



TOWN OF HAMILTON
MADISON COUNTY
NEW YORK

2021 MUNICIPAL CLIMATE ACTION PLAN

ADOPTED BY THE HAMILTON TOWN COUNCIL

September 9, 2021

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Executive Summary

This Climate Action Plan is a combined strategy document for the Town of Hamilton that establishes Greenhouse Gas (GHG) reduction goals and outlines specific initiatives intended to help the municipality achieve its target. By developing such a plan for the municipal operations of the Town of Hamilton, local governments hope to provide their community with an example that will inspire community-wide action.

Commitment

In 2016, The Town of Hamilton pledged to become a Climate Smart Community. Developing this document is an important step for the municipality to achieve Climate Smart Community Certification through New York State’s Climate Smart Communities Certification program. Through its involvement in this program, the Town has publicly committed to the notion that climate change is real, and that it poses an increasing threat to the local and global environments, government and community operations, public health, economic sustainability, social justice, and overall quality of life. The Town believes that the response to climate change provides an unprecedented opportunity to support innovative energy, agricultural, and business opportunities, reduce costs, and create a resilient, sustainable, and economically sound future.

GHG Reduction Target and Strategies

In 2019, New York State passed the Climate Leadership and Community Protection Act to establish aggressive climate goals aimed to encourage every New Yorker to take direct and measurable actions to address climate change. As much as possible, the Town of Hamilton wishes to align its own municipal GHG reduction goals with those of New York State. Therefore, The Town of Hamilton commits to reducing its individual municipal operations GHG emissions by 85 percent by 2050, using a 2015 baseline.

The baselines were determined according to the most recent and most accurate GHG inventory data available. Additionally, the Town commits to determining intermediate municipal operations goals as well as sector-specific reduction strategies to help achieve the long-term target. The GHG reduction strategies proposed in this Climate Action Plan align with the Climate Smart Communities pledge and are individually customized to the Town of Hamilton’s unique operations. Each strategy is categorized within one of four sectors: Energy, Transportation, Waste, and Land Use. The highest priority actions not yet completed by the Town are presented below.

Table 1. Town of Hamilton Priority Actions

Group	ID	Strategy	CSC Points	Priority	Feasibility	Status
Buildings	E.1.3.	Energy Benchmarking	2-4	High	High	In Progress
Outdoor Lighting	E.2.2.	Outdoor Lighting	1-8	High	High	Complete
Renewable Energy	E.3.1.	Green Power Procurement Policy	2-4	High	High	Not Started
Fleet Efficiency	T.1.2.	Fuel Efficiency Standard	2-3	Medium	Medium	In Progress
	T.1.3	Shared Services	0	High	High	In Progress
Alternative Fuel Vehicles	T.2.1.	Electric & Hybrid Vehicle Purchases	2-10	Medium	Medium	In Progress
Commuting	T.3.1.	Explore Opportunities For Flexible Work Schedules	0	Medium	High	In Progress
Waste Reduction	W.1.2.	Environmentally Preferable Purchasing Guidelines	0	High	High	Not Started
Waste Diversion	W.2.1	Waste Diversion Goal	0	High	High	Not Started
Carbon Sequestration	L.1.1.	Tree Planting Program	1-10	Medium	High	Not Started
Landscaping	L.2.1	Green Parking Lot Standards	1-4	High	High	In Progress
	L.2.2.	Low Maintenance Landscaping	1-9	High	High	Complete

Resilience & Climate Adaptation

Over the past few decades, Central New York has been hit hard by the impacts of climate change. The Town of Hamilton recognizes the existential threat posed by climate change and recognizes that it is a central responsibility for local governments to plan for and be prepared for ongoing hazards, including climate risks. Already, the Town of Hamilton has committed to climate adaptation, including establishing a climate resiliency vision and establishing climate adaptation goals into its Government operations. Moreover, the Town has already completed a Climate Vulnerability Assessment and a Climate Resilience Self-Assessment. The Town commits to completing a Climate Adaptation Plan by 2025. The Climate Adaptation Plan is a key element to local climate action planning and will help Hamilton identify its unique vulnerabilities to climate change and develop and implement strategies to increase overall community resilience.

Key Considerations

Environmental Justice

The Town of Hamilton commits to addressing environmental justice issues in Government Operations. This includes ensuring that the GHG reduction strategies that are implemented benefit all residents and employees, especially those who may already be disenfranchised. Additionally, the Town will ensure that the decision makers will be inclusive in considering all concerns for the development and implementation of these GHG reduction Strategies. Lastly, the Town will prioritize reduction strategies that encourage environmental justice within Government Operations. The Town provides information about energy saving and green energy resources to all its employees and the community through its [publicly available website](#).

Economic Benefits

The Town of Hamilton commits to prioritizing and implementing GHG strategies that provide economic benefits to the municipality, whether through cost savings, increased job opportunities, and/or improved salaries for employees.

Quality of Life

The Town of Hamilton commits to prioritizing and implementing GHG strategies that improve the quality of life for its employees and community members. This includes prioritizing the implementation of GHG reduction strategies that improve indoor and outdoor air quality, reduce waste and pollution, provide opportunities for social engagement, and more.



Introduction

Understanding Climate Change

Climate change is caused by gases emitted from human activities such as burning fossil fuels for energy production, deforestation, and agricultural processes, among others that trap heat in the atmosphere and initiate the greenhouse effect. These gases accumulate in the upper atmosphere and absorb infrared radiation, thereby trapping heat and making the planet warmer. Climate change is increasingly referred to by such terms as “climate crisis,” or “global heating” due to rising alarm about immediate catastrophic impacts barring significant emissions reductions. The Intergovernmental Panel on Climate Change (IPCC) has identified limiting temperature increase to a maximum of 1.5° C as necessary to give humanity the best chance of avoiding the worst impacts of climate change. To make such a scenario possible requires global emissions reductions of 45% from 2010 levels by 2030 and global net-zero emissions by 2050. For reference, temperatures have already increased from pre-industrial levels by about 1° C.

