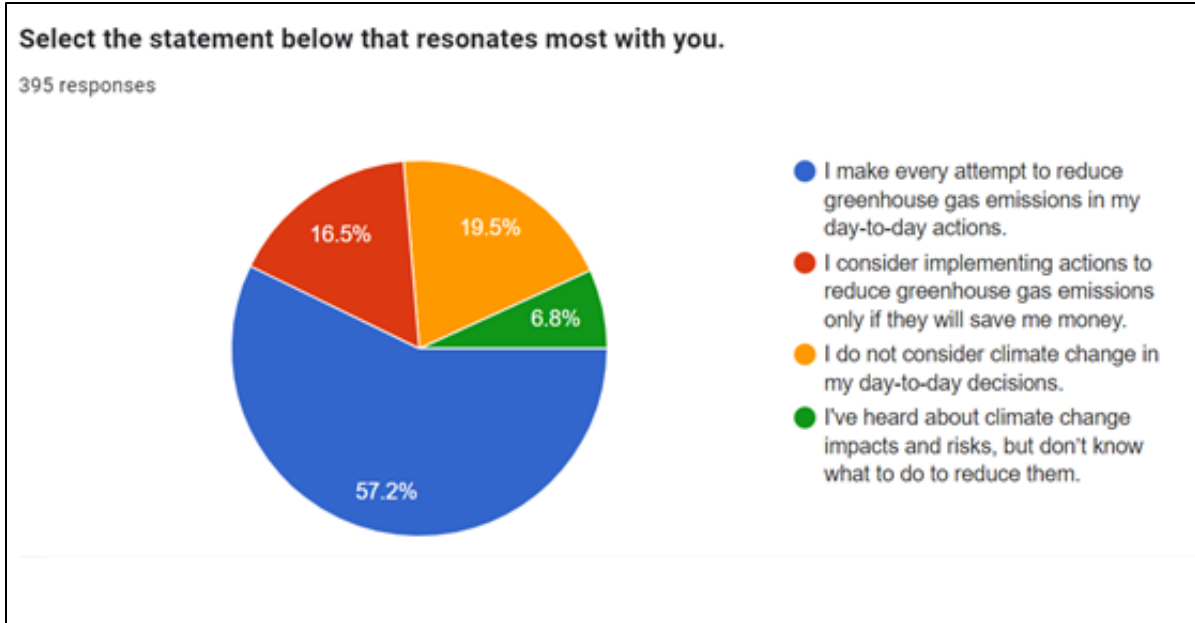


Figure 8: Public responses to survey question “Select the statement below that resonates most with you.”

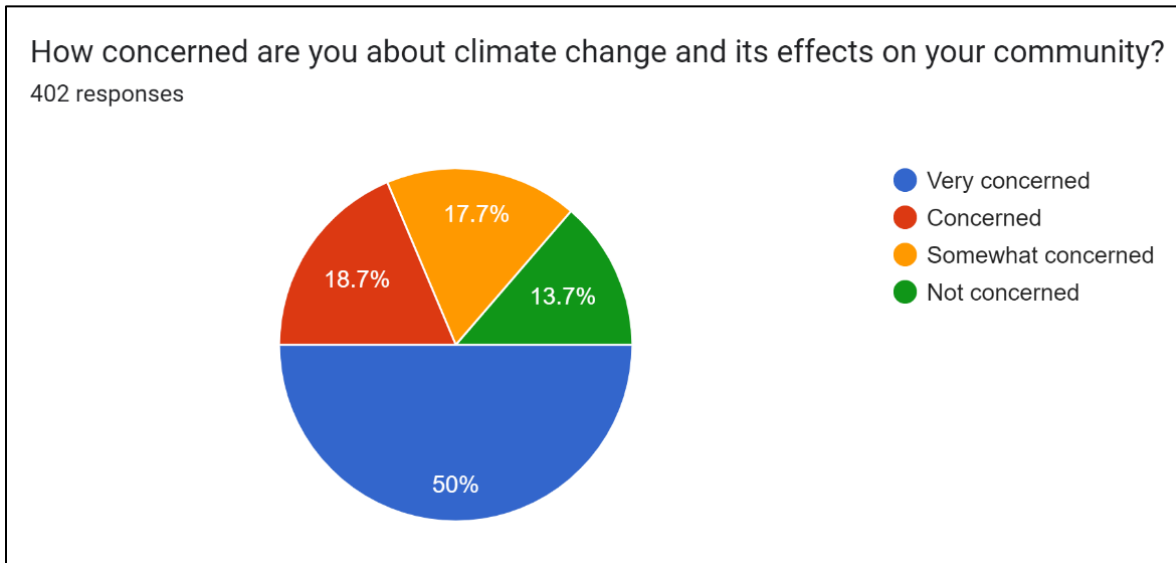


Figure 9: Public responses to survey question “How concerned are you about climate change and its effects on your community?”

The majority of respondents were not familiar with the Sustainable Manlius committee and had not read the 2021 Town of Manlius Community GHG Inventory, see Figures 10 and 11 below. These results suggest that greater efforts should be taken to promote the town's sustainability efforts including the completion and implementation of this Climate Action Plan.

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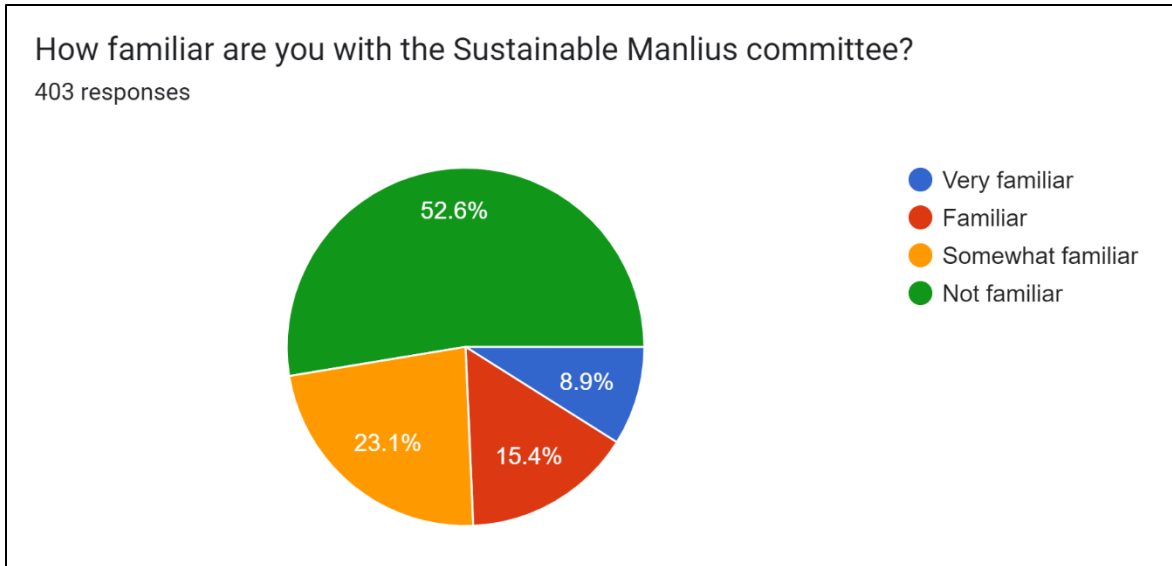


Figure 10: Public responses to survey question “How familiar are you with the Sustainable Manlius committee?”

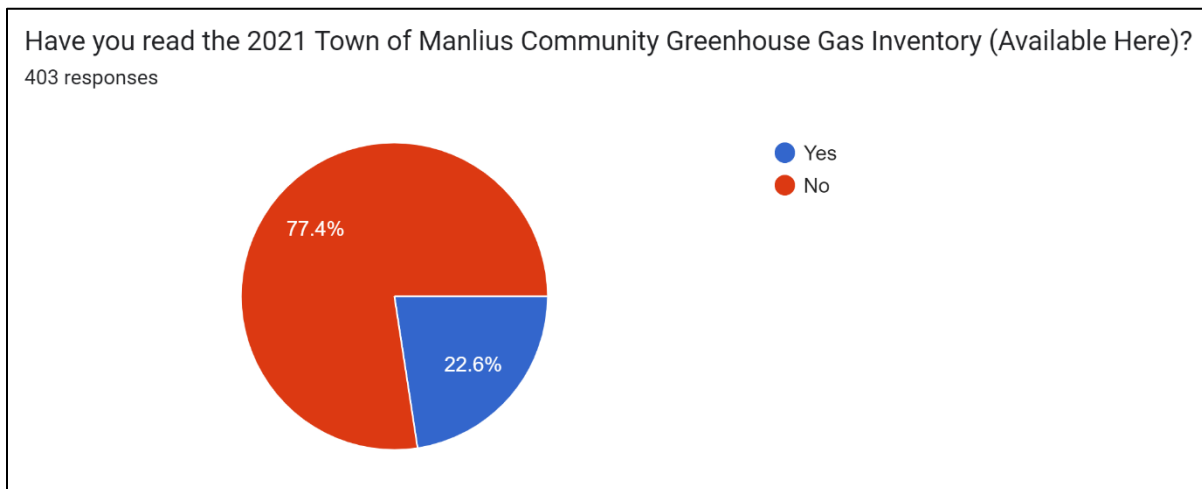


Figure 11: Public responses to survey question “Have you read the 2021 Town of Manlius Community Greenhouse Gas Inventory (Available Here)?”

When asked what emissions reduction actions they had already implemented at their home or business, the majority of respondents noted that they have already converted light bulbs to LEDs (89%), compost and/or recycle (79%), and/or have improved insulation/weatherization (55%). Many respondents (46%) have planted trees and/or have electrified household equipment (i.e., stove/oven, hot water heater, clothes dryer, lawn mower, leaf blower) (40%). A smaller percentage, 18%, responded that they have purchased an electric vehicle, 17% responded that they had installed solar PV or subscribed to community solar, and 6% responded that they had installed heat pumps/geothermal. Only about 3% responded that they had not implemented any of the actions described (see Figure 12 below).

