

SYRACUSE • NY

CLIMATE ACTION PLAN

JUNE 2026





Climate Action Plan

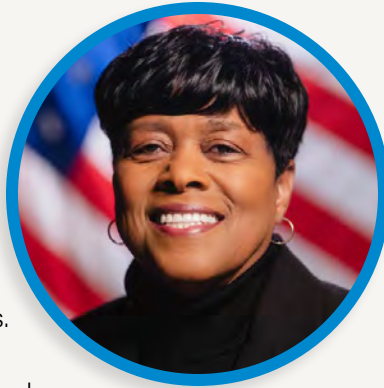
Letter From the Mayor

It is my pleasure to introduce the 2026 Syracuse Climate Action Plan for Community and Municipal Operations. This document represents engagement, education, and empowerment across community residents, City staff, and external partners to direct Syracuse toward pragmatic climate action that improves quality of life, for all.

Before you engage with this document, I wish to share the City's intention to develop a sequential 2026 Climate Action Plan.

The impacts of climate change will undeniably impact the lifestyle and operational systems of Syracuse. We are fortunate to benefit from a temperate climate and inland location; however, this does not preserve us from change. Climate change will cause system disruption for our community, and every other. It is our collective responsibility to prevent disruption and empower prosperity through the goals and actions outlined in the strategic chapters of this document.

This Climate Action Plan provides a practical situational analysis of the City of Syracuse and community needs as it relates to climate change. It builds upon our community's previous commitment and efforts from the 2012 Sustainability Plan to preserve and enhance the local environment, reduce energy costs, and improve quality of life. Finally, it serves as a road map for city government, organizations, and community members, guiding us toward action and opportunity to achieve climate resiliency.

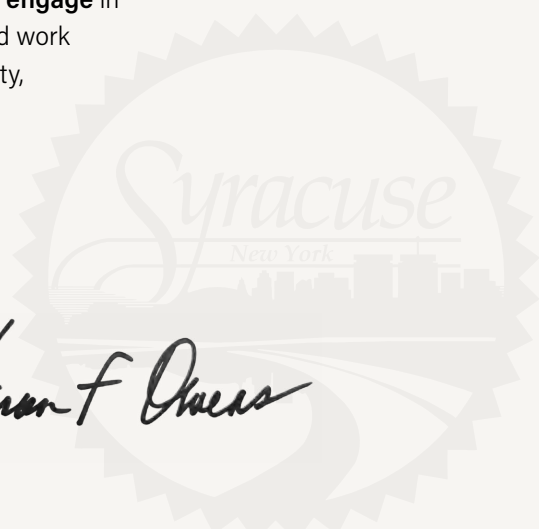


Last year, we announced findings from the 2024 Greenhouse Gas Emission Inventory (GHGI) that demonstrate the power within our community to envision and energize a climate resilient future. Compared to emissions reported in 2010, the 2024 GHGI report found emissions reductions of 67% for municipal operations and 29% for the community, greatly exceeding emission reduction targets that were outlined in the 2012 Sustainability Plan.

These findings were the result of collaborative actions across the community and a commitment by the City to implement operational and organizational functions to reduce our carbon footprint. It is our collective responsibility to continue this progress. With this Plan, we can prioritize actions and programs to lessen greenhouse gases, bolster climate resiliency, and capitalize on opportunities to improve quality of life and preserve prosperity for future generations.

We are thankful to the New York State Department of Environmental Conservation Office of Climate Change for funding the development of the 2026 Climate Action Plan through its Climate Smart Communities Grant Program. We are also grateful to our partners at C&S Companies, Environmental Design & Research (EDR), and Prospect Hill for guiding the development of this Plan. I am grateful for the City staff, external partners, and community members who took the time to comment, review, and influence the City of Syracuse's future of climate conscious systems thinking.

Now, I invite you to **engage** in the City's continued work around sustainability, to **educate** yourself on the vision and capacity for impact and be **empowered** into climate action for Syracuse.



Acknowledgments

Plan Forward was made possible through the efforts of the following individuals and organizations:

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CITY OF SYRACUSE CLIMATE SMART COMMUNITIES SUSTAINABILITY TASK FORCE

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**Department of
Environmental
Conservation**

PREPARED BY

EDR



Foreword

The earth's climate has always seen change. Climate is what you expect; weather is what you get. The difference between previous climate changes and the one experienced by Earth, and us, now is the time between change, known as rate of change.