According to the New York State Department of Environmental Conservation (DEC), a variety of climate change impacts have already been observed in New York, Madison County, and the Town of Hamilton. These impacts include, but are not limited to, warmer average annual temperatures, increased average annual precipitation, a change in the distribution of annual rain and snow, more frequent storm events and flooding, decrease in the amount and duration of snow cover, changes to natural plant cycles, and changes to animal, bird, fish, and bee migrations and habitats. Additionally, local impacts of climate change include increased health risks from heat-related illnesses, asthma, infectious diseases, risks to farmers and local food production and distribution, water quality, mental illness, and many others.


Climate Smart Communities

The Climate Smart Communities program was launched in 2009 with the goal of encouraging local governments to enact programs and policies to address climate change. This state-wide program assists and incentivizes communities to reduce GHG emissions and adapt to changing conditions. While the DEC acts as the lead administrator for the program, it is jointly sponsored by an additional five New York state agencies. For a community to become a Certified Climate Smart Community, it must first adopt a ten-point pledge, then complete and document a series of actions to combat the effects of climate change. The following are the ten pledge elements:

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

The Climate Smart Communities Certification program works to educate and engage with New York State communities, as well as provide a framework that local governments can use to guide their efforts in becoming a Climate Smart Community. Additionally, successful communities can receive recognition and rewards for their climate-conscious actions. The program allows communities to achieve three levels of certification awards: Bronze, Silver, and Gold Climate Smart Communities. To achieve a higher certification, each community must complete and document additional climate actions. Additionally, the Department of Environmental Conservation supports a Grant Program to offer funding for local governments to adopt climate change adaptation and mitigation projects.

In 2016, the Town of Hamilton, in partnership with the Village of Hamilton, formed the Hamilton Climate Preparedness Working Group to begin working actively toward certification. This group was originally organized by John Pumilio, Colgate's Director of Sustainability, and Chris Henke, then faculty Director of the University's Upstate Institute. A representative group of community residents and elected officials, along with Colgate students and faculty also participate in this Working Group to pursue their common goal of building community climate resiliency and sustainability.



In 2020, New York State awarded the Town of Hamilton the Climate Smart Communities' Bronze Certification, acknowledging its efforts thus far and establishing Hamilton as a statewide leader in climate action planning. Future efforts will further solidify Hamilton as a model community as we pursue Silver and/or Gold certification.

Climate Planning Process

The Town of Hamilton includes members of the Climate Smart Communities program. By joining, Hamilton agreed to create and adopt a Government Operations and Community Climate Action Plan that communicates effective and comprehensive strategies for reducing GHG emissions across all sectors and provides a framework for achieving those targets. The Climate Action Plan identifies priority actions and facilitates coordination across government departments. In addition, the Climate Action Plan supports effective action over time by establishing methods for assessing progress and adjusting the local strategy if GHG targets are surpassed or not fulfilled. By developing such a plan for their own operations, local governments take leadership roles and provide their communities with examples that help to inspire community-wide action.

The Town of Hamilton established the Climate Action Plan Subcommittee of the Hamilton Climate Preparedness Working Group to draft a plan and provide recommendations to municipal decision-makers. The Climate Action Plan Subcommittee was composed of Town and Village of Hamilton officials, Colgate University staff and faculty, as well as an outside consultant. This committee also coordinated directly with the Hamilton Climate Preparedness Working Group to build on the baseline GHG Inventory assessment completed for the Town.

This Climate Action Plan is a 3-5-year strategic plan for the Town that includes greenhouse gas reduction targets, tangible actions to reduce its greenhouse gas emissions, and near-term efforts to prepare for impending climate-related impacts. Our plans at the Town level will be shaped by policies and resources available via New York State, and especially the goals set by the 2019 Climate Leadership and Community Protection Act. The Climate Act sets ambitious goals for the state, including a 40 percent reduction of GHG emissions by 2030, and an 85 percent reduction by 2050. Meeting these goals will likely require a broad shift toward electrification of building and transportation systems across the state. Each update to this plan will need to consider the potential for electrification of Town buildings and vehicle fleets, along with the availability of new technologies and incentives. These opportunities need to be weighed against existing commitments and structures.

Because of the rapidly changing environmental, political, social, and technological landscapes, the Town expects this document to continue to be improved upon in the future. During this time, the Town of Hamilton will continue to monitor and report on progress toward achieving goals through GHG Inventories. Additionally, the Town will continue to engage with

community members on an ongoing basis as part of considering new ideas. Lastly, once this document is finalized and published, the Town plans to develop a Community Climate Action Plan. Ideally, the process and content for this document will provide a good foundation for the Community Climate Action Plan. The step-by-step development process is outlined in Table 2 below.

Table 2. Town of Hamilton Climate Action Planning (CAP) Process

Milestone	Lead Responsibility
1. Determine leadership and CAP framework	CAP Subcommittee
2. Develop communication and engagement strategy	CAP Subcommittee
3. Complete and analyze baseline assessments	HCPWG, Colgate faculty, staff, students
4. Identify goals and GHG reduction targets	CAP Subcommittee, Town Officials, Consultant
5. Identify existing and potential initiatives.	CAP Subcommittee, Town Officials, Consultant
6. Quantify the potential impact of initiatives.	CAP Subcommittee, Town Officials, Consultant
7. Prioritize initiatives.	CAP Subcommittee, Town Officials, Consultant
8. Create a plan for implementing the chosen initiatives.	CAP Subcommittee, Town Officials, Consultant
9. Establish metrics.	CAP Subcommittee, Town Officials, Consultant
10. Write the CAP and make it publicly available (may include time for Public review)	CAP Subcommittee
11. Adopt the CAP (may include time for Public review)	Town Officials