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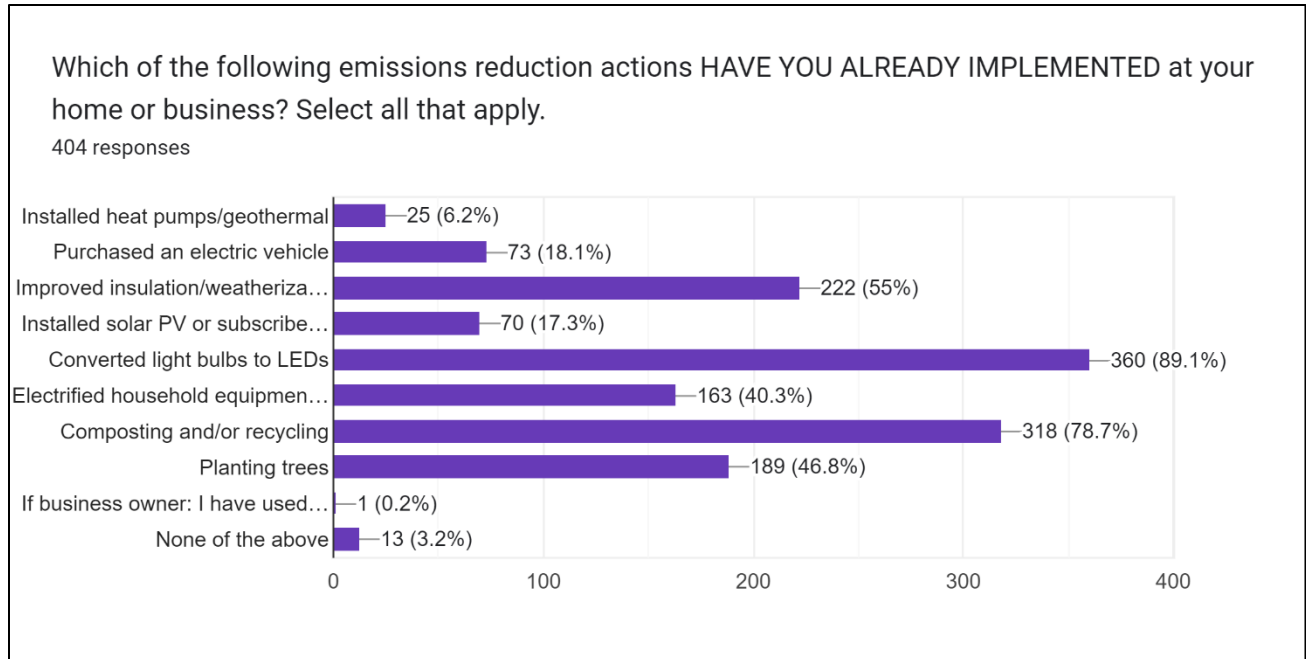


Figure 12: Public responses to survey question “Which of the following emissions reduction actions HAVE YOU ALREADY IMPLEMENTED at your home or business? Select all that apply.”

When asked what emissions reduction actions they are willing to consider implementing at their home or business in the next 10-15 years, the majority of respondents indicated that they were willing to consider purchasing an EV (59%) or improving insulation/weatherization (52%). Many respondents were willing to consider planting trees (45%), composting and/or recycling more efficiently (44%), installing solar PV or subscribing to community solar (42%), installing heat pumps/geothermal (39%), electrifying household equipment (37%), or converting light bulbs to LEDs (33%). Only 6% responded that they were not willing to consider implementing any of the actions described (see Figure 13 below). These survey results suggest several areas where the town can work with partners to educate and engage residents through community-based outreach campaigns.

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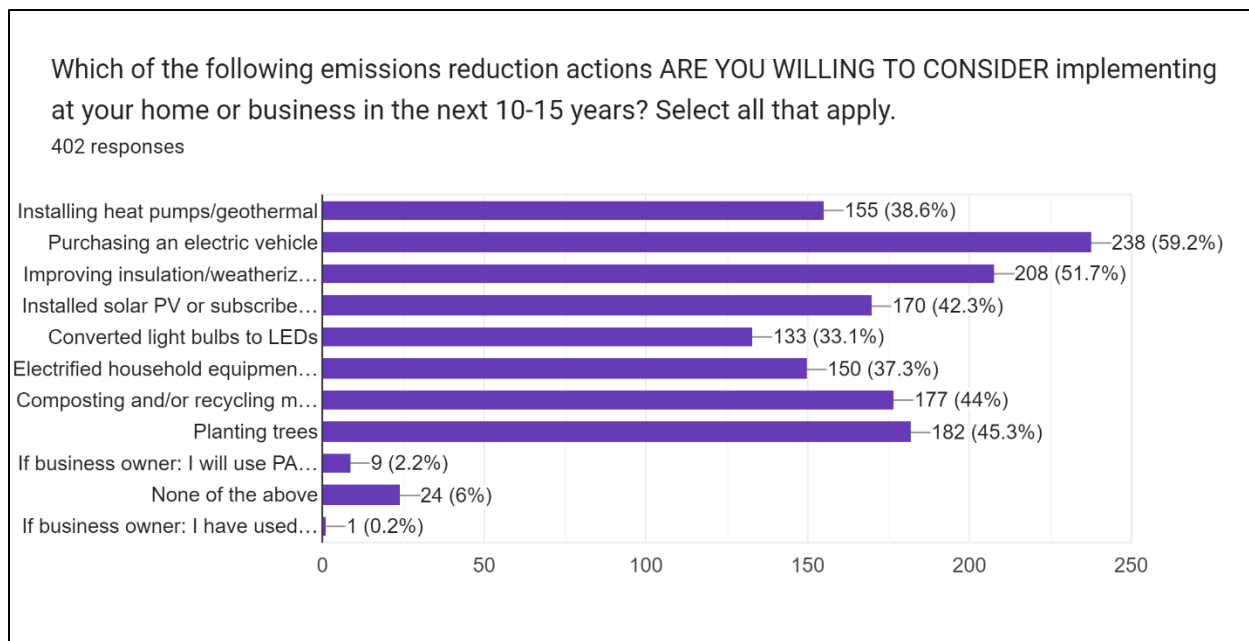


Figure 13: Public responses to survey question “Which of the following emissions reduction actions ARE YOU WILLING TO CONSIDER implementing at your home or business in the next 10-15 years? Select all that apply.”

The survey asked an open-ended question, “What else would you like us to know regarding your feelings about climate change, its effects on the Town of Manlius, which emissions reduction actions you have taken or are willing to take, or actions you’d like to see implemented in the town?” 175 people included a response in this section. The comments in this section were read and organized into topic areas as per Table 1 below. The top five topics mentioned in this section include:

1. Interest in sidewalks/biking infrastructure/improving safety of bikers/walkers (36 respondents),
2. Interest in electric vehicles, including school buses, and/or adding more and faster charging stations (33 respondents),
3. Generally expressing support for the Climate Action Planning efforts and/or the transition away from fossil fuel use (25 respondents),
4. Interest in renewable energies such as solar, wind, and/or community solar (23 respondents), and
5. Interest in composting/recycling/reducing waste (15 respondents).

These items are incorporated into the suggested mitigation actions later in this CAP.

It should be noted that a number of respondents expressed a general disbelief that climate change is affected by humans (10 respondents), general opposition to the CAP efforts (10 respondents), a concern that the electric grid isn’t ready to handle electrification/additional solar or that renewable energy alone can’t handle the demand on our electric grid (10 respondents). Many of these respondents also had concerns about the government overstepping on climate change actions (8 respondents), focusing on climate change actions over other priorities (5 respondents),

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and/or don't think the Town's local effort will make a difference in the grand scheme (5 respondents).

Topic	Number of respondents who mentioned topic
Interest in sidewalks/bike infrastructure/improving safety	36
Interest in EVs/EV busses/more and faster charging stations	33
General support for CAP efforts/transition away from fossil fuels	25
Interest in renewable energies such as solar/wind/community solar	23
Interest in composting/recycling/reducing waste	15
Interest in no mow may/native planting/sustainable landscaping/preserving greenspace/tree planting/reduce cutting down trees	14
Interest in learning more about incentives/financing/cost effectiveness for actions or concern about cost for actions	13
General disbelief in anthropogenic climate change	10
General opposition to CAP efforts	10
Concern that electric grid isn't ready to handle electrification/additional solar/renewable energy alone can't handle demand	10
Interest in additional general education on climate change mitigation actions	10
General concern for climate change/emissions	8
Interest in revising town codes/zoning/tax incentives to effect change	8
Concern about government overstepping on climate change actions	8
Interest in heat pumps/electrification	6
Concern of focusing on climate change actions over other priorities	5
Don't think Town effort will make a difference in the grant scheme	5
Continued support for fossil fuels	4
Interest in improved transit/bus service/kids using school buses more	3
Support for nuclear	3
Made in USA/locally sourced/buy local	3
Concern about mining for and disposing of materials used in EVs/renewable energies	3
Electric lawn equipment	3
Less solar farms/not supportive of solar on landfill or in Town	3
Consolidation of services/partnering/sharing knowledge between Town/Villages	3
Oppose the quarry in the Town	2
Reduce pesticides/herbicide use	2
Interest in microgrid/storage	1
Support for state/federal measures i.e., price on carbon	1
Interest in becoming more efficient/adding insulation	1
Support of sustainable agricultural practices	1
Environmental concern of actions i.e., LEDs affecting animals	1

Table 1: Topics of responses to open-ended survey question

The survey also gathered information on which respondents might be interested in a future public climate action planning session and used this information to reach out for feedback on the draft

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CAP and to invite folks to the Earth Fest event, held on April 29, 2023 from 10am-3pm at Canal Landing Park in Fayetteville, and to the CAP Open House, which was held on May 17, 2023, from 5-6:30pm at the Manlius Town Hall. The Town can also use the survey responses and contact information to solicit more participation in Sustainable Manlius and specific projects, events, and campaigns moving forward with CAP implementation.

In addition to the public outreach survey, CAP updates were presented at Sustainable Manlius monthly meetings which are open to the public. The first draft CAP was also presented to the Town Board at a public work session on March 8, 2023.

Throughout April and early May 2023, a flyer was circulated throughout the community to request feedback on the draft CAP. The flyer provided the link to the draft CAP (which was also available in hard copy at the Town Hall) as well as an online feedback form and included information about upcoming tabling events where CAP information would be displayed, including at the Earth Fest and CAP Open House events.

A table was set up at the Earth Fest event on April 29, 2023, and a CAP Open House event followed on May 17, 2023. The purpose of these efforts was to solicit additional public input on the draft CAP in-person versus only online. Feedback was gathered both via the online Google Form and through interactive feedback (sticky notes) at the Earth Fest event and Open House. The feedback received was analyzed, discussed with the subcommittee, and used to inform final revisions to the CAP.

