

Village of Warwick



CLIMATE ACTION PLAN GOVERNMENT OPERATIONS

ADOPTED BY VILLAGE OF WARWICK BOARD OF TRUSTEES BY RESOLUTION ON



SUPPORTED BY HUDSON VALLEY REGIONAL COUNCIL THROUGH THE
NYSDEC CLIMATE SMART COMMUNITIES COORDINATOR PROGRAM

Table of Contents

Change Log.....	3
Introduction.....	4
Executive Summary.....	4
Summary of Climate Action Plan Goals and Focus Areas.....	4
Current Climate Related Initiatives.....	4
Climate Smart Communities (CSC).....	5
Climate Smart Task Force.....	5
Clean Energy Communities (CEC).....	5
Public Outreach.....	6
Climate Action Plan Outreach.....	7
Government Operations Greenhouse Gas Inventory.....	7
Baseline Year.....	8
Facilities Master List.....	8
Data Collection.....	8
Emissions Summary Figures.....	9
GHG Emissions Reductions: Goals, Targets and Strategies.....	10
Overall Goals.....	10
Short-Term and Mid-Term Goals and Strategies (2022-2027).....	11
Long-Term Goals and Strategies (2028 and Beyond).....	14
Next Steps.....	16
Climate Action Committee.....	16
Five-year Inventories.....	16

Change Log

Version	Submitted By	Date	Description
0.1	Tom McKnight, Village Trustee	8/21/2023	Initial Draft
0.2	Tom McKnight	8/28/2023	Incorporated edits from Michael Helme
0.3	Tom McKnight	8/30/2023	Incorporated feedback from Melanie Patapis (HVRC); Added a localized reduction target.
0.4	Tom McKnight	9/1/2023	Re-organized goals and strategies; re-formatted document

Introduction

Executive Summary

The Village of Warwick 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. The Village 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 at the local level, but it will also result in energy savings and advance community goals for public health and safety. By choosing to act now, the Village of Warwick is taking a leadership role in mitigating the impacts of climate change, providing its citizens with examples that help to inspire community-wide action.

Summary of Climate Action Plan Goals and Focus Areas

A primary goal of the Village of Warwick in preparing the CAP is to reduce municipal greenhouse gas emissions. The plan prioritizes GHG reductions focusing first on municipal assets that emit the most metric tons of carbon dioxide equivalent (MTCO₂e). 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 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.

Current Climate Related Initiatives

Climate change is a result of land use, transportation and energy use decisions that have evolved over generations and require coordinated solutions. The Village of Warwick's commitment to implementing energy-efficiency measures, reducing energy costs, and lowering greenhouse gas emissions spans 4+ years and has recently gained momentum. The plans, programs, policies, and actions the Village has taken to reduce GHG emissions are outlined below. With these actions completed and a CAP to guide

the way, the Village 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.

The Village passed a resolution in June 2019 to adopt the CSC pledge. In March 2023 the Village of Warwick was awarded the Bronze CSC Certification. Notably, the Village of Warwick holds the distinction of being the first municipality in Orange County to become CSC certified. This landmark achievement underscores the Village’s leadership and dedication to ecological responsibility, setting a precedent for other municipalities in Orange County to follow.



Climate Smart Task Force

In line with the Village's commitment to the CSC initiative, the Village Board formally established the Climate Smart Task Force in September 2022. This task force serves as the main leadership body, tasked with documenting and submitting the Village of Warwick's climate-related actions to the New York State CSC program. Additionally, they provide guidance to Village officials on further steps that can be taken to continue advancing the Village's progress in environmental sustainability.

