



Government Operations Climate Action Plan



Prepared by
**Shandaken Conservation Advisory Council &
Climate Smart Task Force**

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Shandaken CAC: Bruce Barry, Michael Cioffi, Robert Cruickshank III, Catherine Del Tufo, Caleb Frank, Mary Herrmann, Maya Lilly, Angel Molina, M.J. Reiss, Bethia Waterman, Chair.

Supervisor Peter Di Sclafani, Town Board Members, Robert Drake, Elizabeth Kneissl, Kyle Steen, Kevin VanBlarcum

Shandaken Highway Supervisor, Eric Hofmeister

Administrative Staff: Barbara Twerdak, Amy Goodrich, Cara Grant

Melanie Patapis, Hudson Valley Regional Council

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Introduction

Given the overwhelming consensus that greenhouse gas emissions are causing the climate to change from long established and expected patterns, Shandaken is joining an increasing number of local governments in New York State that are committed to addressing greenhouse gas (GHG) emissions at the local level. Shandaken recognizes the risk that climate change poses to its community and is taking actions to reduce its GHG emissions through the initiatives laid out in this Climate Action Plan (CAP).

A CAP is a strategy document that sets goals and outlines a set of initiatives that reduce GHG emissions. Using a GHG emissions inventory as the foundation, a CAP defines GHG reduction targets and provides a framework for achieving those targets. The CAP identifies priority actions and facilitates coordination across government departments. In addition, the CAP supports effective action over time by establishing methods for assessing progress and adjusting the local strategy if GHG targets are surpassed or not fulfilled.

The creation of a CAP will not only address climate protection, but it will also result in energy savings and advance community goals for public health and safety. By choosing to act now, Shandaken is taking a leadership role in mitigating the impacts of climate change, providing their community with examples that help to inspire community-wide action and aligning its goals with New York State.

Summary of Climate Action Plan Goals and Focus Area

A primary goal of the Shandaken Climate Smart Task Force/CAC in preparing the CAP is to reduce municipal greenhouse gas emissions. The plan prioritizes GHG reductions focusing first on municipal entities that emit the highest metric tons of carbon dioxide equivalent (MTCO_{2e}). A government operations GHG emissions inventory was conducted to identify the largest sources of emissions. The results of the inventory allow us to set emissions reduction targets and outline various actions that can be taken to achieve these goals.

The focus areas addressed in this plan are Municipal Facilities and Renewable Energy and Transportation. Each focus area includes a list of actions that will help to achieve the goals and reduction targets established during the climate action planning process.

The Town's emissions reduction targets in this Climate Action Plan are aligned with New York State goals. The [Climate Leadership and Community Protection Act](#), passed in 2019, requires a reduction in GHG emissions of 40% by 2030 and 85% by 2050 (below 1990 levels). This reduction target can be met if each focus area implements the recommended actions to achieve the reduction target set for that sector.

Current Climate Protection Initiatives

Climate change is a result of land use, transportation and energy use decisions that have evolved over generations and require coordinated solutions. Shandaken’s commitment to implementing energy-efficiency measures, reducing energy costs, and lowering greenhouse gas emissions spans approximately the last 15 years. The plans, programs, policies, and actions Shandaken has taken to reduce GHG emissions are outlined below. With these actions completed and a CAP to guide the way, Shandaken is better positioned to implement initiatives to reduce energy use, costs, and GHG emissions for municipal operations.

Climate Smart Communities (CSC)

The New York State Department of Environmental Conservation (NYSDEC) launched the Climate Smart Communities (CSC) initiative in February 2009 to foster state and local partnerships and to encourage climate protection. Municipal participation in the program begins with a pledge by the local government to set reduction goals for GHG emissions, to improve government energy efficiency, to encourage renewable energy use, and to take additional steps to combat climate change. Shandaken signed the CSC climate pledge in 2016. In April 2022, the Town Board passed a local law creating a Conservation Advisory Council and Climate Smart Task Force. The Town was awarded Bronze Certification in Climate Smart Communities Program in October 2023.

Some of the initiatives that have been taken include:

- PE2. Government Operations Greenhouse Gas Inventory
- PE3. Fleet Inventory
- PE3. LED street lights
- PE7. Climate Vulnerability Assessment
- PE7. Watershed Based Flood Mitigation Plan
- PE7. Design Flood Elevation and Flood Maps
- PE7. National Flood Insurance Community Rating System.