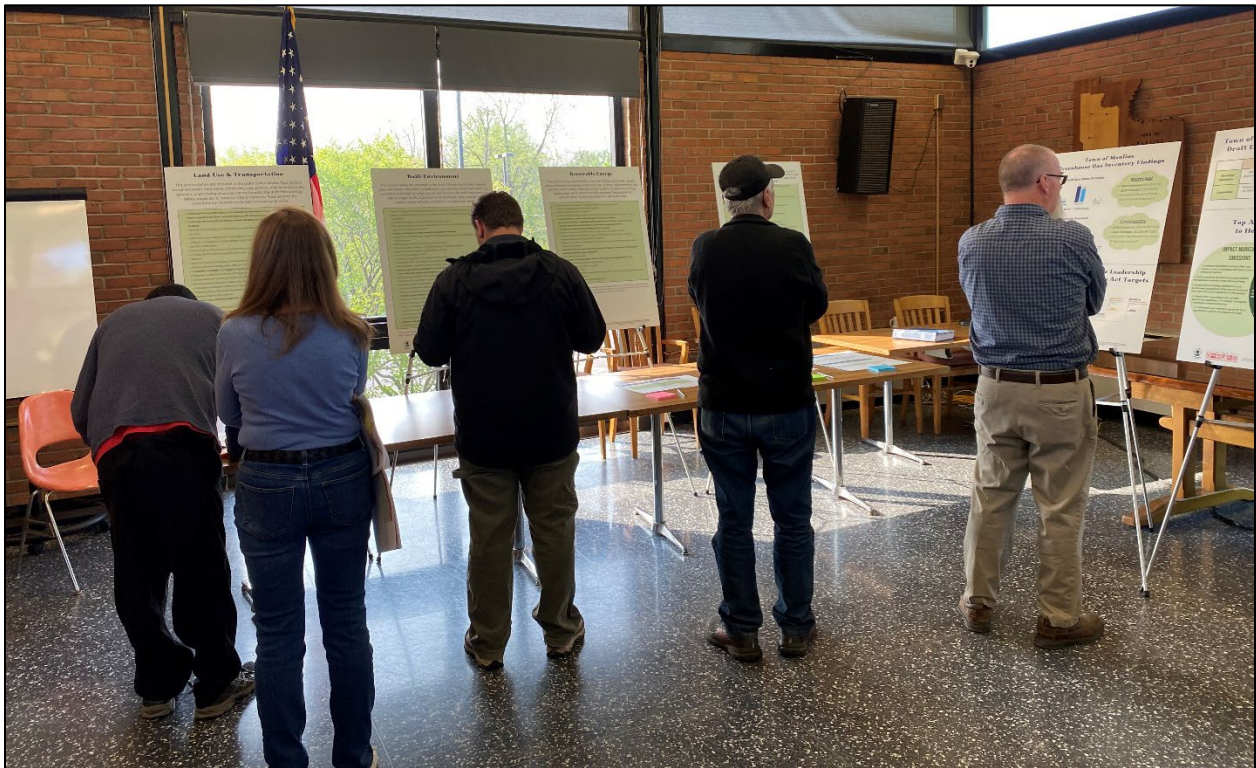


Figure 14: An Open House was held 5/17/23 to collect public feedback on the draft CAP.

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Finally, the final draft was presented at the Town Board meeting on June 28, 2023, which was followed by a public hearing on July 26, 2023.

III. Greenhouse Gas Inventory Summaries

Community Inventory Summary

In 2019, the Town of Manlius' community emissions totaled 197,079 MTCO₂e, with the transportation sector contributing 61% of the community's total emissions.

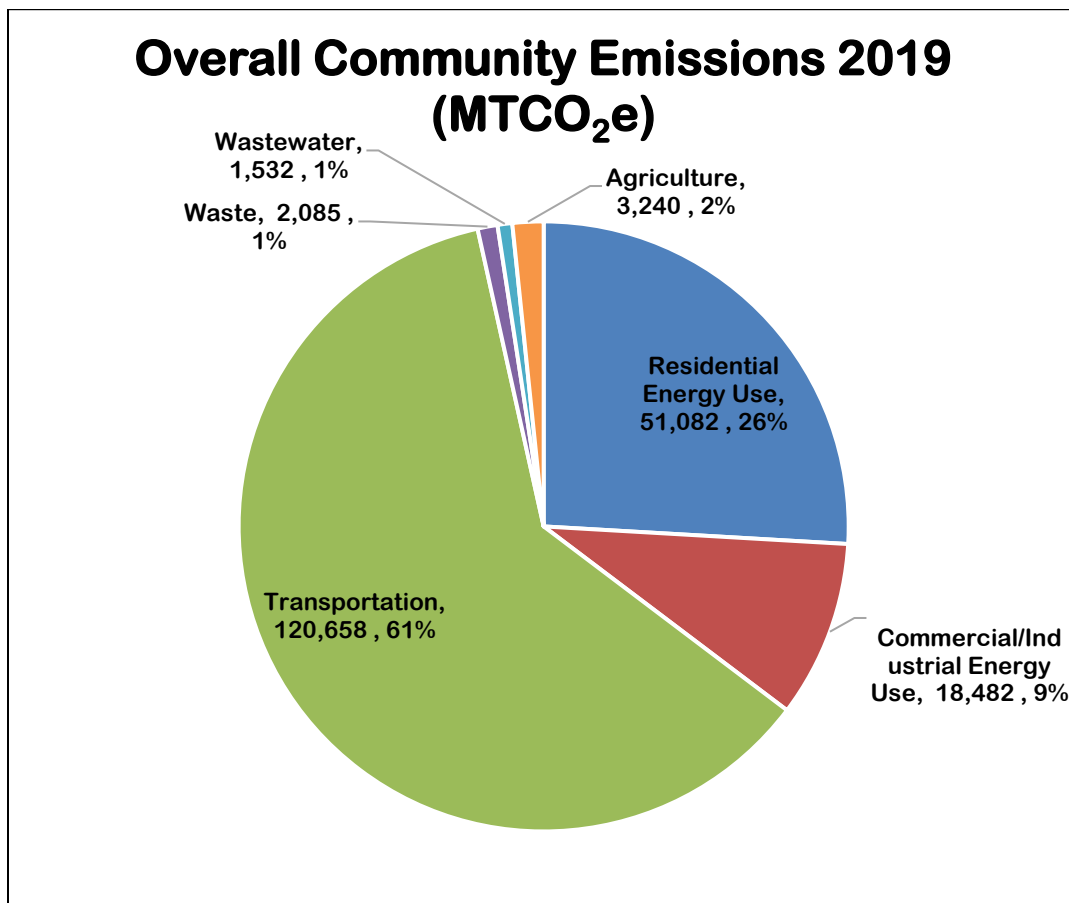


Figure 15: 2019 Community Emissions by Sector

Community Emissions Forecast

Assuming a business-as-usual scenario, emissions in the Town of Manlius in 2030 are expected to decrease from 197,079 MTCO₂e in 2019 to 161,986 MTCO₂e in 2030, a decrease of about 18%. Emissions are expected to decrease in the residential, commercial/industrial, transportation and wastewater sectors, and increase in the waste and agricultural sectors as the state implements policies, programs and projects outlined in the Climate Action Council's Scoping Plans and other initiatives. More details can be found in the Town's community greenhouse gas inventory report.

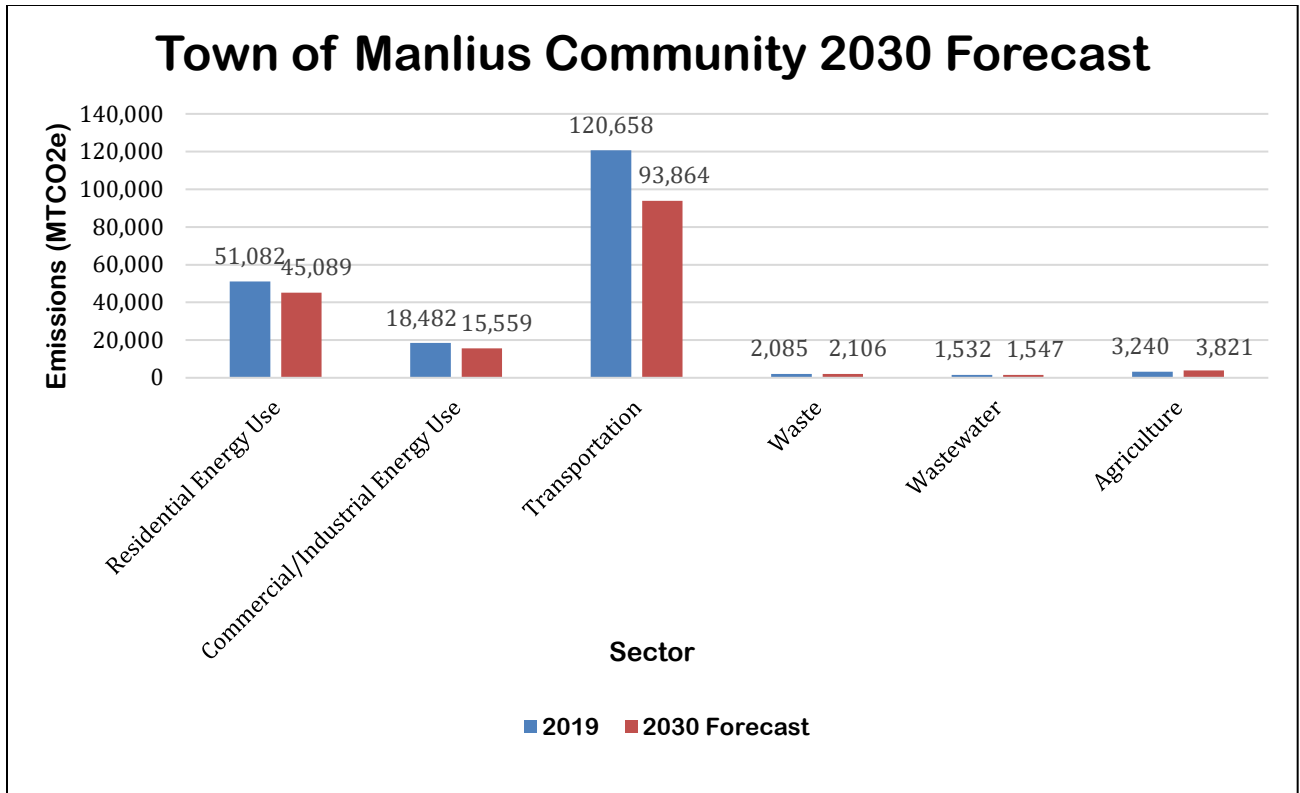


Figure 16: Town of Manlius 2030 Community Emissions Forecast

Municipal Operations Emissions Inventory Summary

According to the municipal greenhouse gas inventory, emissions for the Town of Manlius municipal operations in 2019 totaled 914 MTCO₂e. The vast majority of emissions (84%) resulted from mobile combustion from the municipal vehicle fleet.

