



SAUGERTIES

CLIMATE SMART TASK FORCE

Climate Action Plan for Government Operations
ANNUAL PROGRESS REPORT
2020

*Prepared by
The Climate Smart Task Force
Climate Action Committee*

EXECUTIVE SUMMARY



Climate Smart
Communities
Certified Bronze

The 2020 Annual Progress Report prepared by the Climate Smart Task Force Climate Action Committee presents a review of projects included in the 2019 Climate Action Plan *for* Government Operations (CAP) that were in progress during the year 2019, and projects recommend for implementation in 2020, and beyond. The projects are designed to reduce energy use in government operations, to reduce Greenhouse Gas (GHG) emissions and effect cost savings. The town attained NYS Climate Smart Certification at the Bronze level in September 2019.

This report includes a description of the project, its status as of December 31, 2020 and recommendations. Projects reviewed include: Installation of EV Charging Stations, Energy Audits, Kiwanis Ice Arena Chiller, LED Streetlight Upgrades, Community Choice Aggregation, East Light Community Solar Farm, Vehicle Idling Policy, Climate Resiliency Plan, and Organic Food Scraps Composting Program. In addition, this report includes a detailed analysis demonstrating the town achieved a 20.3% reduction in greenhouse gas emissions in 2020 compared to the 2017 baseline year thereby exceeding its goal of reducing greenhouse gas emissions 20% by 2025.

BACKGROUND

1

The Climate Action Plan *for* Government Operations (CAP) adopted by the Town Board in May 2019 tasks a designated Town Board member and a Climate Action Committee -

“to review annually the Projects List on page 23 of the plan to determine progress implementing actions designed to reduce greenhouse (GHG) emissions. At the same time as new ideas and solutions emerge for reducing GHG emissions, they will be brought up, discussed, and new recommendations made to update the list. A progress report will then be generated on an annual basis. The reports will be published on the town website to inform the public of efforts undertaken by town government and results achieved. The report also serve to heighten public awareness and encourage citizens to reduce their carbon footprint.”

The CAC Climate Smart Task Force (CSTF) established a Climate Action Committee at its October 15, 2020 meeting to review the projects. The committee met on November 5, 2020 via Zoom and each member assumed responsibility for reviewing and assessing the projects in progress and projects recommended for future implementation. The report also provides a detailed and comprehensive analysis of greenhouse gas emissions in 2020 compared to 2017 the baseline year.

PROJECTS REVIEWED AND RECOMMENDATIONS

ELECTRIC VEHICLE CHARGING STATIONS



As of November 2020, the Town of Saugerties has installed five Electric Vehicle Charging Stations. The first charging station was installed at the Kiwanis Ice Arena in 2018 through the Clean Energy Communities initiative. Saugerties completed this action, one of four high-impact actions required by the New York State Energy and Research Development Authority (NYSERDA), to receive the designation of Clean Energy Community.

In April of 2019 the town added one EV Charging Station at the Frank Greco Senior Center and one at the Cantine Field Tennis Courts. In November of 2019, a charging station was installed

at the Saugerties Public Library in the Village of Saugerties. The town received an \$8,000 rebate on the installation of the station through New York State Energy Research and Development Authority (NYSERDA).

2

The fifth charging station was installed at Saugerties Town Hall in June of 2020. The town's rebate application has been approved for the \$8,000 rebate from NYSEDA. The town is not planning to install additional EV Charging Stations at this time.

Additional rebates for EV Charging Stations are being offered by NYSEDA. Interested parties may apply for pre-approval which results in NYSEDA holding aside funds for the rebate on completion of required documentation of the costs for installation and purchase of the equipment. The other method is to install and then apply for the rebate without going through the pre-approval process.

Recommendation

The Task Force recommends outreach to local businesses to encourage the installation of EV Charging Stations at employee and customer parking lots. The Task Force recommends that landlords install charging infrastructure (outdoor plugs, etc.) for multi-unit dwellings. The task force will study this issue in 2021 in order to make further specific recommendations for encouraging or requiring EV Charging Stations at multi-family buildings.

COMMUNITY SOLAR FARM

The East Light Partners community solar project at the former town landfill off Route 212 was built and went online in 2019. The project was done with the support and oversight of Town Highway Superintendent Doug Myers. East Light Partners worked with Myers and the NYS Department of Environmental Conservation to ensure that the solar array would not affect the management and protections of the former landfill itself.