Conservation Advisory Council and/or Climate Smart Task Force

Shandaken’s CAC consists of a team of seven member and three alternates all of whom volunteered to serve. The first meeting was held in April 2022. After getting up to speed on the CSC process and learning what was required, the CAC prioritized several initiatives as well as achieving bronze certification. The CAC is working on initiating a food waste collection program, installing municipal electric vehicle (EV) charging, helping residents install renewable energy and home energy audits, assisting with the revision of the Comprehensive Plan and public education and outreach on these issues. With assistance from the O’Connor Foundation, The Town will launch a food waste collection program in January 2024.

Clean Energy Communities (CEC)

The New York State Energy Research and Development Authority's (NYSERDA) Clean Energy Communities (CEC) Program was launched in 2016. Communities earn points for every High Impact Action focused on energy efficiency and renewable energy that they complete as part of this program. Communities that complete at least four High Impact Actions earn the Clean Energy Communities designation and are eligible to apply for grants to fund additional clean energy projects.

The Town has completed 3 High Impact Action(s): Bronze CSC certification, Energy Code Enforcement Training and LED Street Lights.

Public Outreach

Public outreach allows for an important partnership between government and residents. The Town employs a variety of methods to inform and engage the public. The Town's [website](#) provides easy access to information related to all aspects of the Town government. The website provides a link to view recorded board meetings, agendas, meeting minutes, staff contact information, committees and boards that support the work of the government.

The Town's website has a [Climate Smart page](#) that provides information about Climate Smart Initiatives, the activities of the Conservation Advisory Council, workshops meetings and events.

Climate Action Plan Outreach

On December 4, 2023, The Town Board set a date for a public hearing for the Climate Action Plan to be held on December 18, 2023. A draft of the Shandaken Climate Action Plan was made available to the public two weeks prior to the public hearing for comments in the following ways

- Document posted to Town website / climate smart website.
- Legal notice posted in Kingston Freeman
- Copies of the CAP were made available at Pine Hill and Phoenicia Libraries and Pine Hill Community Center
- Notices of the public hearing were posted on post office bulletin boards throughout the Town
- The Town Facebook page alerted the public to the availability of the CAP and the public hearing

At the public hearing on December 18, four residents attended the meeting in person and one resident submitted written comments which were incorporated into the final document.

Following approval of Shandaken's Climate Action Plan by the Board, the public will be kept informed of progress toward meeting the greenhouse gas emissions reduction targets. Updates will be posted on the government website, climate smart website, etc.

Government Operations Greenhouse Gas Inventory

The first step toward reducing greenhouse gas emissions is to identify baseline levels of emissions in the Town’s government operations most responsible for those emissions. This information was key to selecting the emissions targets, as well as the short-term and long-term reduction measures contained in this plan. This section is an indication of areas needed to reduce municipal emissions.

A Government Operations Inventory was completed for Shandaken with support from the Hudson Valley Regional Council (HVRC). The GHG Tool used was developed by Climate Action Associates, LLC and follows the [Local Government Operations Protocol](#). The government operations GHG inventory accounts for emissions associated with facilities, vehicles, and other processes that are owned and operated by Shandaken. The identified sources of emissions related to municipal operations are listed in the figures/tables below.

Baseline Year

All municipal energy data was collected for 2018 and this established the baseline to compare with future GHG inventories, in order to measure progress towards the established emissions reduction targets. We chose 2018 because it was a pre-Covid year with reliable data.

Facilities Master List

A key step in creating the GHG inventory is to compile a facility master list that includes the Town owned buildings including streetlights, and vehicle fleet, that use at least one form of energy. Each was assigned to a category to indicate the type of infrastructure and then similar facilities along with their energy use.

Shandaken’s facilities includes Town Hall, Highway Garage and Salt Shed, Pine Hill Library. Shandaken Historical Museum, Street and Outdoor lighting, Phoenicia and Pine Hill water departments, Police Station, Recycling & Dog Kennel, and Ambulance Facility which includes Doctor’s House, Medic Building and Fly Car. Shandaken does not own or operate a landfill, wastewater treatment plant or ice rink.