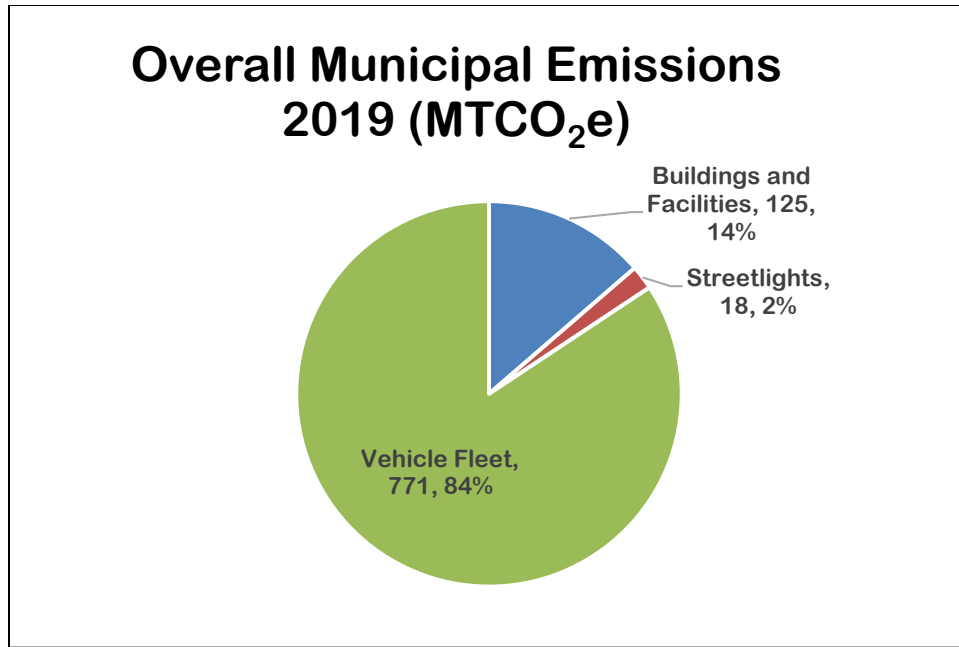


Figure 17: 2019 Municipal Operations Emissions by Sector

Municipal Operations Emissions Forecast

Assuming a business-as-usual scenario, emissions in the Town of Manlius in 2030 from all municipal sectors are expected to decrease, with total emissions decreasing from 914 MTCO₂e in 2019 to 735 MTCO₂e in 2030, a decrease of about 20%. More details can be found in the Town greenhouse gas inventory reports.

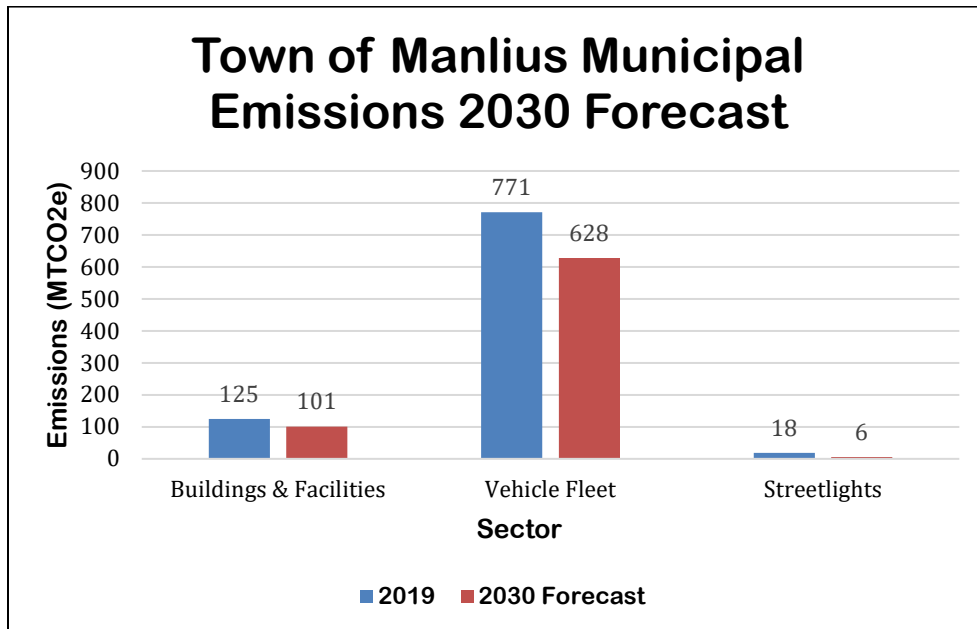


Figure 18: Town of Manlius 2030 Municipal Operations Forecast

IV. Emissions Reduction Target

The Town of Manlius has set short-term and long-term goals for emissions reductions from both municipal operations and the larger community as described in the table below. The Town plans to reassess the long-term goal every three years to gauge progress and to be consistent with statewide emissions reduction goals moving forward. This will require updating the town’s municipal operations and community-wide greenhouse gas inventory in order to measure reductions over time.

	Short-Term Goal: 2030	Long-Term Goal: 2050
Municipal Operations	Reduce emissions from municipal operations by 30% from 2019 levels by 2030, or 274 MTCO ₂ e.	Become net zero as soon as possible, but no later than 2050, or a reduction of 914 MTCO ₂ e.
Community	Reduce emissions from the community by 40% from 2019 levels by 2030, or 78,832 MTCO ₂ e.	Become net zero as soon as possible, but no later than 2050, or a reduction of 197,079 MTCO ₂ e.

Table 2: Town of Manlius Emissions Reduction Goals

Since the majority of municipal operation emissions are from the vehicle fleet that is primarily made up of police vehicles and heavy-duty vehicles, the Town has decided to have a slightly lower reduction target for municipal operations in the short-term for a variety of factors, including:

1. There are currently no pursuit-rated plug-in hybrid electric vehicles or all-electric vehicles for police fleets, though at least one will be released in 2024;
2. Options are currently very limited and significantly more expensive for transitioning heavy-duty vehicles to electric or zero-emission versions; and
3. The availability of plug-in hybrid electric vehicles and all-electric vehicles is currently a challenge due to supply-chain issues and high demand.

V. Emissions Reduction Strategies

During the fall-spring of 2022-2023, the Sustainable Manlius Climate Action Plan Subcommittee met monthly to discuss emissions reduction strategies from both municipal operations and from the community as a whole. As was acknowledged above, local governments do not have direct control over the majority of emissions that are created in the community; however, there are actions the Town of Manlius government can take to influence positive change in terms of reducing GHG emissions. The emissions reduction strategies included in the tables below are therefore focused on actions the local government can implement to reduce emissions from municipal operations and to encourage emissions reductions within the wider Manlius community.

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To assist in considering strategies moving forward, a number of strategy metrics were considered for each strategy, including GHG reduction potential, timeframe of implementation, estimated cost, and priority to the town. The priority scores noted in the table below reflect feedback from the subcommittee in terms of whether the strategy should be a high, medium, or low priority for the town moving forward. High responses received a score of 3, medium responses received a score of 2, and low responses received a score of 1. Scores were averaged to provide the priority score seen in the tables below.

Did you know...

Installing small solar arrays (7kW) at 10 homes in the town would yield about 8.7 MTCO_{2e} reductions per year, which has a similar impact to reducing consumption of gasoline by roughly 1,000 gallons or switching 330 incandescent light bulbs to LED?

Since the subcommittee was interested in including so many strategies for future consideration, a list of “Priority Actions” is also included ahead of the more detailed and expanded strategy tables (see Figure 19 below). These “Priority Actions” were selected based on several factors, including GHG reduction potential, relationship to the Town’s major emitting sectors, priority rankings from the subcommittee, input from the community survey, and approximate cost of implementation. **These “Priority Actions” represent the top 16 actions to consider implementing in the Town of Manlius. They are highlighted in light green in the tables that follow.**