Greenhouse Gas Emissions Inventory

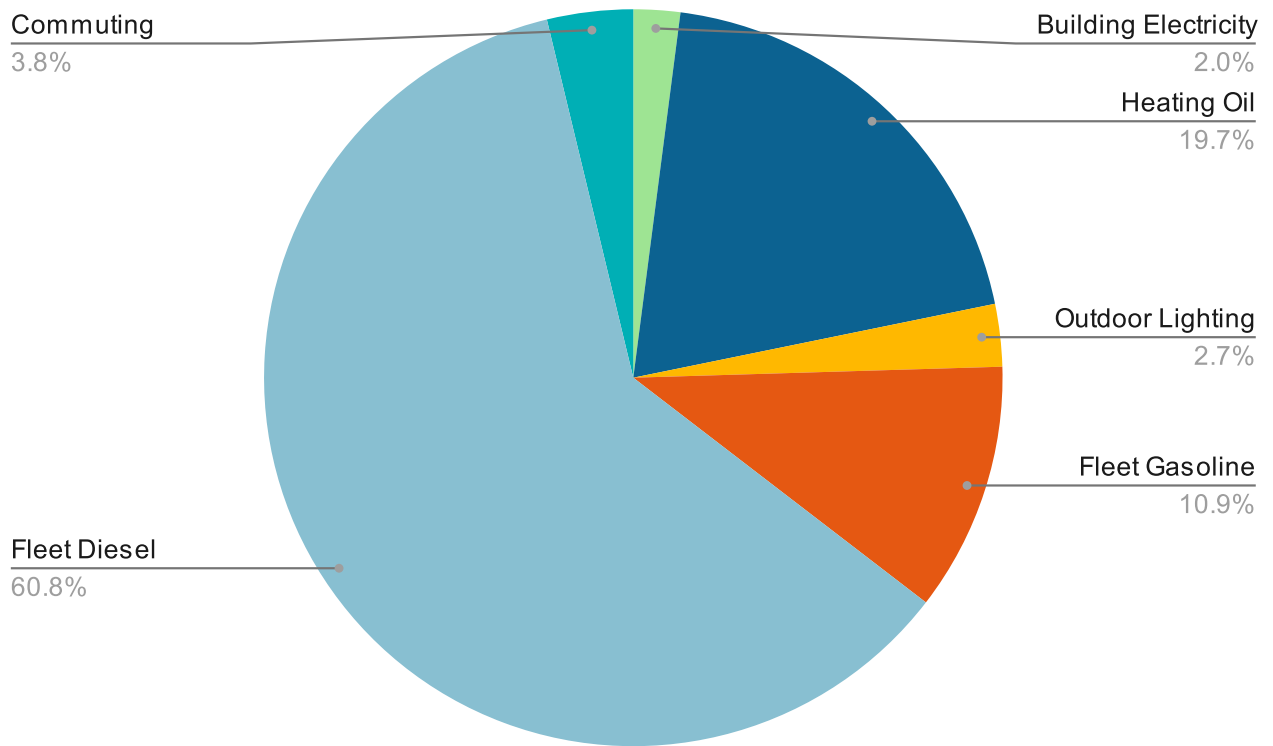
The purpose of creating a local government operations greenhouse gas inventory is to obtain a thorough understanding of the GHG emissions sources relevant to the community, establish a baseline for these emissions, and identify opportunities to reduce energy use and GHG emissions. These inventories often result in several benefits for the community, such as an improved ability to manage energy use, the opportunity to lead by example in the local community, increased transparency and accountability, and cost savings. Using the Town's GHG emissions inventory as the foundation, this Climate Action Plan defines GHG reduction targets and provides a framework for achieving those targets for each municipality.

The Town of Hamilton's GHG inventory follows an operational control approach method based on the Climate Smart Communities Program. By definition, operational control means that the local government owns a facility, or does not fully own it but has authority over decisions regarding operational, health, safety, and environmental policies concerning the facility at hand. The local government must therefore account for emissions from all facilities, operations, or sources.

For the base year 2015, the Town of Hamilton reported a total of 215.3 Metric Tons of Carbon Dioxide equivalent (MTCO₂e). See Table 3. The town's vehicle fleet produced the largest number of GHG emissions, amounting to 154.4 MTCO₂e, or 71.7 percent of total emissions. Additionally, the fuel oil used to heat buildings (19.8 percent), employee commuting (3.8 percent), outdoor lighting (2.7 percent), and the electricity used in town buildings (2 percent) accounted for the rest of the Town's emissions. The full summary of the Town of Hamilton's 2018 Baseline GHG emissions is presented in the Town of Hamilton, NY 2017 Municipal GHG Inventory.

Table 3. Town Municipal Operations Emissions by Sector and Source, 2015

Sector	Source	MTCO ₂ e
Energy	Building Electricity	4.4
	Heating Oil	42.5
	Outdoor Lighting	5.9
Transportation	Fleet Gasoline	23.5
	Fleet Diesel	130.9
	Employee Commuting	8.1
Total		215.3



Hamilton Climate Mitigation Goals

The Town of Hamilton has developed and committed to five goals to address the climate change impacts of its municipal GHG footprints. This section defines those goals and introduces potential GHG reduction strategies the Town may implement to achieve these targets.

- Goal 1: Reduce Hamilton's municipal greenhouse gas emissions by 85% from the Town of Hamilton's 2015 baseline by 2050.
- Goal 2: Purchase and/or generate 100% renewable electricity by 2030.
- Goal 3: Continually update Hamilton's Climate Smart Communities certification every 5 years.
- Goal 4: Complete a Community Climate Action Plan by 2022.
- Goal 5: Complete a Climate Adaptation Plan by 2025.
- Goal 6: Complete an Annual GHG Emissions Inventory to track operations and progress.

Energy

Where we are: The Energy sector of the Town of Hamilton's GHG Emission Inventory includes the emissions generated by the purchased electricity and fossil fuel consumption in the Town Office and Town Garage, the purchased electricity used to power outdoor lighting, including streetlights, as well as the renewable energy generated on-site and purchased from its utility provider. In 2015, the Town's Energy sector was responsible for 52.8 MTCO_{2e}, or 24.5 percent of overall emissions.

Since 2015, the Town of Hamilton has already completed a number of energy efficiency projects and upgrades to reduce its environmental impact, costs, and emissions. Most notably, the Town finalized a complete lighting retrofit of the Garage in 2017, and it installed a new geothermal energy system at the Garage in December of 2019. Additionally, the Town constructed a new town office building that included many energy-conscious components such as a highly efficient air source heat pump and LED lighting through the building. The Town is responsible for overseeing two lighting districts in the hamlets of Poolville and Hubbardsville. In 2020, the Town worked with NYSEG to replace the existing fixtures with high-efficiency LED lamps. These projects are examples of the Town of Hamilton's commitment to sustainability and climate action.