Earth began to experience an increased rate of climate change after the Industrial Revolution in the 1800s. Carbon (CO₂) emitted from the burning of fossil fuels became known, amongst others, as greenhouse gases which form an invisible shield around the Earth. This shield traps the release of heat into Earth's atmosphere, creating a positive feedback loop that lingers and creates global warming patterns. Increased use of fossil fuels since the industrial revolution, heightened by modern human activity, continues to negatively influence the rate of climate change.¹

We are all residents of this Earth; however, the inaugural Climate Action Plan for the City of Syracuse focuses on feasible actions the City operations and Syracuse community members can take towards lowering carbon emissions, increasing climate resiliency and overall increasing quality of life for all today and tomorrow. The impact of climate action must be implemented equitably to benefit all.

To begin, the **Climate Change Impacts to the City of Syracuse Today and Tomorrow** chapter outlines the current climate science, verified by New York State, for the Central New York Region. Predictions are made to visualize the impacts on the greater community, individuals, and systems we have become dependent on in the 21st century.



1. What is Climate Change?. (2026). Retrieved April 28, 2026, from <https://www.un.org/en/climatechange/what-is-climate-change>.

The **Engagement Summary** chapter explains work performed under the Walsh and Owens Administration to educate stakeholders, partners, and community members. Various strategies of engagement were and continue to be used to broaden the base understanding for impacts of climate change on individuals and effects of collective commitment. During this process, stakeholders and community members made informed suggestions on avenues for action, and long-term partnerships were established. Their influence and the continuation of partnership are seen specifically in the Building and Climate Ready Syracuse chapter.

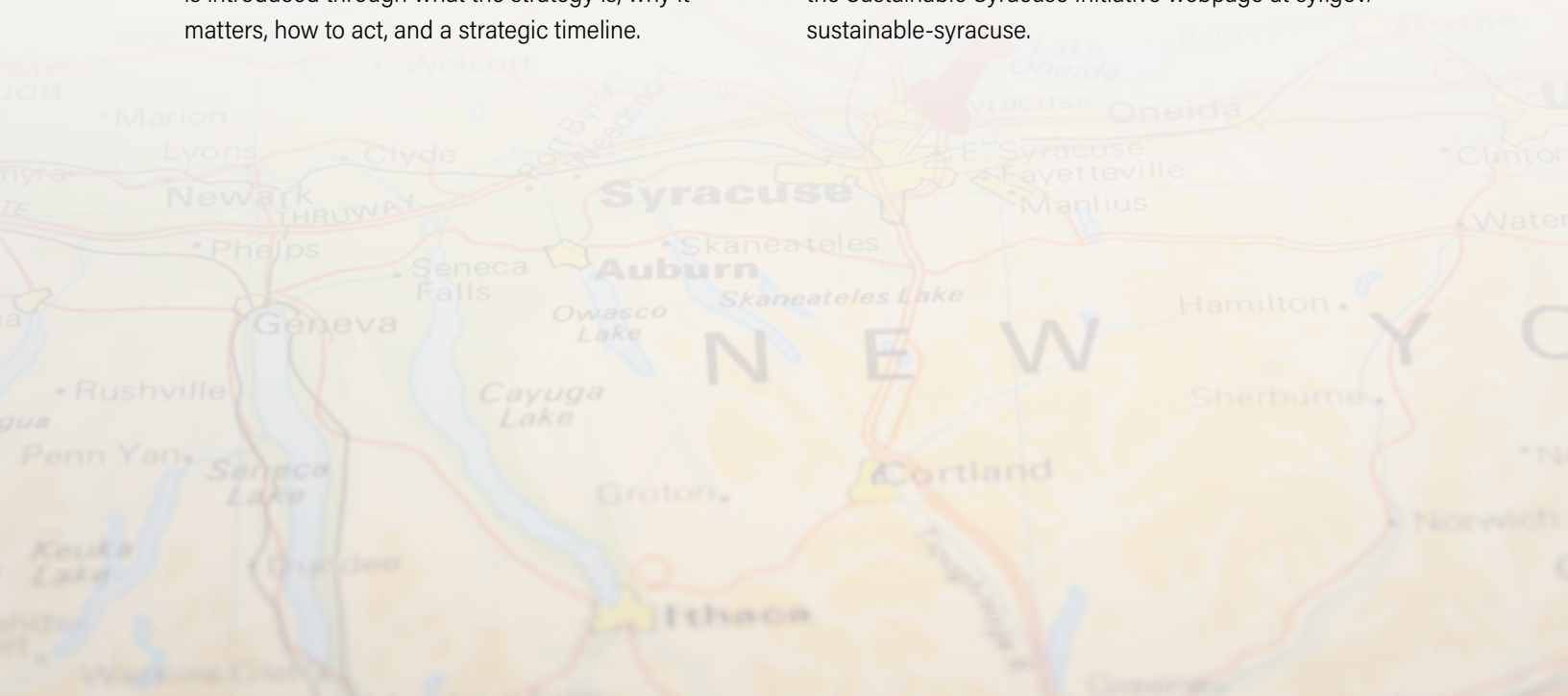
Next, the **GHG Emissions: Inventory Summary, Trends and Targets** chapter highlights key findings from the published 2024 Greenhouse Gas Emission Inventory for municipal and community operations. These findings are used to forecast future emission trends compared to emissions targets set by the New York State 2019 Climate Leadership and Community Protection Action (CLCPA). These forecasts influenced the creation of specific and impactful goals to simultaneously increase quality of life and lower carbon emissions.