PRIORITY ACTIONS

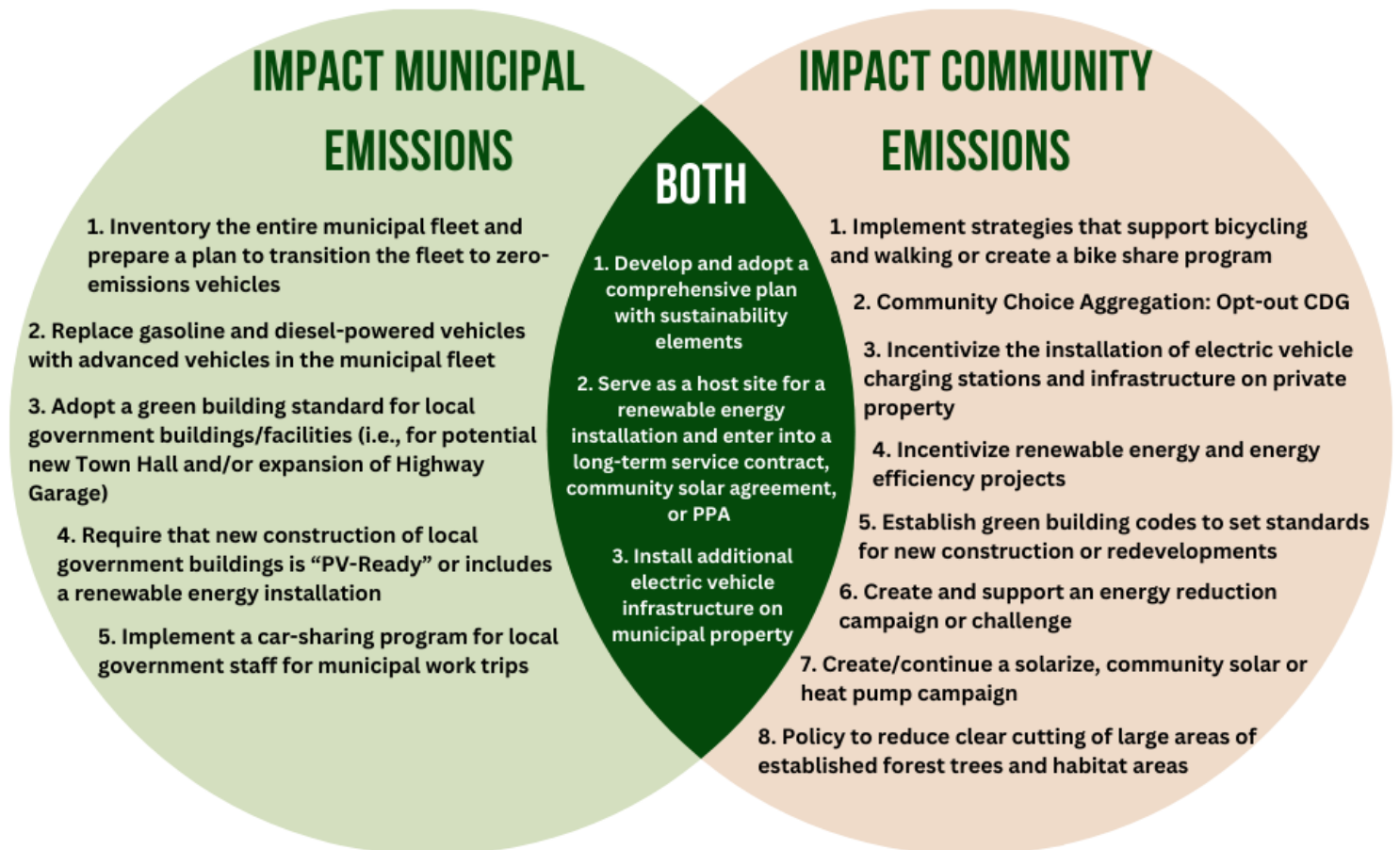


Figure 19: Priority actions for the Town of Manlius to consider implementing. More details are in the tables that follow.

The tables below include the full list of emissions reduction actions the Town of Manlius can consider implementing in the future, along with implementation metrics, information on how the strategy could be implemented, potential partners, and potential funding opportunities. Strategies are grouped into focus areas including Land Use & Transportation, Built Environment, Renewable Energy, Waste & Recycling, and Green Space, Agriculture, and Other.

Focus Area – Land Use & Transportation

Action Description (actions in green shading are on “Priority Actions” list, see p. 30)	GHG Reductions	Timeframe	Cost to implement	Priority (low=1, high=3)	Implementation path	Key Partners	Funding Resources
Install additional electric vehicle infrastructure on municipal property	Medium	Medium: 1-4 Yrs	\$\$	3	The Town has already installed two level 2 charging stations at town hall (4 ports), three of which will be open to the public 24/7 and one of which will be designated for municipal EV charging. The Town can consider installing additional charging stations at other locations as additional funding becomes available.	CNY RPDB; other local business owners if installing on private property	National Grid Make Ready program; NYS DEC Zero Emissions Vehicle Infrastructure program; NYSEDA Clean Energy Communities program; potential future federal programs
Replace gasoline and diesel-powered vehicles with advanced vehicles in the municipal fleet	Medium	Long: 5+ Yrs.	\$\$\$	2.5	The Town is electrifying their fleet as fast as they can, given the technology availability. The Town has a SAM grant for two EVs that will be for the Planning and Development department to replace old hand-me-down ex-police vehicles. Large trucks will be most difficult, so the Town will be looking to future technology for those. Through the efforts of Sustainable Manlius, the Town is also encouraging residents to convert to electric vehicles.	Highway, Police, Planning and Development, and Recreation Department; Sustainable Manlius; CNY RPDB	SAM grants; NYS DEC Zero Emissions Vehicle rebate program; NYSEDA Clean Energy Communities program; NYSEDA Drive Clean Rebate; electric vehicle tax credits; possible future federal funding opportunities
Incentivize the installation of electric vehicle charging stations and infrastructure on private property	Medium	Short: <1 Yrs	\$	2.4	Town can incentivize the deployment of EV charging stations through actions such as adopting streamlined permitting processes for installation on private property, including multi-family buildings and public rights-of-way, considering tax incentives for entities that install charging stations, or other options. NYSEDA has published resources on EV Charging Station permitting: https://www.nyserda.ny.gov/All-Programs/Programs/Clean-Energy-Siting/EV-Charging-Station-Permitting-Resources .	CNY RPDB; NYSEDA	N/A
Incentivize the installation of alternative transportation fuel supply infrastructure on private property	Medium	Short: <1 Yrs	\$	2.3	The Town can consider incentivizing alternative transportation fuels other than electric vehicles if viable low or zero-emission options become available, especially for medium and heavy-duty vehicles.	CNY RPDB	N/A
Install alternative transportation fuel supply infrastructure on government property	Medium	Medium: 1-4 Yrs	\$\$\$	2.1	The Town can consider alternative transportation fuels other than electric vehicles if viable low or zero-emission options become available, especially for medium and heavy-duty vehicles.	CNY RPDB	NYS Truck Voucher Incentive Program
Promote co-locating EV charging stations at gas stations	Medium	Medium: 1-4 Yrs	\$	2.4	The Town could consider promoting co-location of EV charging stations at gas stations to provide more public EV charging stations throughout the Town and encourage the transition to electrification.	Local gas station owners	National Grid Make Ready program
Electrify school buses	Medium	Medium: 1-4 Yrs.	\$\$\$	2.6	New York State law requires school buses be entirely zero-emission by 2035. The Town can encourage the local school districts to adopt zero-emissions buses at a quicker rate. In the meantime, routine maintenance of vehicles can help reduce emissions, anti-idling technologies can be adopted, and anti-idling policies can be enforced. Electric school buses will also reduce air pollutants as they have no tailpipe emissions.	Local schools/bus operators	NYS Truck Voucher Incentive Program
Adopt an anti-idling policy for all government vehicles	Medium	Short: <1 Yrs	\$	2.4	The Highway Department already has an anti-idling policy as part of their safety policy, and anti-idling technology has been implemented for all trucks at the Highway Department. The Town could adopt an anti-idling policy/technology for the police department and other town vehicles (i.e., Planning and Development and Recreation Department vehicles)	Internal	N/A

Focus Area – Land Use & Transportation

Action Description (actions in green shading are on “Priority Actions” list, see p. 30)	GHG Reductions	Timeframe	Cost to implement	Priority (low=1, high=3)	Implementation path	Key Partners	Funding Resources
Promote the NYS anti-idling policy (community-wide or in key areas, such as schools or transit stations)	Medium	Medium: 1-4 Yrs.	\$	2.1	Under New York State law, heavy duty trucks and buses may not idle for more than 5 consecutive minutes - buses should not be turned on until fully loaded to adhere to requirements. The Town can promote adherence to these existing regulations. In addition, the Town can advertise reporting violations- the idling regulation is enforced by DEC Conservation Officers (315) 426-7400.	Local schools/bus operators	N/A
Adopt anti-idling technology for buses/commercial vehicles	Medium	Medium: 1-4 Yrs.	\$\$	2	Under New York State law, heavy duty trucks and buses may not idle for more than 5 consecutive minutes. The Town can promote adherence to these existing regulations through promotion of these technologies.	Local schools/bus operators; local businesses	N/A
Adopt a Complete Streets policy approach for certain projects	Medium	Short: <1 Yrs	\$\$\$\$	N/A	While the Town does not currently intend to adopt a Town-wide Complete Streets policy due to cost, they do intend to implement Complete Streets elements for upcoming projects, such as on West Genesee St.	SMTC; NYS DOT; Smart Growth America	Federal Highway Safety Improvement Program and Transportation Alternatives Program
Implement strategies that support bicycling and walking or create a bike share program	Medium	Medium: 1-4 Yrs	\$\$	2.8	The Town is working to create a Neighborhood Sidewalk Program to help guide residents in the creation of sidewalks in the town. The Town can implement bike and pedestrian infrastructure (e.g., bike lanes, sharrows, bike racks, signage, bike share program, sidewalks, crosswalks) in strategic locations, such as North Burdick Street, Enders Road, or elsewhere. The Town can focus this infrastructure in areas to benefit lower-income residents who may be less likely to own vehicles. Adding benches at regular intervals will allow resting locations.	SMTC; NYS DOT; Onondaga County Planning; CNY RPDB	DEC Climate Smart Communities grant program
Implement a Safe Routes to School Program to encourage students to walk or ride bikes	Medium	Short: <1 Yrs	\$\$	2.5	The Town can focus new bike and pedestrian infrastructure/improvements in strategic locations by schools and partner with the school districts to educate students and parents on walking/biking options that are safe to take to/from school instead of driving. More information is available at https://www.transportation.gov/mission/health/Safe-Routes-to-School-Programs .	US DOT Safe Routes to School; local school districts; SMTC	DEC Climate Smart Communities grant program
Incorporate smart growth principles into land-use policies and regulations	Medium	Medium: 1-4 Yrs.	\$	2.5	The Town is incorporating smart growth principles into the Comprehensive Plan, including a zoning review and build-out analysis which will help inform future zoning updates. The Town can incorporate conservation subdivision principles into land use planning and laws. The Town could also incentivize mixed-use development or infill development through the use of density bonuses, reducing parking requirements, or other policies.	Barton & Loguidice; Town Comprehensive Planning committee; Smart Growth America	DEC Climate Smart Communities grant program
Incentivize the installation of parks or setting aside land as green space, forever wild, protected habitat, etc. with new development	Medium	Medium: 1-4 Yrs	\$	2	The Town could consider incentivizing or requiring the installation of parks or other green spaces with new development in order to reduce vehicle trips driving to green spaces elsewhere in the community.	Internal; developers	N/A