Where we want to be: In line with the Town's Climate Action Goals, the Town envisions its emissions from electricity to be completely eliminated by 2030 through energy conservation

and renewable energy purchases and/or generation. Furthermore, the Town envisions the entirety of its Energy Sector emissions to be reduced and/or offset by at least 85% by 2050.

How we get there: The GHG mitigation strategies presented in this section represent a variety of initiatives intended to improve the energy efficiency of the Town’s facilities and increase the amount of renewable energy consumed in the Town’s energy portfolio (Table 4).

Table 4. Town of Hamilton Energy Reduction Strategies

Group	ID	Strategy	CSC Points	Priority	Feasibility	Status
Buildings	E.1.1.	HVAC Upgrades	1-5	High	High	Completed
	E.1.2.	Indoor Lighting Upgrades	1-5	High	High	Completed
	E.1.3.	Energy Benchmarking	2-4	High	High	In Progress
	E.1.4.	Green Building Standards	2-5	High	Medium	Completed
	E.1.5.	Energy Code Training	5	High	High	Completed
	E.1.6.	Green Building Certification	15	Low	Low	Not Started
	E.1.7.	Green Financing Mechanism	5	Low	Low	In Progress
Outdoor Lighting	E.2.1.	Street Lights	5-10	High	High	Completed
	E.2.2.	Outdoor Lighting	1-8	High	High	Completed
Renewable Energy	E.3.1.	Green Power Procurement Policy	2-4	High	High	Not Started
	E.3.2.	On-Site Renewable Energy Systems	9-20	High	High	Completed
	E.3.3.	Power Purchase Agreement	9-20	Low	Low	Not Started
	E.3.4.	Renewable Energy Credits	2-7	Low	High	Not Started

Improve Building Energy Efficiency

E.1.1: Upgrade and/or retrofit HVAC equipment in existing buildings.

HVAC equipment is a large energy consumer in the majority of buildings, and upgrades should be implemented any time existing equipment is outdated or performing inefficiently. When the new Town Office was constructed, it was built with an energy-efficient air source heat pump and supplemented by Village gas, when necessary. Additionally, the Town Garage currently uses geothermal energy, which was installed in 2019, for the majority of its heating and cooling needs. The Town will continue to consider HVAC upgrades in future building retrofits.

- Status: Completed
- Metric: % of equipment that meets current efficiency standards.

E.1.2: Upgrade and/or retrofit interior indoor lighting in the Town Office and Garage.

The Town has evaluated existing lighting throughout local government buildings and identified opportunities to upgrade to more efficient, longer-lasting options. Both the Town Office and the Garage use LED lights throughout. LEDs were included in the new construction plans for the Town Office in 2020 and were used to replace outdated and less efficient incandescent bulbs in the Garage in 2017.

- Status: Completed
- Metric: 100% of indoor lighting upgraded/retrofitted.

E.1.3: Adopt an energy benchmarking requirement for the Town Office and Garage to ensure consistent and accurate energy performance.

Benchmarking will help the Town identify opportunities to reduce emissions, cut energy waste, drive continuous improvement, and quantify energy savings.

- Status: In Progress
- Next Steps: The Town plans to begin energy benchmarking the highway garage in Spring 2021 when recalculating the garage's GHG emissions. Additionally, tracking energy use at the Town Office began on September 1, 2020, when the staff moved into the new building.
- Metric: Adopted benchmarking requirement.

E.1.4: Adopt Green Building Standards for new construction of the Town Office building and explore green building standards for the operation and maintenance of the Garage and other existing buildings.

The **NYS Green Building Construction Act**, passed in 2009, requires that all new state buildings meet green building standards. The Town first applied these standards during the design of the new Town Office building built in 2020. Additionally, the Town of Hamilton will continue to explore the possibility of adopting Green Building Standards for the operation and maintenance of other existing buildings, such as the Garage, if and when applicable.

- Status: Completed
- Metric: Adopted standards.

E.1.5: Train at least one official on the NYS Energy Code - the minimum building standard for energy efficiency, applicable to new construction and renovation of commercial and residential buildings in NYS.

The Energy Code is a complex document and one of nine building codes in NYS, making implementation and enforcement complex and time-consuming. The Town values the education of local compliance officials about energy code best practices. A Town of Hamilton Codes Officer is trained annually on the NYS energy Code per Clean Energy workshops provided by NYSERDA.

- Status: Completed
- Metric: # of NY Energy Code trained officials.

E.1.6: Explore a potential Green Building Certification for the Town Office.

Building a resource-efficient green building provides local governments with the opportunity to lead by example and make long-term investments that will reduce energy use and operating costs of the building.

- Status: Not Started
- Next Steps: The Town of Hamilton will investigate whether or not the Town Office building would be appropriate for a Green Building Certification, such as EnergyStar Building Certification.
- Metric: Completed Green Building Certification feasibility study.

E.1.7: Explore the feasibility of an energy/sustainability improvement Financing Mechanism to decrease the burden of initial investment capital and allow for continuous energy improvements over time.

The up-front cost of energy efficiency improvements and renewable energy projects is often a deterrent to implementing upgrades in municipal facilities and operations. However, energy savings will often pay back the up-front cost. Establishing a financing mechanism, such as a revolving energy fund, can provide the Town with the initial capital and can use the energy savings to replenish the fund, thus allowing for continuous energy improvements over time.

- Status: In Progress
- Next Steps: The Town has initiated plans to build a new highway garage. State, federal, and/or utility grants as well as other options can help cover the cost of energy conservation strategies and green building design. The Town is also considering taking the energy savings from the geothermal installation at the current garage and applying the savings to the new Town Garage, essentially creating a green revolving fund.
- Metric: # of funding options considered.

Reduce Outdoor Lighting Electricity Use

E.2.1: Upgrade and/or retrofit street lights with LED lighting.

Efficient street lights have saved the Town money and energy while reducing the GHG emissions associated with electricity consumption. The Town of Hamilton completed upgrading both street lighting districts within Hamilton in August 2020. Overall, the Town replaced 42 cobra/mercury vapor light bulbs with more efficient LED lights.

- Status: Completed
- Metric: 100% of street lighting upgraded to LEDs.