Data Collection

The Local Government Operations Protocol (LGOP), which the Town followed, defines direct and indirect emissions as follows:

- **Scope 1:** All direct GHG emissions from a facility or piece of equipment operated by the local government, usually through fuel (natural gas, propane, fuel oil, gasoline, and diesel) combustion. Examples include emissions from fuel consumed by the Town’s vehicle fleet or emissions from a furnace in municipal building.
- **Scope 2:** Indirect GHG emissions from purchased electricity. This refers to operations powered by grid electricity.

- **Scope 3:** All other indirect GHG emissions not covered in scope 2. Examples include contracted services, emissions in goods purchased by the local government and emissions associated with disposal of government generated waste.

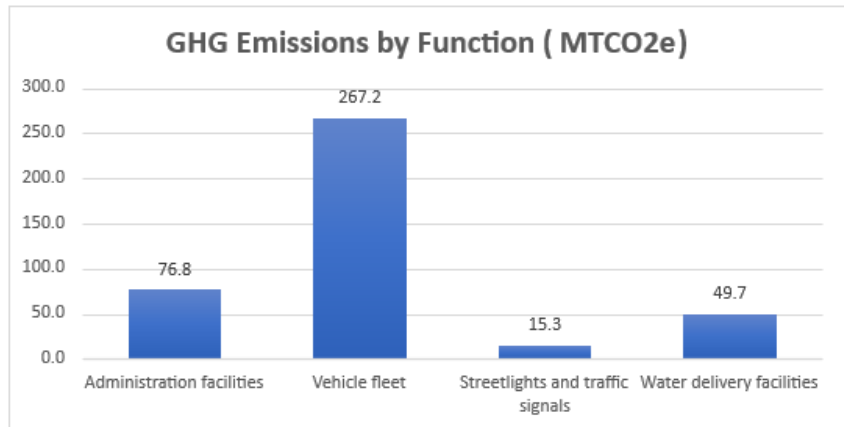
This inventory only accounts for Scope 1 and 2 emissions, as they are the most essential components of a government operations greenhouse gas analysis and are most easily affected by local policy making. Under the DEC’s CSC program, tracking Scope 3 is encouraged, but optional. This inventory did not include refrigerant leakage, but Shandaken is committing to assessing these sources of GHG emissions in the next government operations inventory.

Emissions Summary Figures

In 2018, GHG emissions from Shandaken government operations totaled 408.95 metric tons of carbon dioxide equivalent (MTCO₂e).

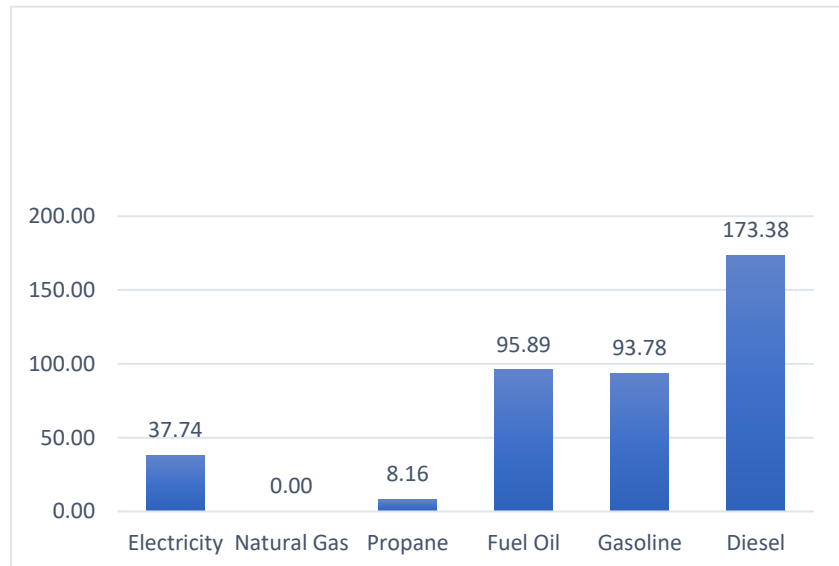
Emissions by Function

The vehicle fleet is the largest contributor (65%) of the Town’s GHG emissions at 267.2 MTCO₂e, followed by the Town’s administrative buildings at 19% or 76.8 MTCO₂e.