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 Village has completed 10 High Impact Actions as of September 2023:

Unified Solar Permit	200 points
----------------------	------------

Energy Code Enforcement Training	200 points
Clean Fleets	100 points
Climate Smart Communities Certification	600 points
LED Street Lights (Cobrahead)	700 points
Community Campaigns	200 points
Benchmarking	100 points
Advanced Benchmarking	TBD (200 points)
LED Street Lights (Decorative)	TBD (200 points)
Clean Fleets - Charging Station	TBD (100 points?)
Total Points	2,100 (as of August 2023) Possibly 2500-2600 points in Sept 2023, TBD

Public Outreach

Public outreach forms a vital bridge between the government and residents, fostering a cooperative relationship that benefits the community. In the Village of Warwick, the government utilizes diverse methods to keep residents informed and engaged. Through the [Village website](#), the Village provides convenient access to essential information encompassing all facets of local government, including recorded board meetings, agendas, meeting minutes, contact details for staff, and details about committees and boards.

For those interested in visual content, the [Village has a YouTube channel](#) that offers recorded informational videos. In our continuous effort to connect with residents, we've launched a newsletter designed to keep the community abreast of pertinent updates. Additionally, the Village maintains an active [Facebook page](#) and is in the process of creating a podcast.

Recognizing that people engage with information differently, the Village has sought to create multiple channels that foster transparent communication, in an ongoing effort to connect with residents.

During the 2021-2023 Comprehensive Planning process, there was strong emphasis on public outreach and community engagement. This included organized meetings and focus groups, an online community survey, and an in-depth analysis of demographic and economic data pertinent to the Village. Such efforts demonstrate the Village's commitment to continuous and varied public outreach, ensuring the Village government stays connected with the community's needs and perspectives.

The commitment to environmental stewardship within the Village of Warwick was vividly demonstrated during the survey phase of the Comprehensive Planning process. A compelling 80% of respondents identified environmental sustainability as being of High or Highest importance for the Village to concentrate on. This sentiment is clearly articulated on page 10 of the Comprehensive Plan under GOAL R1: "Improve Environmental Sustainability and Resilience throughout the Village of Warwick." Recommended actions concerning sustainability and resilience were outlined, underscoring the community's strong values in this area.

Warwick's emphasis on environmental matters in the Comprehensive Plan underscores not only the significance attributed to this issue but also highlights the essential role community outreach plays in the entire community planning process. Such inclusive engagement ensures that the voices and priorities of the community are central in shaping the Village's future direction, reinforcing the shared commitment to a sustainable and resilient Warwick.

In alignment with the Village's commitment to Climate Smart Community endeavors, a specific page on the Village website is dedicated to environmental sustainability, chronicling our ongoing advancements with both the [Climate Smart Community and Clean Energy Community programs](#). While the web presence is acknowledged by the CSC Task Force as a work in progress, with an eye towards a more comprehensive and focused online platform, this initiative serves as a clear indication of the Village's dedication to keeping residents informed about climate-related matters. It represents a tangible expression of Warwick's resolve to engage the community in a shared journey towards a more sustainable future.

Climate Action Plan Outreach

With specific regard to this Climate Action Plan (CAP), the draft was made accessible to the public for both review and feedback before approval. This openness was presented at the September 5, 2023 Village Board meeting, where the board not only mentioned the availability of the CAP but also actively invited comments. Details of this invitation can be found in the meeting minutes available on the Village website, and the recorded meeting itself can be viewed on YouTube. Similarly, during the September 13, 2023 meeting of the Climate Smart Community Task Force—an event open to all residents—there was a formal declaration that the CAP was on hand for public examination and commentary. To further ensure community awareness, a post was made on the Village's social media accounts, reiterating the invitation to review and comment on the CAP. These measures illustrate the Village's commitment to transparency and inclusive engagement, embracing the voices and insights of the community in our shared pursuit of sustainability.

After the Village of Warwick's Climate Action Plan is approved by the Board, the public will be informed about the progress being made towards meeting the greenhouse gas emissions reduction targets. Updates on these efforts will be posted on the Village's website, ensuring that everyone has easy access to information on this important initiative.

Government Operations Greenhouse Gas Inventory

The first step toward reducing greenhouse gas emissions is to identify baseline levels of emissions in the Village of Warwick government operations most responsible for those emissions. This information was key to selecting our 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 the Village of Warwick 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 the Village of Warwick. 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 Fiscal Year 2022 (June 2021 - May 2022) and this established the baseline to compare with future GHG inventories, in order to measure progress towards the established emissions reduction targets. This time period was chosen as the baseline given the availability of data and to ensure the baseline more accurately reflects current energy consumption patterns.