E.2.2: Upgrade and/or retrofit outdoor lighting fixtures to improve and reduce lighting.

The Town has identified opportunities to reduce the number of outdoor lighting fixtures or reduce the time in which the fixtures are in use. The Town Office building was constructed with LED lighting in mind for both the indoor and outdoor fixtures; however, there are opportunities for replacements for the Town Garage.

- Status: Completed
- Metric: 100% of outdoor lighting fixtures upgraded/retrofitted.

Increase Renewable Energy Consumption

E.3.1: Create a Green Power Procurement Policy.

Adopting a policy to require the use of renewable energy to meet government needs helps drive the expansion of the market for renewable energy by leveraging its purchasing power. This type of policy makes a commitment to allocate funding for the purchase of renewable energy, renewable energy credits (RECs), and/or the installation of renewable energy systems. Community Choice Aggregation (CCA) presents one type of opportunity for the Town of Hamilton to increase its purchase of green, renewable power while also reducing electricity prices offered by NYSEG. According to the EPA, Community choice aggregation allows local governments to procure power on behalf of their residents, businesses, and municipal accounts from an alternative supplier while still receiving transmission and distribution service from their existing utility provider. In our case, NYSEG. The Town of Lebanon, NY is one example of a neighboring community already participating in community choice aggregation.

- Status: Not started
- Next Steps: The Town will consider if developing and adopting a Green Power Procurement Policy would be beneficial for the Town. The Town already generates its own Green Power but had opportunities to purchase additional green power through organizations such as NYSEG.
- Metric: Created policy.

E.3.2: Integrate On-Site Renewable Energy systems for municipal buildings, where feasible.

Geothermal: A geothermal system allows for buildings to heat and cool a building by transferring energy to or from the ground. This reduces the need for fossil fuels, such as natural gas or oil, or electricity to be consumed for central heating and cooling. The Town installed a geothermal system at the Town Garage in December 2019 and in one year has already helped eliminate 2,033 gallons of fuel oil, save over \$5,000 in heating costs, and reduce the Town's greenhouse gas footprint by 41,580 lbs (~21 tons).

- Status: Completed
- Metric: % of total energy use generated by on-site renewable energy systems.

Solar Energy: 12 solar panels were installed on the Town Garage in 2012 and generate approximately 17,802 kWh of electricity per year. Although this project occurred before the baseline year, the energy generated from these panels continues to reduce the emissions associated with the Town's facilities.

- Status: Completed
- Metric: % of total energy use generated by on-site renewable energy systems.

E.3.3: Explore a Power Purchase Agreement for renewable energy.

A Power Purchase Agreement offers a way to invest in renewable energy without dealing with the financing, ownership, operation, and maintenance of a solar, PV, wind or other type of renewable energy system. Under a Power Purchase Agreement, a third party, or the local utility, becomes the provider, and the local government agrees to purchase electricity from the provider.

- Status: Not Started
- Next Steps: The Town will research options to purchase green power, such as through a contract with NYSEG, and determine if it is feasible and cost effective to pursue a Power Purchase Agreement.
- Metric: Completed analysis of Power Purchase agreement options.

E.3.4: Purchase Renewable Energy Credits (RECs).

Renewable energy facilities generate RECs when they produce electricity. For jurisdictions that are unable or elect not to install their own renewable energy systems, purchasing RECs allows them to offset their energy consumption by supporting the production of more renewable energy nationally. Purchasing certified RECs ensures that the RECs meet certain quality standards and were produced using accepted renewable energy technologies. The Town of Hamilton's priority is to reduce electricity use, increase energy efficiency and install on-site renewable energy systems, where possible. In a situation where these three tactics are insufficient to achieve the Town's climate goals, the Town will consider purchasing RECs as an option to meet it.

- Status: Not Started
- Next Steps: Understand the Energy Sector emissions and overall GHG Footprint once all energy efficiency and renewable energy projects have been completed.
- Metric: % of energy covered by purchased REC's.



Transportation

Where we are: The Transportation sector of the Town of Hamilton's GHG Emission Inventory includes the emissions generated by the fossil fuels consumed by the Town's vehicles and Employee commuting. In 2015, the Town's Transportation sector was responsible for 162.5 MTCO_{2e}, or 75.5 percent of overall emissions. Recently, the Town installed an Electric vehicle charging station in the public Village of Hamilton parking lot, available for use by municipal employees, Hamilton residents, and visitors. Additionally, The Town coordinated with Colgate University and the Environmental Studies Department to complete a Fleet Inventory & Fleet Management Plan. Many of the GHG reduction strategies in this Climate Action Plan build off of the work and recommendations of that report. These projects are examples of the Town of Hamilton's commitment to sustainability and Climate Action.

Where we want to be: In line with the Town's Climate Action Goals, the Town envisions the emissions from its Transportation Sector to be reduced and/or offset by at least 85% by 2050. Additionally, because sources of Transportation emissions from Government Operations, such as employee commuting, are intrinsically tied to Community Transportation emissions, the Town envisions that it will prioritize strategies that help reduce both Government and Community transportation emissions.

How we get there: The GHG mitigation strategies presented in this section represent a variety of initiatives intended to improve the fuel efficiency of the Town's vehicles and increase the number of alternative fuel vehicles adopted into the Town's vehicle fleet (Table 5).

Table 5. Town of Hamilton Transportation Reduction Strategies

Group	ID	Strategy	CSC Points	Priority	Feasibility	Status
Fleet Efficiency	T.1.1.	Fleet Inventory Management Plan	4	High	High	Completed
	T.1.2.	Fuel Efficiency Standard	2-3	Medium	Medium	In Progress
	T.1.3	Shared Services	0	High	High	In Progress
Alternative Fuel Vehicles	T.2.1.	Electric & Hybrid Vehicle Purchases	3-10	Medium	Medium	In Progress
	T.2.2.	Electric Vehicle Infrastructure	4-18	Low	Low	In Progress
Commuting	T.3.1.	Encourage Flexible Work Schedules	0	High	High	In Progress
	T.3.2.	Employee Incentives	1	Low	Low	Not Started

Increase Fleet Fuel Efficiency

T.1.1: Develop a Fleet Inventory and Fleet Management Plan to understand the vehicles a government owns and operates.