Focus Area – Land Use & Transportation

Action Description (actions in green shading are on “Priority Actions” list, see p. 30)	GHG Reductions	Timeframe	Cost to implement	Priority (low=1, high=3)	Implementation path	Key Partners	Funding Resources
Adopt green parking lot standards for transit-oriented developments (TOD) or municipal centers	Low	Short: <1 Yrs	\$	2.1	The Town can adopt standards for parking lots that require green space/trees and/or porous pavement. The Town can consider requiring native plants and trees to fulfill these requirements.	Internal	N/A
Create/support a “Buy Local/Buy Green” campaign to reduce vehicle miles traveled (VMT)	Medium	Short: <1 Yrs	\$	1.9	The Onondaga East Chamber currently has a buy local campaign in progress which Sustainable Manlius has helped support.	Onondaga East Chamber; local businesses; Sustainable Manlius; Town officials	N/A
Promote local farmers' markets	Medium	Medium: 1-4 Yrs.	\$	2	The Town is incorporating this recommendation in the Comprehensive Plan. The Town can help promote the Manlius and Fayetteville farmers' markets on social media, the Town's website, and in the Town's newsletter.	Manlius and Fayetteville farmer's markets and vendors	N/A
Inventory the entire municipal fleet and prepare a plan to transition the fleet to zero-emissions vehicles	Low	Short: <1 Yrs.	\$	2.1	The Town currently has a fairly extensive inventory of vehicles for the Highway Department but could add all other municipal vehicles to the list. The Town can also consider revising the format of the list to be consistent with the DEC CSC certification requirements, which includes 11 categories of information as explained on DEC's website at https://climatesmart.ny.gov/actions-certification/actions/#open/action/147 . The Town could also create an official plan to transition the fleet to zero-emissions vehicles.	Highway, Police, Planning and Development, and Recreation Departments	N/A
Promotion of hybrid work practices/meetings	Medium	Short: <1 Yrs.	\$	1.9	Where appropriate, the Town can allow or encourage staff to work from home or hold meetings virtually to reduce vehicle miles traveled.	Internal	N/A
Implement a car-sharing program for local government staff for municipal work trips	Low	Medium: 1-4 Yrs	\$\$	N/A	The Town Planning and Development and Recreation Departments currently share vehicles. The Town could make additional efforts to carpool or combine trips related to Town activities and/or when attending events together.	Internal	N/A
Implement strategies that increase public transit ridership and alternative transport modes (e.g., develop shuttle system to trains, ensure car parking near bus stops)	Medium	Long: 5+ Yrs.	\$	1.8	Town can partner with Centro to increase transit coverage and ridership, particularly in lower-income neighborhoods, including transit stop improvements. Park and ride lots could also be made available/promoted for carpooling.	Centro	N/A
Investigate traffic calming measures (e.g., widen sidewalks, install roundabouts or speed tables)	Medium	Medium: 1-4 Yrs	\$\$\$	2.5	The Town has interest in exploring traffic calming measures on E Genesee St, in the Village of Fayetteville, and elsewhere but will need traffic studies to determine if implementing these measures make sense or are feasible.	SMTC	SMTC received federal funding for traffic studies
Investigate transportation technology solutions to reduce traffic congestion (e.g., traffic signal synchronization, designated freight transit routes, mobile apps for traffic/incidents)	Medium	Medium: 1-4 Yrs	\$\$	2	The Town has interest in exploring these technologies but will need traffic studies to determine if implementing these measures make sense or are feasible.	SMTC	SMTC received federal funding for traffic studies
Incorporate green principles, commitments, or requirements into staff trainings	Medium	Short: <1 Yrs	\$	2.5	The Town can incorporate green principals or requirements into staff trainings, for example when new staff is hired.	CNY RPDB	N/A

Focus Area – Built Environment

Action Description (actions in green shading are on “Priority Actions” list, see p. 30)	GHG Reductions	Timeframe	Cost to implement	Priority (low=1 high=3)	Implementation Path	Key Partners	Funding Resources
Adopt an energy benchmarking requirement for government-owned buildings	Low	Short: <1 Yrs	\$	N/A	The Town has already adopted a benchmarking requirement for government owned buildings 1,000 square feet and larger and to post annual reports to their website.	CNY RPDB	N/A
Adopt a renewable energy ordinance to remove barriers to renewable energy installations	Medium	Short: <1 Yrs	\$	N/A	The Town has already adopted a solar zoning ordinance which spells out requirements of solar arrays and specifies where and how solar energy can be installed in the town.	CNY RPDB	N/A
Create and maintain a climate action website	Low	Short: <1 Yrs.	\$	N/A	The Town already maintains a climate action website through Sustainable Manlius at https://www.townofmanlius.org/243/Sustainable-Manlius .	Sustainable Manlius	N/A
Use social media and the Town’s newsletter to inform the community about the progress of local government's efforts	Low	Short: <1 Yrs.	\$	2.8	In addition to the Town’s newsletter, the Town already maintains a climate action website through Sustainable Manlius at https://www.townofmanlius.org/243/Sustainable-Manlius and related social media pages which inform the community about the progress of local government efforts. This is planned to continue.	Sustainable Manlius	N/A
Create and support an energy reduction campaign or challenge	Medium	Short: <1 Yrs	\$	2.6	The Town has already launched the Get Sustainable, Manlius! campaign which has had specific outreach related to community solar, clean heating and cooling and energy efficiency, and electric vehicles. The Town has been successful in encouraging community members to pursue these technologies and is considering continuation of these campaigns through Sustainable Manlius efforts. The Town can partner with the CNY Clean Energy Hub to target lower-income residents for assistance.	Sustainable Manlius; CNY RPDB; CNY Clean Energy Hub; local school districts	NYSERDA Clean Energy Communities grants
Map LEED certified (and other green buildings) buildings and promote sustainable practices to building owners	Low	Medium: 1-4 Yrs.	\$	2.1	The Town can consider mapping LEED certified and/or other green buildings in the community and advertising so that community members can learn by example how to make buildings as efficient as possible.	Builders; Developers; architectural community	N/A
Offer local tax incentives for positive climate actions	Medium	Medium: 1-4 Yrs.	\$\$	2.5	The Town can consider offering local tax incentives for positive climate actions, such as making energy efficiency or renewable energy improvements to buildings, similar to historic tax incentives.	Internal	N/A
Adopt an energy efficiency or renewable energy incentive(s) program	Medium	Medium: 1-4 Yrs	\$\$	2.5	The Town could consider adopting, creating, and/or promoting energy efficiency or renewable energy incentive programs. There are many existing incentives through NYSERDA, National Grid, and state and federal tax credits that many people may not be aware of.	NYSERDA; National Grid; CNY RPDB	N/A
Upgrade all interior lighting in government buildings	Medium	Medium: 1-4 Yrs.	\$\$	2.6	The Town has already converted all lighting at the Town Hall to LEDs and has converted roughly 80% of the lighting at the Highway Garage to LED. The Town plans to continue to 100% at the Highway Garage in the near future.	Internal	National Grid commercial lighting incentives

Focus Area – Built Environment

Action Description (actions in green shading are on “Priority Actions” list, see p. 30)	GHG Reductions	Timeframe	Cost to implement	Priority (low=1 high=3)	Implementation Path	Key Partners	Funding Resources
Convert all streetlights to LED	Medium	Short: <1 Yrs.	\$	2.9	The Town has already converted all cobra head streetlights to LEDs and has requested conversion of the decorative streetlights to LEDs. National Grid should be converting the remaining lights to LEDs within the next few months.	National Grid; CNY RPDB	National Grid energy efficiency incentives for streetlights
Conduct energy audits of local government buildings	Low	Short: <1 Yrs	\$\$	2.5	The Town could consider having energy audits of the Town Hall and/or Highway Garage to inform future energy upgrades.	Internal	NYSERDA FlexTech
Install water efficient fixtures in government buildings	Medium	Medium: 1-4 Yrs	\$\$	2.4	The Town could consider installing water efficient fixtures in government buildings where they haven't already been installed.	Internal	N/A
Where possible, upgrade building envelope in local government buildings	Medium	Medium: 1-4 Yrs	\$\$	2.1	The Town can consider improving air sealing and/or insulation at the Town Hall and/or Highway Garage where possible. The current Town Hall may have some restrictions based on how it was built, but the Town can consider an energy audit (above) to better inform these decisions.	Energy efficiency contractor	NYSERDA Clean Energy Communities grants
Adopt a green building standard for local government buildings/facilities (i.e., for potential new Town Hall and/or expansion of Highway Garage)	Low	Short: <1 Yrs	\$	2.8	The Town can consider adopting a green building standard for new buildings/facilities and/or expansions/renovations. There is some interest in considering building a new Town Hall in the future, and a green building standard (i.e., LEED Silver certification) could be applicable to that facility.	Internal	N/A
Build a new government building that meets green certification standards	Medium	Long: 5+ Yrs.	\$\$\$\$	2.25	There is some interest in building a new Town Hall in the future. If this moves forward, the Town is interested in building to a green certification standard such as LEED.	LEED; internal	NYSERDA Carbon Neutral Community Economic Development program
Upgrade HVAC equipment in government buildings	Medium	Medium: 1-4 Yrs	\$\$	2.4	The Town can consider improving HVAC equipment at the Town Hall and/or Highway Garage to the most efficient equipment when appropriate.	Internal	NYSERDA Clean Energy Communities grants; National Grid commercial programs
Install an Energy Management System (EMS) in government buildings	Medium	Medium: 1-4 Yrs	\$\$	2.1	The Town can consider installing an Energy Management System in the Town Hall and/or Highway Garage to help automate and control energy use in government facilities.	National Grid	National Grid Energy Management Systems (EMS) Program
Train code enforcement officers and design professionals in latest baseline Energy Code (possible incentive to attend costly trainings)	Medium	Short: <1 Yrs.	\$	2.5	The Town's code enforcement officer attended a Clean Energy Communities energy code training taught by Newport Ventures in February 2022 and is interested in attending future trainings. The Town could consider encouraging or incentivizing design professionals to attend similar trainings.	NYSERDA; CNY RPDB; design professionals	N/A
Establish green building codes to set standards for new construction or redevelopments	Medium	Medium: 1-4 Yrs.	\$	2.8	The Town can consider adopting green building codes so that new construction projects are very efficient.	Internal; developers	N/A