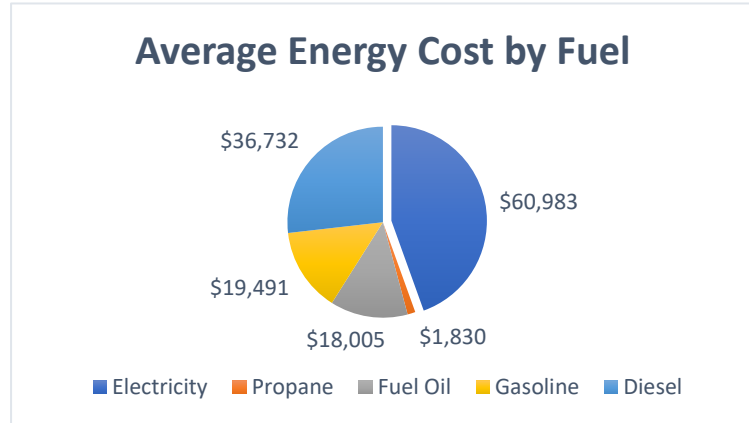
Emissions by Type

Electricity accounted for just 9% of the Town’s GHG emissions, while diesel from the vehicle fleet accounted for 42%.



Energy Cost

In terms of costs, the Town spent \$137,041 on all energy usage in 2018, with the highest cost coming from electricity consumption.



GHG Emissions Reductions: Goals and Targets

The Town of Shandaken has adopted the goal of reducing government GHGs 40% by 2030 over the 2018 levels documented in the GHG Inventory. This goal can be achieved by pursuing a combination of strategies.

The current locations of the Town offices and highway garage are in the floodway and flood plain which make it infeasible to renovate or upgrade these facilities. To achieve the goals, the Town Board must find a new building or land on which a building can be constructed. In Shandaken 85% of the land is government owned and within the Catskill Forest Preserve making it “forever wild.” Much of the remaining land is in the flood plain. The Town is actively searching for a parcel where the Town offices and highway garage can be relocated. Upgrading the current facilities is a not a wise use of municipal funds. The extreme storms in the summer and fall of 2023 have reinforced the urgency to move these essential Town functions out of the flood plain.

Given the uncertainty of this process, without knowing the size or condition of the new facility, the goals, strategies and implementation for reducing greenhouse gases at these critical facilities cannot be clearly defined. The Town Board and CAC can focus in the meantime on short-term targets for other town properties such as the Shandaken Historical Museum and Pine Hill library which may be viable candidates for upgrades to heat pumps to eliminate the use of fossil fuel at these locations. The water department primarily uses electricity to operate pumps. It is unlikely that the Town can achieve significant energy reduction in the water departments.

The Highway Department fleet’s older heavy equipment used for snow plows and other highway maintenance has very low fuel efficiency of 2.5 mpg. New equipment of similar size has a slightly improved fuel efficiency of 3.11 or 3.14 mpg. Given the size of the town (119 sq. miles) and the mountainous geography, there are no realistic alternatives for replacing these heavy diesel trucks in the short term. Other vehicles in the fleet that could be converted to EVs, or

hybrids are the police vehicles, the fly car used by the ambulance department and the “knock around” used by various officials.

The investment in new facilities, new vehicles and upgrades to existing facilities will require significant help from outside funding. The Town is committed to seeking funding and creative solutions to achieve our goals.

Short Term goals 2024-2030

- Upgrade heating system at Pine Hill library to electric heat pumps based on conclusions of existing audit.
- Relocate and consolidate Town Administrative office, police, and highway garage out of flood plain.
- Conduct an energy audit on the Museum and upgrade the heating system to electric heat pumps if the audit suggests it is a possibility.
- Conduct an energy audit on medical building and upgrade heating system to electric heat pumps if possible.
- Install municipal EV chargers.
- Adopt a policy to replace trucks with newer fuel-efficient vehicles.
- Reduce the number of vehicles.

Mid-Term goals 2030-2040

- Install energy efficient HVAC systems and lighting in new facilities.
- Add solar panels to town buildings.
- Convert four vehicles to EV or hybrid.
- Replace vehicles with newer, fuel-efficient vehicles.

Long Term Goals 2040-2050

- Replace heavy-duty vehicles with EV or hybrids as they become available.
- Eliminate all fossil fuel use in town buildings.

Strategies and Implementation

This section addresses initiatives for the municipality to reduce its GHG emissions by 40% by 2030. The implementation of the actions listed here will position Shandaken to make substantial progress toward the overall emissions reduction target.