Facilities Master List

A key step in creating the GHG inventory is to compile a facility master list of all municipal facilities that each use at least one form of energy.

- 2 Administrative Facilities: Village Hall, DPW Garage
- 16 Water Works facilities
- 10 Wastewater Treatment facilities
- 23 Park and Street Light zones

Each was assigned to a category to indicate the type of infrastructure and then similar facilities along with their energy use.

Data Collection

The Local Government Operations Protocol (LGOP), which the Village of Warwick 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 Village's vehicle fleet or emissions from a furnace in municipal buildings.

- **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.

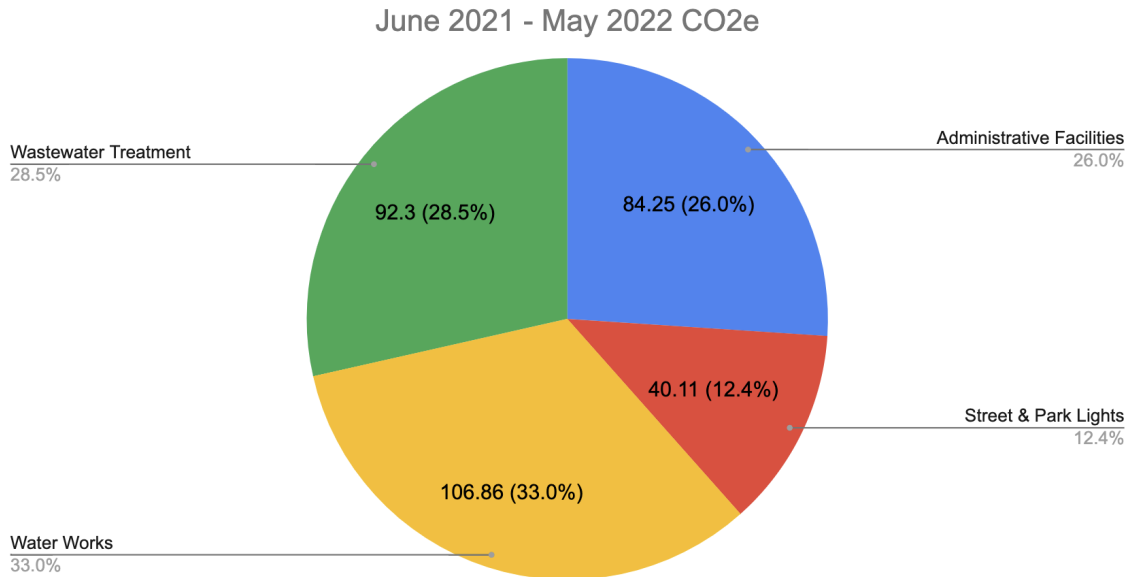
This inventory only accounts for Scope 1 and 2 emissions, as they are the most essential components of a government operations greenhouse gas analysis and are most easily affected by local policy making. Under the DEC's CSC program, tracking Scope 3 is encouraged, but optional.

Emissions Summary Figures

In Fiscal Year 2022, GHG emissions from Village of Warwick government **Facilities** totaled **323.51 metric tons of carbon dioxide equivalent (MTCO₂e)**. The consumption and emissions data are as follows:

Facility / Group Name	Consumption		GHG Emissions (MTCO ₂ e)	
	Electricity (kWh)	Natural Gas (therms)	Electricity	Natural gas
Administrative Facilities	75,892	14,095	8.00	76.22
Street & Park Lights	379,457	0	40.10	0.00
Water Works	539,520	9,215	57.00	49.83
Wastewater Treatment	556,533	6,188	58.90	33.46

The **Water Works** facility is the largest source of GHG emissions, accounting for **33%** of emissions. The next largest contributor is the **Wastewater Treatment Plant** with **28.5%** of emissions. The remaining emissions come from **Administrative Facilities (26%)** and **Street & Park Lights (12.4%)**.