Focus Area – Built Environment

Action Description (actions in green shading are on “Priority Actions” list, see p. 30)	GHG Reductions	Timeframe	Cost to implement	Priority (low=1 high=3)	Implementation Path	Key Partners	Funding Resources
Adopt NY-Stretch, or next iteration	Medium	Medium: 1-4 Yrs.	\$	2.3	The Town can consider adopting the next version of the NY-Stretch Energy Code so that new construction projects are very efficient. There was a discussion about NY-Stretch 2020 in 2021, but the Town ultimately decided not to adopt at that time.	Internal; developers	N/A
Adopt a heat pump-ready building code (for air source and ground source/geothermal heat pumps)	Medium	Medium: 1-4 Yrs.	\$	2.5	The Town can consider adopting a heat pump-ready building code to help with the transition to electrified buildings. This means including the electrical needs of a heat pump (air source and ground source/geothermal) but not requiring the heat pump itself.	Internal; developers	N/A
Incorporate energy efficiency and waste handling provisions in standard specifications and government contracts	Medium	Short: <1 Yrs	\$	2.75	The Town can consider incorporating energy efficiency and waste handling provisions in standard specifications and government contracts. This means that when the Town contracts out for a project, they would require contractors to follow certain protocols regarding energy efficiency and waste handling that would make implementation of projects more efficient.	Internal	N/A
Create sustainable site design guidelines that are resource efficient (e.g., stormwater management, reduce heat-island effect, etc.)	Medium	Medium: 1-4 Yrs.	\$	2.5	The Town can consider creating sustainable site design guidelines that are resource efficient. This would require new development to abide by certain requirements, such as incorporating stormwater management best practices like permeable pavement, greenspace, etc.	Internal	N/A
Develop and adopt a comprehensive plan with sustainability elements	Medium	Short: <1 Yrs.	\$\$	3	Concurrent to the Climate Action Planning effort, the Town is developing a Comprehensive Plan with Sustainability Elements. The Comprehensive Plan includes a goal of environmental protection and sustainability and includes many similar objections and action items to what is included in this CAP.	Barton & Loguidice; Town Comprehensive Planning committee; CNY RPDB	DEC Climate Smart Communities grant program
Redevelop a brownfield site for renewable energy installations	Medium	Long: 5< Yrs	\$\$\$	2.4	The Town can consider redeveloping any brownfield areas in the Town for renewable energy installations.	DEC; ESD	ESD Brownfield Cleanup Program

Focus Area - Renewable Energy

Action Description (actions in green shading are on “Priority Actions” list, see p. 30)	GHG Reductions	Timeframe	Cost to implement	Priority (low=1, high=3)	Implementation Path	Key Partners	Funding Resources
Conduct feasibility studies for renewable energy installations	Low	Short: <1 Yrs.	\$	N/A	The Town has already completed a feasibility study for a solar PV installation at the closed landfill.	CNY RPDB; Abundant Solar	N/A
Adopt a renewable energy ordinance	Medium	Short: <1 Yrs.	\$	N/A	The Town has already adopted zoning for solar and wind.		N/A
Adopt Unified Solar Permit	Low	Short: <1 Yrs.	\$	N/A	The Town has already adopted the unified solar permit.	CNY RPDB; NYSERDA	N/A
Adopt the Battery Energy Storage System Model Permit and Battery Energy Storage System law	Medium	Medium: 1-4 Yrs.	\$	3	The Town can support the growth of the battery energy storage industry by adopting NYSERDA’s Battery Energy Storage System Model Permit and Law.	NYSERDA	N/A
Create/continue a solarize, community solar or heat pump campaign	Medium	Short: <1 Yrs.	\$	2.88	The Town has already created the Get Sustainable, Manlius! campaign focused on education and outreach for community members to subscribe to community solar, implement clean heating and cooling and efficiency measures, and purchase EVs. The Town has been successful in earning a grant through NYSERDA's Clean Energy Communities Program for successful campaigns. These are expected to continue via Sustainable Manlius outreach and annual EarthFest events. The Town can partner with the CNY Clean Energy Hub to target lower-income residents for assistance.	Sustainable Manlius; CNY RPDB; village libraries; CNY Clean Energy Hub; local school districts	NYSERDA Clean Energy Communities program; sponsorship from local business partners
Serve as a host site for a renewable energy installation and enter into a long-term service contract, community solar agreement, or power purchase agreement (PPA)	Medium	Medium: 1-4 Yrs.	\$	2.63	The Town is already pursuing installing solar PV on the closed landfill and is planning to be an offtaker of energy from the array, covering 100% of the Town's electric use. The array will also offer community solar subscriptions to the larger community which will provide a credit on electric bills and cost nothing to participate.	CNY RPDB; Abundant Solar	N/A, the Town will not own the solar array so will not have any up-front costs
Incentivize renewable energy and energy efficiency projects	Medium	Medium: 1-4 Yrs.	\$	2.75	The Town currently participates in the RPTL 487 which exempts all solar or wind energy systems from real property taxation for a period of 15 years. The town could adopt density bonuses, reduced building permit fees or other incentives. The Town can also establish a large-scale solar overlay district to focus development in strategic areas. The Town can also consider promoting or incentivizing solar canopies in parking lots, small scale wind, geothermal installations, and other renewables.		Internal
Install an air source or geothermal heat pump at a new or existing public facility	Medium	Long: 5+ Yrs.	\$\$\$	2.38	The Town could install heat pumps at existing facilities and/or at a new Town Hall facility if one is built.	NYSERDA	Incentives through National Grid; NYSERDA Clean Energy Communities grants; possibly future federal funding
Promote a financing mechanism for energy efficiency and renewable energy projects (i.e., Property Assessed Clean Energy (PACE) Financing)	Medium	Medium: 1-4 Yrs.	\$	2.5	PACE financing is currently available in Onondaga County and therefore within the Town of Manlius. The Town could work with the local chamber and other partners to promote this opportunity to commercial entities. PACE financing allows commercial entities to finance energy efficiency and renewable energy projects. These loans are tied to the property so passed on to new owners if the property is sold. Loans are also offered at longer terms than traditional bank loans. More info at https://www.eicpace.org/eicopenpace .	EIC; Onondaga County; Onondaga East Chamber	Internal

Focus Area - Renewable Energy

Action Description (actions in green shading are on “Priority Actions” list, see p. 30)	GHG Reductions	Timeframe	Cost to implement	Priority (low=1, high=3)	Implementation Path	Key Partners	Funding Resources
Adopt a green power purchase policy to ensure increasing local government energy supplies come from renewables	Medium	Medium: 1-4 Yrs.	\$\$	2.5	The Town could consider adopting a policy whereby municipal energy must come from renewable sources. The Town is already hoping to subscribe to the community solar array at the landfill to cover 100% of the Town's electric use.		Internal
Require that new construction of local government buildings is “Photovoltaic (PV)-Ready” or includes a renewable energy installation	Medium	Medium: 1-4 Yrs.	\$\$	2.71	The Town could consider adopting a policy whereby any newly constructed municipal buildings are constructed "PV-Ready" or includes a renewable energy installation on-site, either on the roof or on municipal property.	Local building partners	Internal
Solar-ready building code	Medium	Medium: 1-4 Yrs.	\$	2.5	The Town could consider adopting a residential and/or commercial building code that requires new construction within the town to be solar-ready. This would allow easier access to solar PV installations in the future.	Code enforcement officer; Local building partners	Internal
Community Choice Aggregation: Opt-out Community Distributed Generation (CDG)	High	Long: 5+ Yrs.	\$	2.25	Once approved by the Public Service Commission, the Town could implement a Community Choice Aggregation program for opt-out CDG, whereby the entire community would be automatically enrolled in a community solar subscription at no cost and with guaranteed savings on electric bills. Those who do not wish to participate can opt-out at any time.	Community solar providers; CCA Administrators; CNY RPDB; NYSERDA	No cost to participate
Purchase renewable energy certificates (RECs)	Medium	Short: <1 Yrs.	\$\$	1.5	The Town could consider purchasing renewable energy certificates (RECs) for electricity used at Town facilities, in particular if other solutions presented in this CAP are not implemented. RECs can be purchased on the open market, similar to stocks, and legally give ownership of renewable energy to the purchaser, regardless of if they do have renewable energy installed on-site.	NYSERDA	NYSERDA Clean Energy Communities program funds can be used to purchase RECs
Install a wind system on public property	Medium	Medium: 1-4 Yrs.	\$\$\$	1.75	The Town can consider installing small scale wind installations, such as those on Destiny USA, on public property.	NYSERDA	NYSERDA Clean Energy Communities grants; NYSERDA incentives
Hold green vendor fairs	Medium	Short: <1 Yrs.	\$	2.5	Sustainable Manlius has hosted EarthFest events the last few years and plans to continue to in the future. EarthFest events have included tabling by green vendors including solar PV installers, community solar providers, EV dealerships, and heat pump and energy efficiency contractors, among others.	Sustainable Manlius; CNY RPDB; village libraries	Internal; local sponsor partners
Include green industries in economic development plans - both for redevelopment and soliciting for relocating in the town	Medium	Long: 5+ Yrs.	\$	2.63	The Town can make an effort to include green industries redevelopment and/or relocation within the town. This could include targeted outreach and/or incentives for green businesses to locate within the town.	Onondaga East Chamber	Internal
Create or support a green jobs training program	Medium	Medium: 1-4 Yrs.	\$\$	2.25	The Town can work with the CNY RPDB in its capacity as the Regional Clean Energy Hub, Onondaga Earth Corps and other partners to support ongoing green job training efforts. The Inflation Reduction Act has certain requirements for green jobs and apprenticeships in order to maximize incentives, so this effort will support those requirements as well.	CNY RPDB; Onondaga Earth Corps; Onondaga East Chamber	Internal