Metrics for Measuring Progress

The projects listed in this section include two types of actions: (1) actions that will result in direct reduction of GHG emissions; (2) policy actions that when implemented will result in energy savings and GHG emissions reduction.

1. The actions resulting in GHG emissions reduction will be quantified when the next government operations GHG emissions inventory is completed, and results are compared with the current inventory.
2. Policy actions include Fleet Efficiency and Green Purchasing. The cost of implementation is staff time.
3. Prioritizing Projects: The Government Operations GHG inventory reveals Transportation is the largest emitter of GHGs. When determining priorities for project implementation, two main factors need to be considered: the amount of greenhouse gas the project will reduce, and the funds available to implement the project. Prioritizing projects for implementation depend largely on emissions reductions, budgetary constraints, resources available and grants available to the municipality.

Municipal Facilities and Renewable Energy

The municipal facilities sector includes all electricity or energy used in government buildings or facilities. Municipal facilities account for 19% of Shandaken’s total GHG emissions. The Town’s goal for a reduction of facility emissions is 30% by 2030. The strategies and initiatives below will help us achieve this goal:

Improve Energy Efficiency of Government Buildings

1. Upgrade HVAC Equipment
2. Upgrade Streetlights to LEDs
3. Conduct Energy Audits of Government Buildings
4. Upgrade interior and outdoor lighting to LEDs
5. Reduce number of outdoor lighting fixtures

Adopt Policies to Reduce Emissions from Government Buildings

1. Adopt Renewable Energy Ordinance
2. Adopt Benchmarking requirements.

Eliminate Fossil Fuel use in Government Facilities

1. Create HVAC Replacement Plan
2. Upgrade Water Filtration Plant

Use Renewable Energy for Government Operations

1. Install solar panels in relevant locations.
2. Sign-up Municipal accounts for community solar

Transportation

The transportation sector accounts for all fuel used for all municipal vehicles. The Town has a fleet that includes ambulance vehicles, extra heavy duty, heavy duty and light duty trucks, and passenger vehicles. Transportation accounts for 65% of Shandaken's total GHG emissions. The Town's goal to reduce emissions from government fleet is 10% by 2030. The strategies and initiatives below will help us achieve this goal:

Reduce Milage Driven

1. Right size vehicle fleet
2. Adopt an anti-idling policy for government vehicles.

Increase Fleet Efficiency

1. Fleet efficiency policy to prioritize EV purchases.
2. Replace traditional vehicles with advanced vehicles.
3. Conduct a fleet inventory.
4. Install EV infrastructure.

Next Steps

This CAP is intended to be a "living" document, with the goal of updating the Government Operations GHG Inventory and emissions reductions initiatives to:

- Track the Town's progress towards its emissions reduction target.
- Quantify energy and cost benefits of projects and upgrades that are continually being implemented.
- Guide the Town's planning and prioritization of future projects.
- Support access to funding opportunities.

Climate Action Committee

The Town will designate a subcommittee of the CAC/CSC Taskforce to focus on implementing actions identified by this CAP. As new ideas and solutions emerge for reducing GHG emissions, they can be reviewed and discussed by this subcommittee that will add new recommendations to the list. A progress report will be generated annually and attached as an appendix, and these reports will be made available to the public via the municipality's website. These reports serve to inform the public of efforts being undertaken by the government and results achieved as well as to heighten public awareness and encourage residents to reduce their carbon footprint. The CAP will be updated every ten years as per CSC requirements.

Five-year Inventories

In compliance with CSC requirements, progress towards achieving GHG reduction targets will be measured by conducting subsequent GHG inventories every five years. If goals and targets

are reached, a new GHG inventory baseline year will be established with new GHG emissions reduction targets and strategies to achieve those targets. The Town will conduct another GHG inventory in 2027.

Appendix Updates

This Climate Action Plan is a work in progress, not a document set in stone. The CAP will be updated by means of a progress report update to the original plan with revised or new strategies as they emerge and new GHG emissions reduction targets. Future GHG emissions reduction targets will be based on subsequent GHG emissions inventories. Due to the ongoing nature of this process, it will be necessary to designate a committee to take responsibility for updating the plan and continue to partner with municipal employees to identify sources of funding for GHG reduction initiatives. The CAC will appoint 2-3 members to review progress annually in conjunction with the Town Board.