A fleet inventory is a complete and accurate understanding of the vehicles a local government owns and operates. This inventory provides a basis for making informed choices about municipal fleet management. The Town of Hamilton coordinated with Colgate University and the Environmental Studies Department in Fall 2019 to complete a Fleet Inventory & Fleet Management Plan.

- Status: Completed
- Next steps regarding the turnover of vehicles:
 - Identify the needs of each new vehicle purchase
 - Research low or zero emission vehicles if available
 - Purchase the most fuel efficient available option to fulfill the Town’s needs
- Next steps regarding fleet management:
 - implement reduced idling guidelines

- continue routine maintenance program (e.g., properly inflated tires, oil changes, etc.) to ensure maximum fuel efficiency.
- Metric: Completed Inventory and Management Plan.

T.1.2: Establish a Fuel Efficiency Standard for new vehicles and incorporate it into a Fleet Efficiency Procurement Policy.

A vehicle fleet efficiency policy sets a fuel-efficiency standard for municipal vehicle acquisitions whenever they are commercially available and practicable.

- Status: In Progress
- Next Steps: The Town will continue the research on national, state, and local fuel efficiency standards completed by Colgate University Environmental Studies in Fall 2019 to understand what best practices are available to reduce fleet gasoline and diesel consumption and if possible, adopt practical standards. The Town will focus on adopting Fuel Efficiency Standards for its diesel fuel vehicles and equipment, as these are the largest contributors to overall GHG emissions.
- Metric: Adopted standard.

T.1.3: Identify vehicle services that could be shared between the Town and the Village of Hamilton, and/or other local municipalities or organizations.

Fleet fuel use, and fleet diesel consumption in particular, is the largest contributing factor to the Town’s GHG emissions. Sharing vehicles and off-road equipment between the Town and the Village of Hamilton, as well as other municipalities and/or organizations could significantly reduce the needs for excess vehicles and equipment, reduce emissions, and reduce costs.

- Status: In Progress
- Next Steps: Coordinate vehicle and equipment usage between the Town, the Village, and additional partners to understand where services and vehicle use align. The Town will look at all opportunities but prioritize shared services that will reduce diesel fuel consumption.
- Metrics: # of shared vehicle services.

Integrate Alternative Fuel Vehicles into the Fleet

T.2.1: Purchase and incorporate Alternative Fuel Vehicles into the Fleet.

Alternative fuel vehicles, such as those that run on electricity or compressed natural gas, can help increase energy security, improve fuel economy, lower fuel costs, and reduce GHG emissions, as well as pollutants that cause smog and acid rain. The Town does not currently operate alternative fuel vehicles in its Fleet.

- Status: In Progress
- Next Steps: The majority of the Town fleet is heavy equipment, snowplows, or pickup trucks. When possible, the Town of Hamilton will explore procuring alternative fuel vehicles and incorporating them into the fleet. Additionally, the Town will specifically research opportunities to replace its diesel fueled vehicles.
- Metric: 0% of alternative fuel vehicles in the total fleet.

T.2.2: Install Alternative Fuel Vehicle Infrastructure.

Charging stations, such as those for electric or compressed natural gas vehicles, are being installed at a wide variety of locations across New York State. This infrastructure also facilitates the adoption of more alternative fuel vehicles in the fleet and in the community. The Town recently coordinated with the Village to install an Electric vehicle charging station in the public Village parking lot, making it available to municipal employees, Hamilton residents, and visitors.

- Status: In Progress
- Next Steps: Consider additional options on Town property where alternative fuel vehicle infrastructure would be appropriate and feasible.
- Metric: charging stations installed.

Reduce the Impact of Commuting


T.3.1: Explore opportunities for flexible work schedules.

A flexible work schedule for employees would limit the number of days per week an employee is required to commute to the office. During the COVID-19 pandemic, the majority of Town office employees were telecommuting; however, a long-term telecommuting plan could be beneficial to reduce the number of cars on the road as well as the energy and water use in Town buildings.

- Status: In Progress
- Next Steps: Coordinate with municipal officials to draft a long-term telecommuting plan for full- and part-time Office staff.
- Metric: % of employees participating in a flexible work schedule.

T.3.2: Provide incentives for employees to reduce their impact.

Incentive programs for employees to reduce their commuting impact can range from initiatives that provide monetary assistance to employees, encourage carpooling or alternative forms of transportation (walk, bike, etc.), improved parking options, subsidized or free charging for employees with electric vehicles, among others. If the Town developed



incentive programs for employees, the Town could encourage more alternative fuel vehicle adoption or alternative transportation options in Hamilton.

- Status: Not Started
- Next Steps: Discuss what options are available to the Town with the Town Council and determine if any incentive program is appropriate and feasible for adoption.
- Metric: % of employees benefiting from transportation emission reduction incentive programs.

Waste

Material consumption can have huge lifecycle and environmental impacts. The raw materials for the products we purchase must be extracted, manufactured, packaged, and delivered. We use most products for only a limited amount of time before they are no longer useful or of value. Then, they must be disposed of. Each phase in a product's life can have negative environmental impacts. Therefore, reducing, reusing, and recycling remain effective strategies to help eliminate landfill waste and promote environmental health through conscious consumerism.

Reducing unnecessary materials and packaging from purchasing decisions provides the first, and perhaps most important, strategy in reducing the Town of Hamilton's landfill waste. Source reduction strategies reduce the amount of packaging and materials before they enter Hamilton's waste stream. Moreover, combining orders, purchasing environmentally certified products, and purchasing only when necessary can help reduce costs and greenhouse gas emissions.

Of course, many items and materials are necessary for municipal operations. Nevertheless, options exist to divert these items from the landfill once they are deemed no longer useful. This includes reusing or donating items and materials such as office supplies, electronic equipment, furniture, and appliances. Strategies that focus on reuse keep items out of the landfill through salvage programs, donations, and giveaway options. The adage "One person's trash is another's treasure" captures the essence of focusing on reuse as another potential strategy to reduce municipal landfill waste.

Items that reach the end of their useful life may be recyclable and made into new products. Recycling strategies keep items out of the landfill through better recycling infrastructure, increased recycling rates, and changing social norms.