Focus Area – Waste & Recycling

Action Description	GHG Reductions	Timeframe	Cost to implement	Priority (low=1, high=3)	Implementation Path	Key Partners	Funding Resources
Provide recycling bins next to all trash receptacles in local government buildings	Medium	Short: <1 Yrs	\$\$	N/A	The Town already provides recycling bins next to all trash receptacles in local government buildings.		N/A
Offer recycling to residents and commercial entities	Medium	Short: <1 Yrs	\$	N/A	The Town already offers recycling to residents and commercial entities.		N/A
Adopt a recycling and composting strategy for public places & events	Medium	Short: <1 Yrs	\$	2.38	The Town can consider adopting a policy for how recycling and/or composting will be dealt with at public places and events.	OCRRA	N/A
Provide recycling bins in public places (next to trash cans)	Medium	Medium: 1-4 Yrs.	\$\$	2.38	The Town could provide recycling bins in public places next to existing trash cans to encourage recycling.	OCRRA	Internal
Provide a public drop off for recyclable materials that aren't a part of roadside pick-up (i.e., copper, aluminum, etc.)	Low	Medium: 1-4 Yrs.	\$	2.25	The Town could provide a public drop off for recyclable materials, such as copper and aluminum, which aren't included in roadside pick-up. These materials can be brought to recycling centers locally.	Metalico Syracuse, other local recycling centers	Internal
Provide e-waste collection in local government buildings	Medium	Short: <1 Yrs	\$\$	2	Onondaga County already provides an e-waste collection that the Town could help promote and/or assist in collecting in-house in collaboration with the County efforts.	Onondaga County	N/A
Host household hazardous waste collection days which may also include E-waste and pharmaceuticals	Medium	Short: <1 Yrs	\$\$	2.25	Onondaga County already provides household hazardous waste collection. The Town could help promote County efforts and/or collaborate by collecting materials in-house.	Onondaga County; OCRRA	Internal
Provide compost bins to residents (for sale or free)	Medium	Medium: 1-4 Yrs.	\$\$	2.13	The Town could provide compost bins to residents to encourage composting of organic waste at home. This would best be paired with educational outreach about composting.	OCRRA	Internal
Provide organic waste collection and composting in local government buildings	Medium	Short: <1 Yrs	\$\$	2.13	The Town could consider providing composting opportunities at local government buildings, specifically for organics waste created within the buildings (such as food waste).	OCRRA	N/A
Create an organics or yard waste collection program	Medium	Long: 5+ Yrs.	\$\$	2.13	The Town already has a yard waste collection program for residents and could consider a similar organics waste pick-up program. The Town could start with a pilot program and expand as resources become available.	OCRRA	DEC Climate Smart Communities Grant Program; DEC Municipal Funding for Food Scraps Recycling Initiatives
Create an organics management plan	Medium	Medium: 1-4 Yrs.	\$	1.75	The Town could create an organics management plan that describes how all organics in the Town could be collected and composted. Yard waste is already something the Town collects, but the Town can consider collecting food waste as well. This would pair well with an educational campaign explaining how to properly compost and the benefits to composting.	Sustainable Manlius; OCRRA	Internal

Focus Area – Waste & Recycling

Action Description	GHG Reductions	Timeframe	Cost to implement	Priority (low=1, high=3)	Implementation Path	Key Partners	Funding Resources
Conduct a local government waste audit and track diversion rate over time	Medium	Long: 5+ Yrs.	\$	2.13	The Town could conduct a waste audit at municipal facilities and track rates over time. This would help put numbers to waste, recycling, and composting at municipal buildings and encourage efforts to divert waste. This may be a longer-term item.	OCRRA	N/A
Incorporate green principles, commitments, or requirements into staff trainings	Medium	Short: <1 Yrs	\$	2.13	As new Town staff is hired, the Town could require training that incorporates the Town's sustainability goals, such as reviewing this CAP.		Internal
Provide incentives/opportunities to recycle/upcycle/reuse, including establishing a repair café	Medium	Medium: 1-4 Yrs	\$\$	2	The Town could provide incentives to citizens to recycle/upcycle/reuse materials. The Town could set up and manage a community resource center and/or a community repair program (repair café) to encourage reuse of gently used or new materials that are discarded and/or items like appliances that need repair.	OCRRA	Internal
Create an educational campaign to encourage recycling, composting and reduce overall waste, including construction material	Medium	Medium: 1-4 Yrs.	\$	2.5	The Town could create an educational campaign to encourage recycling, composting, and reducing overall waste, including construction material.	Sustainable Manlius; OCRRA; Syracuse Habitate ReStore; Buy Nothing groups	Internal
Adopt a Construction and Demolition Waste Reduction Policy	Medium	Medium: 1-4 Yrs	\$	2.25	The Town could consider adopting a Construction and Demolition Waste Reduction Policy that states how C&D waste must be disposed of sustainably. This could be incorporated as part of permitting requirements.	OCRRA	Internal
Adopt an Environmentally Preferable Purchasing Policy	Medium	Medium: 1-4 Yrs	\$	2.38	The Town could consider adopting an environmentally preferable purchasing policy so that municipal purchases are environmentally friendly (e.g., wooden coffee stirring sticks vs plastic, recycled paper vs not, etc.)		Internal
Incorporate waste handling provisions in standard specs and government contracts	Medium	Medium: 1-4 Yrs	\$	2.38	The Town can consider incorporating waste handling provisions in contracts so that contractors working with the Town are required to recycle and/or compost specified items.	OCRRA	Internal
Discourage or ban the use of plastic bags	Medium	Short: <1 Yrs	\$	N/A	New York State already has a ban on the use of plastic bags.		N/A

Focus Area - Green Space, Agriculture, and Other

Action Description (actions in green shading are on "Priority Actions" list, see p. 30)	GHG Reductions	Timeframe	Cost to Implement	Priority (low=1, high=3)	Implementation Path	Key Partners	Funding Resources
Conduct a tree inventory and encourage native planting/tree planting	Low	Short: <1 Yrs.	\$	2.63	The Town can conduct a tree inventory to take stock of the natural resources currently in the Town so as to better preserve them. The Town can also encourage native planting/tree planting through local policies. There could be a requirement to plant native plants or trees with the development of commercial building projects, or within parking lots or streetscapes. Similarly, the Town could change the zoning code to allow for "No Mow May," which encourages habitat for pollinators during a sensitive time of year.	Sustainable Manlius; Manlius Tree Commission; SUNY-ESF; high school students; local volunteers; Habitat Gardening CNY https://www.hgcnny.org/who-we-are/ ; The Nature Conservancy; Trees for the Future; Arbor Day Foundation; Conservation Foundation; Sierra Club; Cornell Cooperative Extension	Internal
Green infrastructure projects (e.g., rain gardens, bioretention, porous pavement, etc.)	Low	Medium: 1-4 Yrs.	\$\$	2.63	The Town could implement green infrastructure on Town properties and/or encourage green infrastructure through local requirements or design review processes. The Town could revise the existing zoning code to include impermeable surface coverage limits, erosion control standards, and/or green infrastructure standards to mitigate stormwater runoff.	Planning Board; Land Trust of CNY; NYS Environmental Facilities Corporation; SUNY ESF Conservation Biology Dept.; Restoration Science Center at ESF; SUNY OCC	Internal
Regularly update GHG inventory and CAP (every 3 years)	Low	Long: 5+ Yrs.	\$\$	2.5	The Town can regularly update the greenhouse gas inventory and Climate Action Plan to be consistent with statewide goals, local objectives, and new technologies. The goal is to update the inventory and CAP every 3 years, reassessing in 2030 at the short-term goal horizon.	CNY RPDB	DEC Climate Smart Communities Grant Program
Policy to reduce clear cutting of large areas of established forest trees and habitat areas	Medium	Medium: 1-4 Yrs.	\$	3	The Town could adopt a policy to reduce clear cutting of large areas of established forest trees and habitat areas. The policy could identify what level of clear cutting would be allowed, for what size parcel, in which areas of the town, and for what development purposes.		Internal
Policy to protect historically, environmentally, and/or aesthetically important trees from being cut	Low	Medium: 1-4 Yrs.	\$	2.75	The Town could adopt a policy to protect historically, environmentally, and/or aesthetically important trees from being cut. The policy could identify which trees would be protected, and under what conditions they can/cannot be cut.	ESF Center for Cultural Landscape Preservation; ESF Center for Native Peoples and the Environment; Manlius Tree Commission; Climate and Applied Forest Research Inst. At ESF; Northern Forest Institute	Internal
Encourage/incentivize a conversion to electric lawn and landscaping equipment and/or less frequent use	Medium	Medium: 1-4 Yrs.	\$	2.75	The Town could convert lawn and landscaping equipment to electric and encourage or incentivize community members to do the same, and/or encourage less frequent use.	Local hardware stores that sell landscaping equipment; Sustainable Manlius	Internal; NYSERDA Clean Energy Communities grant
Work with local producers and support existing sustainable agricultural programs and sharing new information.	Medium	Medium: 1-4 Yrs.	\$	2.5	The Town can support existing sustainable agricultural programs and practices and share any new information with the farming community regarding incentives or programs that may be beneficial. The Town could also consider creating a positive circle of organic and local food production (e.g., % of organic and diverse products from local farms will be contractually bought by schools for lunches.)	Cornell Cooperative Extension of Onondaga County; Onondaga County Farm Bureau; Onondaga County Soil and Water Conservation District; NYS Ag & Markets; Onondaga County Farmland Protection Program	Internal

VI. Conclusion

This Climate Action Plan provided an opportunity for the Town of Manlius to develop energy efficiency and emission reduction strategies. This planning effort encouraged local participation and brought together representatives from the local government, citizens, and other key stakeholders to evaluate regional strengths and goals. The process provided a chance to gather information on sustainable community and economic development projects, to give community leaders support to advance sustainable projects, and to identify goals for new sustainable programs and initiatives.

Participants in the planning process worked to identify goals and strategies to improve the environment and address climate change through energy management, infrastructure, land use, and transportation. A summary of “priority actions” is listed in figure 19 on page 31. While this CAP focuses on actions the municipal government can take to impact emissions for both municipal operations and the greater community, community members can consider implementing actions at-home that are related to the actions on the “priority actions” list, such as:

- considering biking and walking instead of driving to destinations nearby,
- considering converting to an electric or plug-in hybrid electric vehicle,
- considering renewable energy installations and/or participation in community solar, and
- implementing energy efficiency improvements at their homes or businesses, including envelope improvements (i.e., insulation and air sealing), converting to LED light bulbs, and/or converting heating and cooling to air source or ground source (geothermal) heat pumps.

As a blueprint for the future, the Climate Action Plan efficiently summarizes an action-oriented guide containing strategies to ensure that Manlius meets the needs of current and future generations. In addition, the document will now provide state and local officials with the information needed for long-term commitments and investments in economic, social, and environmental resilience.

Our thanks go to the local leaders and community members for a job well done. Town officials are encouraged to now focus on implementation of these recommendations, to review the progress made on a regular basis, and to re-evaluate emission reduction goals. In this way, Manlius will continue to protect natural resources, reduce emissions, become more resilient to climate change, and serve as a prominent showcase for energy efficiency and environmental stewardship.