The process, which began in the spring of 2015, involved the recruitment of a solar provider to settle into Saugerties, build a solar farm, and accept town electricity accounts at a discount of 10%. By early 2020 customers were signing up for the same 10% discount the town is receiving. The project now constitutes the principal community solar farm for Saugerties electrical customers and others who have signed on. The project is expected to be folded into the new Community Choice Aggregation program being developed by Joule Assets on behalf of Saugerties and other municipalities in the region. All but 133 of the available accounts had been filled by March 2021. Assuming that most Saugerties residential and business customers join the CCA program, Saugerties advances considerably in the goal to become 100% renewable in its electricity usage.

COMMUNITY CHOICE AGGREGATION (CCA)

The Town Board adopted legislation in July 2019 authorizing participation in an opt-out CCA program. The program allows the town to choose where the energy comes from for residents and small businesses in the town outside the village. A CCA puts control of choosing energy supply in local hands. It allows a municipality to join with other towns, villages and cities to build the clout necessary to negotiate lower rates with private suppliers and to choose cleaner energy. A CCA also has the potential to simultaneously deliver lower monthly bills.

A CCA allows the town to choose 100% renewable energy for residents and small businesses.

In the spring of 2020, the Climate Smart Task Force received presentations from companies approved by the Public Service Commission to serve as CCA administrators and available to become an administrator in the Saugerties area. The task force recommended Joule Assets to serve as the administrator; in September 2020 the Town Board passed a resolution choosing Joule Assets and subsequently signed an agreement with Joule to serve as administrator for the program. It is anticipated that the program will be implemented in 2021.

Recommendations

The task force recommends implementing the program in accordance with the Climate Smart Communities program (PE 8 Action), and the Clean Energy Communities program high impact action and providing the required documentation to qualify for points in both programs. The task force recommends that the town selects 100% renewable energy as the default choice.

VEHICLE IDLING POLICY

At the July 15, 2020 Town Board meeting, the town adopted a Town-Owned Vehicle Use Policy including a provision that states, “Vehicles cannot and should not idle longer than a period of five minutes at a time unless that is part of a warmup procedure for the vehicle.”



IDLING GETS YOU NOWHERE

KIWANIS ICE ARENA CHILLER

The Ice Arena chiller uses the largest amount of electricity. The Greenhouse Inventory in the 2019 Climate Action Plan for Government Operations reveals that it generates the most GHG emissions with 22 tons of CO₂e. The chiller dates back to 2001 and is not as efficient as the newer high-efficiency chillers.

An audit report prepared by Arcadis was completed in 2019 and provides the estimated cost to replace the chiller, the payback period and annual energy savings. The 2019 audit report prepared by Arcadis recommends that the chiller be replaced with a new unit that offers advanced technology resulting in significant annual costs savings, reduced energy use and reduction in greenhouse gas emissions. The

The town would save an estimated \$32,811 yearly in operating costs with a new, more efficient chiller

Arcadis report identifies annual cost savings of approximately \$16,000. Subsequent to the Arcadis report, additional cost savings have been identified bringing the estimated operating cost savings to \$32,811 annually.

Applying for funding to replace the existing chiller was identified as an immediate goal in the Climate Action Plan adopted in 2019. Due to the pandemic, funding opportunities were unavailable during 2020.

Recommendation Prioritize the replacement of the existing chiller with one that is the most energy efficient, reduces the largest amount of greenhouse gas emissions and yields the most annual cost savings. Additionally, continue to actively seek and prioritize grant applications to help fund the project.

LED STREETLIGHT UPGRADES

Replacing conventional street lights with LED lights, results in cost savings, reduced energy use, and reduced greenhouse gas emissions. The town had converted 94% of its streetlights in the street lighting districts to LED lights. By completing conversion to 100% LED street lights in 2020, the town has reduced its cost \$10,745, electricity use by 176.083 kwh, and its greenhouse gas emissions by 23.63 metric tons of carbon dioxide compared to 2017, the baseline year..

RESIDENTIAL FOOD SCRAPS COMPOSTING PROGRAM

According to the U.S Environmental Protection Agency, in the United States food is the single largest category of material placed in municipal landfills. And landfills are one of the biggest contributors of greenhouse gases including CO2 and specifically methane which is twenty one times more potent than carbon dioxide.

Composting food scraps keeps them out of landfills thereby helping to reduce carbon dioxide and methane emissions, and the composted food scraps create fertilizer to feed and nourish the soil.

In November 2018, the town established a food-waste drop-off program at the town's transfer station for Saugerties and surrounding-area residents. The food waste is picked up weekly for composting by Community Compost Company, a private composting company based in Ulster County.