Table 6. Town of Hamilton Waste Reduction Strategies

Group	ID	Strategy	CSC Points	Priority	Feasibility	Status?
Waste Reduction	W.1.1.	Local Government Solid Waste Audit	2	High	High	Completed
	W.1.2.	Municipal Green Procurement Policy	0	High	High	Not Started
Waste Diversion	W.2.1	Waste Diversion Goal	0	High	High	Not Started
	W.2.2.	Recycle in Municipal Buildings	3	High	High	Completed
	W.2.3	Municipal Composting Plan	1-3	Low	Medium	In Progress

Reduce Total Waste Generated

W.1.1: Conduct a local government solid waste audit.

Assessing the amount and composition of the waste generated by local government operations is an essential step in establishing a baseline from which to measure waste diversion and reduction improvements over time. The Town of Hamilton completed a waste audit in 2018 at the town office building. On average, the Town produced 3.7 lbs of landfill waste per week and about 8.3 lbs of recyclables per week with an overall recycling rate of 72 percent. While the Town office employees were shown to be proficient at recycling, they could further reduce their landfill waste, ultimately saving money and reducing their environmental impact. For example, the following practices would aid the office in cutting back on paper usage and waste:

- implement double-sided printing and copying
- reuse binders
- further utilize digital documents instead of paper copies
- reuse scrap paper

Additionally, the waste audit revealed that the majority of landfill waste was organic food-waste. If the Town office were to implement a simple composting system, their waste production would decrease further yet. Continuing to track the Town's waste stream through

routine waste audits would help the Town identify problems and implement strategies to reduce overall landfill waste.

- Status: Completed at Town office.
- Next Steps: Continue with routine waste audits to identify trends in waste production and implement strategies to reduce waste (e.g., composting, better bins, clear signage, etc.).
- Metric: Completed audit report.

W.1.2: Create a Municipal Green Procurement Policy.

A Green Procurement Policy encourages a municipality to consider the environmental impacts of a product prior to its purchase. This means understanding the life cycle of a product from where and how it was created to how and where will it be disposed.

- Status: Not Started
- Next Steps: Analyze what products are purchased and determine if more environmentally friendly options are available.
- Metric: Completed Policy.

Increase the Waste Diverted from the Landfill

W.2.1: Establish a waste diversion goal.

Developing and publicizing a waste diversion goal is a useful strategy to begin reducing the impact of a municipality's landfill footprint.

- Status: Not Started
- Next Steps: Review baseline waste data, as well as existing guidance from New York State or the U.S. EPA WasteWise program, and determine an appropriate waste diversion goal.
- Metric: Established Goal.

W.2.2: Recycle in municipal buildings.

Recycling reduces the amount of waste sent to the landfill and makes efficient use of limited resources. To effectively recycle, the Town of Hamilton has placed recycling bins and stations in all municipal buildings to collect different products, such as paper, cardboard, bottles, cans, ink and toner cartridges, and electronic waste for proper recycling. Additionally, a municipality can identify where in each facility recycling bins would be the most impactful and how many bins are necessary.

- Status: Completed

- Next Steps: Continue to monitor recycling bins and locations for proper recycling. For example, Madison County separates paper and paper products from metals, glass, and plastic. Therefore, a minimum of two recycling bins should be placed alongside each trash bin to help promote proper recycling. Each bin and recycling station should be properly labeled with clear and easy-to-understand signage. This will help to reduce contamination and encourage proper recycling.
- Metric: 100% of Town buildings with proper recycling bins.

W.2.3: Develop a Municipal Composting Plan.

Diverting food waste and other organics from the landfill can reduce tipping fees for local governments, and reduce methane emissions generated from waste. A composting program can also support local community organizations such as farms or gardens.

- Status: In Progress
- Next Steps: Identify locations in Town facilities where organic waste is generated and how much it could collect. Additionally, the Town can research options for handling its organic waste such as creating a composting operation on government property or contracting with a local organization to pick up and process the waste independently.
- Metric: Completed Plan.

Land-Use

Land use regulations have long considered air pollution, greenhouse gas emissions, and environmental degradation. Similarly, municipal zoning can also take into account the role of land use decisions and how they impact overall community emissions. For example, zoning for dense, walkable residential neighborhoods can decrease vehicle miles traveled and encourage infill development over suburban sprawl. These and similar proactive efforts can go beyond zoning to legally protect land otherwise subject to poor planning and development.

Since 2018, the Town of Hamilton has been in the process of updating its zoning laws to better serve the goals of their 2017 Comprehensive Plan. In addition to concerns about environmental sustainability, citizens were also concerned with maintaining access to outdoor recreation, preserving working farmland, and preserving the rural character of the town. Proper zoning can protect and enhance these important and widely valued features of the community. The town’s new zoning law will prioritize neighborhood development, reduce suburban sprawl, and preserve open space and farmland. It will alter the current density requirements for residential development, designate “smart growth” zones to concentrate new development, and incentivize developers to use conservation subdivision designs.

Table 7. Town of Hamilton Land-Use Improvement Strategies

Group	ID	Strategy	CSC Points	Priority	Feasibility	Status
Carbon Sequestration	L.1.1.	Tree Planting Program	1-10	Medium	High	Not Started
	L.2.1	Green Parking Lot Standards	1-4	High	High	In Progress
Landscaping	L.2.2.	Low Maintenance Landscaping	1-9	High	High	Complete

Develop Carbon Sequestration Initiatives

L.1.1: Develop a Tree Planting Program for Town land.

Strategic tree planting can provide many environmental and economic benefits to a community, such as carbon sequestration, shading, improved air quality, reduced energy use, and access to greenery.

- Status: Not Started

- Next Steps: Develop a baseline tree inventory of its municipal land to focus on the most strategic measures to maintain and/or expand the local canopy. The Town currently owns 13.24 acres of forested land.
- Metric: Completed Program.

Prioritize Sustainable Landscaping Practices

L.2.1: Develop and adopt Green Parking Lot Standards.

Parking lots, while typically necessary, can have negative environmental impacts. The CSC program encourages local governments to develop official green parking lot standards designed to reduce those impacts. Some examples of green parking techniques include reduced impervious surfaces, green infrastructure techniques, and the use of alternative parking surface materials.