The Village also tracks Vehicle Fleet fuel consumption by fuel type. For the same period, June 2021 - May 2022, GHG emissions from fuel Consumption and GHG Emissions totaled 151 metric tons of carbon dioxide equivalent (MTCO₂e), as shown in the table below.

Consumption		GHG Emissions (MTCO ₂ e)	
Gas	Diesel	Gas	Diesel
9,743	5,932	89	62

GHG Emissions Reductions: Goals, Targets and Strategies

The Village of Warwick recognizes New York State's ambitious goals as outlined in the Climate Leadership and Community Protection Act of 2019, which mandates a reduction in GHG emissions of 40% by 2030 and 85% by 2050 (below 1990 levels). While these targets are inspirational, the Village acknowledges that we are early in our journey and must be mindful of what is realistically achievable at the local level.

Drawing inspiration from these commendable targets, **the Village has set a localized reduction target, aspiring to reduce our GHG emissions by 15-20% by 2028.**

The Village of Warwick respects the State's established objectives as guiding benchmarks. In drafting our Climate Action Plan, we've chosen a tailored approach that recognizes both Warwick's unique situation and the broader environmental goals. The Village is setting sights on a 15-20% GHG emission reduction by 2028, emphasizing actions and strategies that are aligned with local needs and the broader vision of environmental sustainability.

The Village of Warwick uses its baseline data to inform its strategic approach, addressing both local needs and broader environmental objectives. The focus is on making decisions that consider Warwick's specific circumstances while contributing to wider sustainability goals. This approach aims to benefit both the community and the broader environment.

Overall Goals

As captured in the [2022 Comprehensive Plan](#), the Village has recognized the following Environmental Sustainability and Resilience Goals:

- **“Goal R1: Improve Environmental Sustainability and Resilience Throughout the Village of Warwick”:** This goal, identified as a top priority in our community's Comprehensive Plan, underscores the importance of environmental sustainability and resilience in maintaining the Village of Warwick's quality of life and continued prosperity.
- **“Goal R2: Ensure that Village sewer and water infrastructure can accommodate future demand without diminishing the quality of service provided to residents and businesses.”** Also outlined in the Comprehensive Plan, this goal focuses on responsible planning and management of our infrastructure to meet future demand. It emphasizes our commitment to maintaining quality services for residents and businesses, reflecting the Village's broader dedication to sustainability and resilience.

Short-Term and Mid-Term Goals and Strategies (2022-2027)

WTP, WWTP	Improve energy efficiency in Water Works, and lay out a strategy for Water Treatment Plant modernization by 2027. ● The main Water Treatment Plant, dating back to the 1970s, continues to serve its purpose. Current budgetary constraints might hold off immediate enhancements, but there's an undeniable need for a more energy-efficient future. In comparison, the more recent Microfiltration Plant, built around 2012, aligns with today's building standards, reflecting a more modern approach. ● With aging infrastructure, the focus turns to seeking energy-saving replacements. A notable consideration is the transition to variable speed pumps, which offer greater efficiency.
-----------	--