Over the two-year period (2019 and 2020), 49 tons of food waste has been diverted from the waste stream. The amount of food waste collected more than doubled from 2019 to 2020. As participation in the program has increased in 2020, the fee to transport the food scraps to a composting site has also increased. While the program saved the town approximately \$5,000 in tipping fees over the two-year period, the cost to pick up and transport the food waste by the private company exceeds the savings.

Recommendation Explore alternative cost-effective methods of transporting food scraps to a composting site. Expand the collection of food waste by instituting food-waste collection at sports and special events at Cantine Field.

CLIMATE RESILIENCY PLAN



The Cornell Cooperative Extension of Ulster County (CCE) with the cooperation of town staff created a *Climate Resiliency Planning Tool* for the Town of Saugerties in 2019. It was used to evaluate opportunities to improve the community's resilience to flooding and climate change. The planning tool reviews many long and short-term aspects of storm and climate change preparedness by viewing town and county planning documents, activities and management. The completed assessment and

recommendations presented to the Town Board in 2019 highlight areas of strengths and opportunities for the town to integrate flood and climate change preparedness into its municipal operations and planning. The task force supports the recommendations submitted by CCE.

Recommendations

Consider and prioritize action on the following Climate Smart Communities Program Pledge Elements.

Section 2 Vulnerability

PE7 Climate Vulnerability Assessment (4-16 pts).

PE7 Climate Adaptation Strategies (2-8 pts).

Section 3 Public Outreach and Engagement

PE7 Early Warning Systems and Evacuation Plans.

PE9 Social Media (3points).

Section 4 Intergradation of Municipal Plans

PE6 Comprehensive Plan with Sustainability Elements (3-21 pts).

PE8 Green Economic Development Plans (4 pts).

Section 5 Disaster Preparedness and Recovery.

PE7 Early Warning System and Evacuation Plans. (Under Review).

Section 6 Hazard Mitigation and Implementation.

PE7 National Flood Insurance Program Community Rating System (3-9 points)

PE7 Restoration of Flood Plains and Riparian Buffers. (1-10 points).

PE7 Nature-based Shoreline Protection (under review).

ENERGY AUDITS

In May 2019, Arcadis of New York, Inc. completed an energy evaluation study for the town at three sites: Glasco Sewer District Wastewater Treatment Plant, Saugerties Town Hall, and the Frank D. Greco Senior Center.

The goal of the study is to assist the Town of Saugerties Climate Smart Task Force in the ongoing implementation of actions to reduce greenhouse gas emissions and adapt to the effects of climate change through the Climate Smart Community (CSC) program. The study's objective is to inform the town regarding the technical and economic feasibility of reducing energy usage through energy efficiency and conservation measures.

The objective of the audits was to inform the town regarding the technical and economic feasibility of reducing energy usage through energy efficiency and conservation measures.

Arcadis identified eight energy conservation measures (ECMs) and three operational measures (OM) across all three sites. Implementation of the measures provide an opportunity for the town to develop a plan to incorporate these actions into future town upgrades and plans.

Recommendations At the Glasco Sewer District Wastewater Treatment Plant, it is recommended that the condensing natural gas water heater be replaced with an electric heater, and the treatment plant participate in the Community Choice Aggregation (CCA) program. At the Town Hall, the replacement of lighting with LED equivalent kit-type is recommended, and examination of large window for energy loss, and replace or seal, as needed, or feasible. At the senior center, it is recommended that lighting be replaced with LED lighting.

It is also suggested that energy misers on thirteen refrigerated machines be installed: One each in Town Hall and the Greco Center, five at the Ice Arena, the rest outside around the complex.

The misers cause the machines to shut off if not used for fifteen minutes or more; the product is protected and maintained cold by turning on again at one and/or three-hour intervals. The machines are owned by Coca-Cola.

GREENHOUSE GAS EMISSIONS REPORT

The Saugerties Climate Action Plan for Government Operations (CAP) that the Town Board adopted in 2019 used the Municipal Greenhouse Gas Inventory to set a number of energy efficiency and GHG reduction goals. The plan calls for the town to reduce its Greenhouse Gas emissions by 20% by 2025 and to report annually on its progress. 2020 is the first reporting year.

The town's 2020 municipal emissions were reduced by 20.3% compared to the 2017 baseline year.

A few roadblocks were encountered as the town began implementing the goals set forth in the CAP. In 2019, the Police Department committed to a five-year plan, starting in 2020, of replacing two inefficient vehicles a year with

hybrids to reduce gasoline emissions. Unfortunately, no hybrid police cars were available, so the chief had to postpone that order for a year. Despite that, the Police Department still produced reductions in gasoline and diesel greenhouse gas emissions.