Appendix

Methodology

Scope

This CAP covers objectives and strategies for reducing GHG emissions resulting from local government within Shandaken. It addresses major sources of emissions in the Town's government operations and sets forth objectives and strategies in focus areas that the Town can implement to achieve greenhouse gas reductions:

- Municipal Facilities and Renewable Energy
- Transportation

The CAP creates a framework to document, coordinate, measure, and adapt efforts moving forward. In addition to listing actions, the CAP discusses how each action will be implemented through timelines, financing, and assignment of responsibilities to departments, staff, or community partners where known.

Process

While Shandaken has already begun to reduce greenhouse gas emissions and climate risk through a variety of actions, this plan is a critical component of a comprehensive approach to reduce government operations emissions and increase resilience.

The planning process for developing this CAP began with participating in a Government Operations CAP Cohort hosted by Melanie Patapis of the Hudson Valley Regional Council. The cohort consisted a series of meetings from February to June 2023 that provided resources on conducting Shandaken's GOCAP. Beth Waterman, Angel Molina, MJ Reiss and Caleb Frank from the CAC attended some or all of the meetings. In addition, the CAC interviewed Town Board members Robert Drake, Supervisor Peter Di Sclafani and Highway Superintendent Eric Hofmeister to learn more about the municipal facilities and transportation sectors.

After the public hearing on December 18, comments from the public were incorporated into the plan prior to its adoption on January 2, 2024.

Initiatives Planning Spreadsheet

The following tables come from a CAP Initiatives Spreadsheet that was provided to us as part of the HVRC GOCAP Cohort. This spreadsheet was used for planning initiatives to be included in this CAP. Additionally, it was used to compare emissions reduction potential and costs of actions the Town considered to include in this CAP.

Strategy	Initiative	Key Performance Indicator	Emissions Reduction Potential
1. Improve Energy Efficiency of Government Buildings			
1.1	Upgrade HVAC equipment	# systems replaced	Low-High
1.2	Upgrade streetlights to LEDs	#/% streetlights replaced with LEDs # of kWh of electricity consumed annually	High
1.3	Conduct Energy Audits of Government Buildings	# of buildings audited	Low
1.4	Upgrade interior and outdoor lighting to LEDs	#/% Interior lights replaced with LEDs #/% exterior lights replaced with LEDs # of kWh of electricity consumed annually	Low
1.5	Reduce number of outdoor lighting fixtures	#/% fixtures removed # of kWh of electricity consumed annually	Low
2. Adopt Policies to Reduce Emissions from Government Buildings			
2.2	Adopt renewable energy ordinance	adoption of policy	Medium
2.3	Adopt benchmarking requirement	% muni buildings benchmarked	Low
3. Eliminate Fossil Fuel Use in Government Facilities			
3.1	Create HVAC Replacement Plan	#/% HVAC system replacements using clean and cooling technologies	High
3.2	Upgrade Water Filtration Plant	# of kWh of electricity consumed annually	Medium
4. Use Renewable Energy for Government Operations			
4.1	Install solar panels in relevant locations	# solar installations (include types relevant for municipality – carport, roof, landfill, other ground mount) kwh electricity generated annually	High
4.3	Sign-up for Community Solar for Municipal Accounts	%/# of accounts signed up for community solar	Low

Strategy	Initiative	Key Performance Indicator	Emissions Reduction Potential
1. Reduce mileage driven			
1.1	Rightsize vehicle fleet	# vehicles eliminated % of vehicles replaced/multi-purpose	Medium
1.2	Adopt an anti-idling policy for government vehicles	Adoption of policy # of idling hours avoided per year	Low
2. Increase fleet efficiency			
2.1	Fleet efficiency policy - Prioritize EV Purchases	Adoption of policy % of fleet using alternative fuels % of fleet proposed for conversion # of vehicles converted to electric # of gallons saved - overall goal of 40% reduction by 2030	High
2.2	Replace traditional vehicles with advanced vehicles	# of vehicles by type and size % of fleet replaced # of gallons of fuel consumed	High
2.3	Conduct Fleet Inventory	Adopting a fleet inventory policy to update it every year # of vehicles in fleet (by type and size)	Low
2.4	Install EV infrastructure	# of charging stations installed by municipality	Low