	Currently there is no set strategy. However, the increasing maintenance demands on our current equipment call for a proactive approach. It's essential to weigh the recurring costs of mending old equipment against the long-term gains of transitioning to more energy-efficient solutions.
WTP, WWTP	Partner with Orange and Rockland by 2024 to identify and implement incremental energy efficiency upgrades in the Water Works and WWTP, through O&R's Non-Wires Alternative project. - To alleviate the electrical demand on the Wisner substation, O&R has collaborated with the Village. Our joint initiative aims to identify and implement energy reduction measures, with a particular focus on the Water Works facilities, pump stations, and the Wastewater Treatment Plant. - For example, in 2023 O&R replaced lighting and lighting controls with energy efficient options in the WWTP. Previous energy usage for the WWTP was 453,720 kWh/yr, and after upgrades the anticipated energy usage is 445,383 kWh/yr, which amounts to an estimated cost savings of \$1,442 per year and a 2% reduction in energy consumption. - In 2023/2024, the Village and O&R will look to identify potential usage of variable speed pumps, which consume less energy than pumps that are constantly operating. This is an example of a possible incremental improvement the Village can use to lower energy consumption and GHG emissions. - The specifics of the Village's eligibility for upgrades and the potential emissions reduction are still being determined. However, this initiative underscores the Village's genuine commitment to enhancing environmental responsibility within the community.
WWTP	Understand and optimize energy consumption for the new WWTP; recalibrate its inventory post-construction. The Village is currently engaged in a multi-year project to construct a new Wastewater Treatment Plant (WWTP). The existing plant, although operational, is seriously aging, and compliance with New York State's stringent standards has become increasingly challenging. Coupled with ever-increasing maintenance costs and the growing demands placed on the WWTP due to Warwick's rising population and new building developments, the necessity for a new plant has become clear. The new WWTP is expected to be operational in 2026.

	● It is important to acknowledge that the energy impact of this new facility is not yet fully understood. Given its larger size and significant wastewater processing capabilities and demand, the new WWTP may result in higher GHG emissions. Collaborating with our engineering firm, the Village is actively exploring the potential climate impact and energy consumption of this essential project. In the short term, our target is to gain an understanding of these factors and to document them. We will also discuss potential areas of focus for energy efficiency, ensuring that we are well-informed as we continue to make responsible decisions in our commitment to environmental sustainability.
Facilities	Enhance energy efficiency in Administrative Facilities. ● Village Hall and the DPW Garage make up 26% of the Village's GHG emissions. Even small incremental improvements will help reduce energy consumption, costs and GHG emissions. ● As an example of work completed, in 2023 the Village in partnership with O&R through their Non-Wires Alternative (NWA) project, replaced lighting and lighting controls with energy efficient options in the DPW Garage. Previous energy usage for the DPW Garage was 48,902 kWh/yr, and after upgrades the anticipated energy usage is 40,871 kWh/yr, which amounts to an estimated cost savings of \$1,389 per year and 17.5% reduction in electric energy consumption. ● The Village is continuously monitoring its infrastructure, especially the HVAC systems, given that the Village Hall A/C was replaced in 2021, the Village Hall boilers in 2016, and the DPW Garage heater in 2018. As these units age, the Village will consider more energy-efficient replacements, and the same approach will be applied to water fixtures.
Streetlights	Achieve a 5% reduction in emissions by converting half of the Cobrahead Streetlights to LED by 2026. ● The Village is actively working on converting all street lights to LED. With 53 decorative street lights already converted, approximately half of the cobrahead street lights remain. ● The precise impact on GHG emissions from the LED conversion project is still to be determined. Once the full conversion is completed in the coming years, the Village plans to recalibrate the inventory to accurately measure the reduction in GHG emissions.

Fleet	Adopt and maintain a Vehicle Efficiency Policy by 2025 to continually enhance government vehicle fuel efficiency. By 2025, the Village should establish a vehicle fleet efficiency policy, setting clear fuel-efficiency standards for all municipal vehicle acquisitions when commercially viable and feasible. This policy will provide the DPW Supervisor with the necessary guidelines to enhance the fuel efficiency of our government vehicles, leading to notable reductions in both fuel expenses and GHG emissions.
Policy	Establish a Fleet Efficiency Policy by 2025 to standardize fuel-efficiency in municipal vehicles. By 2025, the Village aims to establish a vehicle fleet efficiency policy, setting clear fuel-efficiency standards for all municipal vehicle acquisitions when commercially viable and feasible. This policy will provide our fleet managers with the necessary guidelines to enhance the fuel efficiency of our government vehicles, leading to notable reductions in both fuel expenses and GHG emissions.
Policy	Implement an Environmentally Preferable Purchasing Policy by 2025 to promote energy-efficient products. Establish an Environmentally Preferable Purchasing Policy by 2025. The Village's proactive stance on climate action should not only be confined to its direct operations but should extend to influencing broader climate action through its purchasing choices. By adopting an Environmentally Preferable Purchasing (EPP) policy, the Village can drive demand for energy-efficient and environmentally responsible products, thus enhancing their market presence. Such a policy would not only institutionalize decisions on purchasing energy-efficient appliances, products, and materials but also echo the Village's commitment to a sustainable future. Implementing EPP standards, particularly those that prioritize energy-efficient equipment like ENERGY STAR, is a strategic step towards reducing energy demand in local government operations.
Policy	Assess the feasibility of a Green Power Policy for Village operations by 2026. By 2026, the Village intends to assess the practicality of adopting a Green Power Policy, focusing on the potential procurement of renewable energy and related credits. This evaluation will incorporate discussions with the Climate Smart Communities (CSC) Task Force, a