East Light Solar Partners solar farm was only able to allocate 10% of the 2020 solar output until December 2020 when it was increased to 40%. It will remain 40% going forward. The reduction of metric tons of carbon dioxide and other greenhouse gases (MTCO_{2e}) from this solar farm is an essential component of the CAP. Still, with even just a 10% allocation in 2020, electricity emissions were reduced.

Consideration of the purchase of a new chiller was postponed due to the renovation of the Ice Arena and lack of available grant funding. However, the Ice Arena is now a more energy efficient facility, and a future chiller can be properly sized to take advantage of this. Another plus in the energy efficiency column is that all the town's streetlights have been changed over to LEDs. The reduction in emissions and cost is better than anticipated.

The Climate Smart Saugerties Task Force, having been designated to prepare this analysis, is pleased to offer a detailed assessment showing the town has already exceeded its five-year goal to reduce greenhouse gas emissions by 20%. The town's 2020 municipal emissions were reduced by 20.3% compared to the 2017 baseline.

METHODOLOGY

- We used the same format, Facility/Group names and Categories that were used in the 2017 GHG Inventory.
- Definitions: MTCO_{2e} mean Metric Tons of Carbon Dioxide and other greenhouse gases including N₂O and CH₄. GHG means Greenhouse Gas.
- We used the factors and sources provided in the GHG Inventory to calculate Metric Tons of CO_{2e}.
- Electricity and natural gas usage and cost numbers are from review of Central Hudson usage and cost records kept by the Town.
- Street lighting usage and cost records came directly from Central Hudson at our request.
- Gas and diesel records were self-reported by the Highway Department (including Animal Shelter, Building Inspector, Transfer Station and a few months of the Police Department), Parks and Recreation, Police Department, and Glasco WWTP.
- Tank fuel usage and cost numbers were requested and received from the Town's suppliers, Paraco, Bottini, and Kosco/Heritage.
- Wendy DeWolf from East Light Partners provided the usage and cost numbers from the solar farm located at the Transfer Station.

COMPARISON RESULTS

In order to provide a comprehensive comparison between 2017 and 2020, we are giving you side by side comparisons of each of the Municipal Operations categories.

ELECTRICITY

In 2017 our total municipal electric usage was 1,877,162 kWhs, and the total cost of electricity was \$274,114.28. The usage generated a total of 253.33 Metric Tons of CO₂e or 41% of the total municipal GHG emissions. Administration Facilities, Wastewater Facilities, Water Delivery Facilities, and Streetlights are the town’s electricity users. Administration Facilities generated the lion’s share of electricity usage and emissions. The solar from the East Light Solar farm was applied to Administration Facilities.

Administration Facilities

2017			2020		
kWh	MTCO ₂ e	COST	kWh	MTCO ₂ e	COST
1,127,819	151.40	\$142,469.65	1,095,515	147.062	\$157,842

Compared to 2017, Administration Facilities reduced emissions in 2020 by **4.28 MTCO₂e** or **2.83%**.

When the solar generated electricity from the East Light Solar farm was applied, emissions were further reduced by a total of **42.80 MTCO₂e** or **28.3%** in 2020.

Waste Water Facilities

	2017			2020		
	kWh	cost	MTCO ₂ e	kWh	cost	MTCO ₂ e
GWTP	185,680	\$15,422.72	24.926	165,920	\$16,579	22.273
Pump Stations	96895	\$16,492.56	13.007	88,744	\$17,277	11.913
Malden WWTP	129677	\$10,300.18	17.408	127,737	\$11,876	17.147
Total	412,252	\$42,215.46	55.341	382,401	\$45,732	51.333

Compared to 2017, Wastewater Facilities’ reduced emissions by **4.01 MTCO₂** or **7.2%** in 2020.

Water Delivery Facilities

The Water Delivery Facilities generated 3.4 MTCO₂e in 2017, less than one percent of the municipal total for electricity.

	2017			2020		
	kwh	Cost	MTCO ₂ e	kWh	cost	MTCO ₂ e
Water Delivery	25,672	\$3,940.37	3.446	54,814	\$8,547	7.358

Compared to 2017, Water Delivery Facilities emissions **increased** by **3.9 MTCO₂e** or **113%** in 2020.

Streetlights

Since 2017, the Town completed conversion of all possible streetlights to LED lights in the street lighting districts, and the savings in usage, cost and GHG emissions is evident. In 2017, street lighting constituted 43.1 MTCO₂e or 3% of the municipal GHG total

	2017			2020		
	kWh	cost	MTCO ₂ e	kWh	cost	MTCO ₂ e
Streetlights	321,419	\$ 106,564.74	43.147	145,336	\$ 95,819	19.510

Compared to 2017, the Town’s street lighting reduced emissions by 23.64 MTCO₂e or 54.78% in 2020.