- Status: In progress
- Next Steps: Review the recommended CSC Green Parking Lot standards and determine if one or more is appropriate and feasible to implement for a Town lot. The Town recently acquired wooded property by the Nine Mile Swamp which will be used for recreation. This space may be a good candidate for green parking. The Town is hiring a landscape planner to develop a plan for the property that will include additional parking and a boat launch.
- Metric: Adopted Standard.

L.2.2: Develop and implement best practice landscaping with native vegetation.

Landscaping using local native plants can greatly reduce or eliminate the need for irrigation, pesticides, herbicides, fertilizers, and gasoline- or diesel-powered maintenance equipment.

- Status: Complete
- Next Steps: Work with Morrisville State College and Colgate University, other municipalities, or local organizations and/or experts to develop best practices for the Town to encourage low-maintenance and ecologically responsible landscaping on municipally owned lands.
- Metric: % of landscaping projects that incorporate native vegetation best practices.

Resilience & Climate Adaptation

Over the past few decades, Central New York has been hit hard by the impacts of climate change. Here in Madison County, for example, there have been 17 federally declared climate-related disasters since the year 2000.¹ While averaging nearly one climate-related disaster in our county per year is staggering and certainly disruptive, increased impacts are likely in the years ahead. Why? Because the atmospheric greenhouse gases that cause climate change work on a time delay. In other words, the climate impacts that we are experiencing today are the result of emissions from decades ago.² For this reason, we are locked into future and more intense impacts due to rates of ongoing carbon emissions into the atmosphere. The Town of Hamilton recognizes the existential threat posed by climate change and recognizes that it is a central responsibility for local governments to plan for and be prepared for ongoing climate hazards. The Climate Smart Communities program developed a number of certification actions to help local governments address resilience and climate adaptation. The Town of Hamilton has already completed a number of these actions, including the development of a Climate Vulnerability Assessment and the self-evaluation of policies and programs for Climate Resilience.

The benefits of a Climate Vulnerability Assessment are two-fold. First, it is intended to help a municipality understand the potential hazards its community faces from climate change. Second, the Assessment helps a municipality identify the most vulnerable aspects of its community based on its local physical, economic, and social circumstances. The Town, in partnership with the Hamilton Climate Preparedness Working group and members of the Colgate University community, completed [Climate Vulnerability Assessments](#) in 2019.

Climate science indicates that Hamilton's climate of the future will be intensifying summer droughts punctuated by heavy rain events, flooding, heat waves, severe storms, and significant shifts in natural seasonal cycles. The vulnerability assessments revealed that Central New York's changing climate may impact the quality of life in Hamilton in profound ways. Vulnerabilities include but are not limited to:

- Food supply systems and costs
- Emergency budgets and financing
- Buildings and infrastructure maintenance

¹ FEMA Disaster Declarations for States and Counties. <https://www.fema.gov/data-visualization/disaster-declarations-states-and-counties>

² Solomon, et al. Irreversible climate change due to carbon dioxide emissions. PNAS February 10, 2009. <https://www.pnas.org/content/106/6/1704>

- Energy/water supplies and power outages
- Infectious disease and human health
- Loss of ecosystems services and biodiversity
- Impacts to our residential and rural landscapes
- Stresses to local businesses and the well-being of our regional economy

Assessing these impacts and preparing for climate change will not only buffer the degree to which the Town of Hamilton is impacted but will also create new opportunities such as fostering innovation, building community resilience, and potentially reducing ongoing risks and expenses. Preparing for near-future disruptions and long-term trends will help ensure that the Hamilton community continues to thrive in an era of unprecedented climate change.

Climate resilience is commonly defined as the ability of a system or community to survive climate disruption and to anticipate, adapt, and flourish in the face of change.³ Climate Smart Resilience Planning is an exercise for municipalities to evaluate its existing policies or procedures for weaknesses regarding climate adaptation. The main goal of climate resilience planning is to enhance adaptive capacity by being flexible, open to new ideas, inclusive, and operationally efficient. Therefore, a strong climate resilience program must follow a solid framework, produce well-informed guiding documents to aid current and future decisions. Additionally, resilience planning helps to ensure that these municipal procedures will either reduce or limit climate vulnerability. The Climate Smart Communities program developed a process to begin resiliency planning through focused discussion and self-assessment resources. The Town, in partnership with the Hamilton Climate Preparedness Working group and members of the Colgate University community, completed [Climate Vulnerability Assessments](#) in 2018.

With these efforts as a foundation, the Town commits to develop a Climate Adaptation Plan by 2025. Similarly to this Climate Action Plan, these projects will allow Hamilton to formalize a community-wide vision and identify strategies that will improve the Hamilton's long-term resilience to climate change.

³ Second Nature's definition of resilience. <https://secondnature.org/climate-action-guidance/climate-resilience-background/>

Next Steps

Community Climate Action Plan

As participants in the Climate Smart Communities program, the Town of Hamilton is required to complete a Community-Wide Climate Action Plan. By first developing an Action Plan to reduce the impact for the municipal operations of the Town, local government employees wish to provide their community with an example that will inspire community-wide action. A number of potential Community-Wide GHG reduction strategies were drafted throughout this process, including the examples below.

- Community-Wide Composting initiative
- Residential and/or Commercial Zoning Policy to support sustainable community development.
- Residential and/or Commercial Solar program (on-site or utility scale).
- Improved transportation infrastructure (roads, sidewalks, charging stations, etc.) to encourage alternative fuel vehicle adoption and/or alternative modes of transportation.

A similar methodology to the creation of this plan will be used as the foundation to develop the Community Climate Action Plan. This includes organizing a committee of stakeholders from the Town and Colgate University. Additionally, the Town will engage more intentionally and frequently with community members to consider new and relevant GHG reduction strategies. If necessary, a third-party consultant may also be hired.

Grant Funding

The Climate Smart Communities program provides three different funding opportunities for municipalities through grants and rebates. These programs are the Municipal Zero-emission Vehicle Rebate, the Municipal Zero-emission Infrastructure Grant, and the Climate Smart Communities grant program. More information on each funding opportunity can be found on the [Climate Smart Communities](#) website. Additional Department of Environmental Conservation funding opportunities can be found [here](#).