	review of existing municipal energy data, and consultations with relevant stakeholders. ● It will be important to balance the move towards renewable energy with the Village's financial stability and operational requirements.
--	---

Long-Term Goals and Strategies (2028 and Beyond)

Fleet	Transition to EV trucks by replacing at least two pickup trucks by 2030. ● While the Village's current pickup trucks meet its needs, by Fiscal Year 2030, the Village will consider transitioning to EV trucks during replacements or upgrades. Cost factors and environmental benefits will guide the Village's decision-making in this area.
Fleet	Optimize vehicle fleet for fuel efficiency and size appropriateness (ongoing). ● As a long-term goal, the Village is committed to perpetually evaluating our fleet composition and usage to match tasks with suitably sized, fuel-efficient vehicles. While 2024 will see the retirement of certain older vehicles deemed non-essential, this initiative is ongoing, reinforcing our dedication to optimizing our inventory. This consistent strategy not only heightens our fleet's fuel efficiency but also aids in diminishing GHG emissions and managing maintenance and insurance costs.
Fleet	Expand the Electric Vehicle charging infrastructure by 2028, keeping an eye on future DPW EV requirements. ● By 2028, the Village aspires to bolster its Electric Vehicle charging infrastructure to further our dedication to green transportation. We intend to double our current capacity by installing an additional two dual-port electric vehicle charging stations. These stations will cater to both public EV charging requirements and potentially serve the Department of Public Works, should the Village transition to EV vehicles for DPW use in the future.
Policy	Conduct energy audits on at least two government buildings by 2028. ● By 2027, the Village aims to conduct energy audits on at least two of its government buildings. Energy use in buildings is a primary contributor to greenhouse gas (GHG) emissions and poses several opportunities for increased energy efficiency and cost savings. Undertaking these audits,

	especially for older buildings, will provide the Village with detailed insights into current inefficiencies and recommended energy conservation measures (ECMs). ● These measures, when implemented, have the potential to drive significant energy reductions, cost savings, and reductions in GHG emissions, aligning with the goals of the Climate Smart Communities (CSC) program. ● Conducting energy audits comes with a cost. The Village Board must explore available grant funding and consider the potential to allocate funds in an upcoming fiscal year. This decision will weigh the costs against the expected benefits.
CSC	Achieve Silver Certification in Climate Smart Communities by 2028. ● As of 2023, the Village of Warwick has proudly achieved Bronze Certification within the Climate Smart Communities (CSC) program. While advancing to the Silver Certification may not directly lead to a reduction in GHG emissions, this endeavor provides a valuable framework to guide the Village in undertaking further related actions, some of which will indeed contribute to lowering GHG emissions. ● We recognize that the CSC goals may evolve over time, and we view this framework as an adaptable guide to keep our efforts aligned and on track. By utilizing this structure, we ensure that our approach is both forward-looking and responsive to changes, supporting our ongoing commitment to environmental stewardship and sustainable growth within the Village.

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

Climate Action Committee

The CSC Task Force will take on the responsibilities of a Climate Action Committee, focusing on evaluating strategies and solutions that the Village of Warwick can take to help curb GHG emissions. The Climate Smart Task Force / Climate Action Committee will update the Village’s CAP progress and post to the Village website as needed.

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.