NATURAL GAS

In 2017, total municipal natural gas usage was 59,930 cffs (therms) and the total cost was \$52,589.33. Natural Gas is a more polluting source of energy than electricity and emits more greenhouse gases. Because it is used primarily to heat town facilities, it is difficult to find less polluting and cost-effective alternatives, such as heat pumps, within the limitations of the municipal budget. Reductions in 2020 were, in large part, the result of the Ice Arena being off-line for months due to renovations and energy efficiency modifications to the building envelope.

2017			2020		
Cff	Cost	MTCO ₂ e	cff	cost	MTCO ₂ e
59,930	\$52,589.33	317.78	37,932	\$38,842	201.135

Compared to 2017, Natural Gas emissions were reduced by 163.36 MTCO₂e or 36.70% in 2020.

VEHICLE FLEET

In 2017, the vehicle fleet was the largest emitter of municipal greenhouse gases with a total of 603.7 MTCO₂e or 48% of the municipal total. Gasoline emissions were 342.26 MTCO₂e and diesel 261.41 MTCO₂e.

	2017			2020		
	gallons	cost	MTCO ₂ e	Gallons	cost	MTCO ₂ e
Gasoline	38,982	\$80,342.00	342.26	38,021	\$73,996	333.82

	2017			2020		
	gallons	cost	MTCO ₂ e	Gallons	cost	MTCO ₂ e
Diesel	25,330	\$47,335.00	261.41	22,191.90	\$31,834.45	226.58

Compared to 2017, gasoline emissions were reduced by 8.44 MTCO₂e or 2.46 % in 2020.

Compared to 2017, diesel emissions were reduced by 34.83 MTCO₂e or 32.127% in 2020.

TANK FUELS

In 2017, the Town used 10,703.10 gallons of propane and fuel oil (heating oil and kerosene), and this usage emitted a total of 98.26 MTCO₂e. Heating oil is highly polluting, so the Highway Department has now switched to propane for the heating of all its buildings. This has significantly reduced that department’s greenhouse gas emissions. In 2020, there was an uptick in propane to fuel a generator in the Bluestone Park Water District.

	2017			2020		
	gallons	Cost	MTCO ₂ e	gallons	cost	MTCO ₂ e
Fuel Oil	8,163.80	\$14,734.79	83.27	0	\$0.00	0
Propane	2,539.30	\$4,157.35	14.99	11,741.10	\$12,076.79	66.1
Total			93.18			66.1

Compared to 2017, tank fuel emissions were reduced by **32.07 Metric Tons of MTCO₂e or 38.55% in 2020.**

SUMMARY

THE TOTAL MUNICIPAL PERCENTAGE OF MTCO₂E REDUCTION IN 2020 WAS 20.3%.

REDUCTION

TOTAL GHG EMISSIONS	2017 MTCO ₂ e	2020 MTCO ₂ e		2020	%CHANGE	WITH SOLAR
KWH	253.33	225.26		-28.07	-11.1%	
NAT'L GAS	317.78	201.14		-116.64	-36.7%	
GASOLINE	342.26	333.83		-8.43	-2.5%	
DIESEL	261.41	226.58		-34.83	-13.3%	
TANK FUELS	98.26	66.1		-32.16	-32.7%	
SOLAR DEDUCTION						-38.37
	1273.04	1052.91		-220.13	-17.3%	20.3%

Recommendation Adopt a policy that requires annual reporting of energy used in buildings. Enact a local law, ordinance or resolution that requires the town to make available to the public on the internet on an annual basis the energy use of buildings in accordance with requirements of the Clean Energy Communities program.

ACKNOWLEDGEMENT

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The Climate Smart Task Force gratefully acknowledges the cooperation of town department heads and their staff for providing information and data essential for this Annual Progress Report.



**SAUGERTIES is now
New York State Certified CLIMATE SMART !**

THE TOWN OF SAUGERTIES
WAS AWARDED CERTIFICATION
AS A CLIMATE SMART COMMUNITY
AT THE BRONZE LEVEL
BY THE NEW YORK STATE
DEPARTMENT
OF ENVIRONMENTAL CONSERVATION
IN SEPTEMBER 2019

**Saugerties is the first town in Ulster County to achieve Bronze level
New York State Climate Smart Certification**



**Climate Smart
Communities**
Certified Bronze