These goals are contextualized and outlined in the **Building a Climate-Ready Syracuse** chapter. This chapter hosts four core strategies for climate action: Green Building and Energy Use, Transportation, Climate Adaptation, and the Natural Environment. Each strategy is introduced through what the strategy is, why it matters, how to act, and a strategic timeline.

The goals and actions are specific to either operations performed by the municipality or avenues for greater community action. Although both mostly follow the same path towards climate resiliency, municipal actions are clear direction toward implementation and community actions are written as empowerment towards an existing, and fiscally feasible, opportunity.

The **Implementation** chapter synthesizes the findings, forecasts and goals of this Plan connected to current development in the City of Syracuse. Specifically, the City is developing a Comprehensive Plan 2040 update that sets the trajectory for how the City and greater Syracuse community should react to unprecedented development such as the redesign i-81 highway and the arrival of Micron's microchip facility. The City of Syracuse is at a historical inflection point; climate resilience and sustainability must remain a foundational piece of progress and development to mitigate negative impacts on the regional ecosystem. Clear, feasible, and tangible next step actions, from the Building a Climate-Ready Syracuse chapter, are outlined with partners at the conclusion of the chapter.

As you read this document, take note of the agency within us all to make a difference for this generation, and next, to improve quality of life for all. Terms associated with climate policy and science are defined in the **Glossary of Terms**. Additionally, there are **Frequently Ask Questions**, and to meet with the City's Division of Planning and Sustainability, contact them through the Sustainable Syracuse Initiative webpage at syr.gov/sustainable-syracuse.



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1. Climate Change Impacts to the City of Syracuse Today and Tomorrow

This section describes in general terms the effects that climate change is having and will have on the City of Syracuse and its community, as well as providing some examples of specific impacts that are important factors to consider in a Climate Action Plan.

Key to the development of a Climate Action Plan is understanding why the climate is changing, how a changing climate is felt and what are the future impacts. This understanding cements an informed foundation and provides direction towards where the City and greater community should invest resources to increase resiliency. **Investment today will protect from future costs.**

There are many avenues in which the City and community should prepare for climate change with the objective of becoming more livable, resilient, and climate friendly. Knowledge and understanding of future impacts are also motivators to take responsibility for the carbon emissions that cause global warming and slow the rate at which the climate is changing.

Climate change is global, but the way we experience it is typically local. Climate change's effects are being felt across New York and the Northeast U.S. In Syracuse, it manifests itself in several different ways. Although the impacts of climate change in our region will be largely negative, Syracuse has the advantage of being in northeast United States, with a relatively cool climate that will remain livable through the seasons for the foreseeable future, albeit with some significant alterations.

Winters are already milder and shorter, sometimes with more snow than people remember, but sometimes wetter and heavier snow, and more rain. Summers are hotter, more humid, and longer. Gardeners are noticing shifts in the growing season, and it is harder to sleep at night in the summertime without the air conditioner on. Heavy rain showers seem more frequent and more intense. Summer sports are being scheduled for mornings rather than afternoons to beat the heat.

These changes and the data that represents them are documented in several authoritative sources including the New York Department of Environmental Conservation's Climate Change Effects and Impacts page (<https://dec.ny.gov/environmental-protection/climate-change/effects-impacts>), the New York State Climate Impacts Assessment (<https://nysclimateimpacts.org/>), and the U.S. Global Change Research Program's Fifth National Climate Assessment (<https://repository.library.noaa.gov/view/noaa/61592>).

The general climate impacts outlined draw mostly from the New York State Climate Impacts Assessment Climate Impact Spotlight: *The Central/Finger Lakes Region*.² Rather than averaging climate change across the whole state or larger region, this section of the report looks specifically at the region around Syracuse and makes more predictions based on local meteorology, historical observations, and location-specific climate forecasts in areas of particular concern. The next page visualizes data that describe some of the key potential impacts on day-to-day life in Syracuse.

2. New York State Climate Impacts Assessment Climate Impact Spotlight: The Central/Finger Lakes Region. <https://nysclimateimpacts.org/explore-by-region/the-central-finger-lakes/>

Impacts of Climate Change

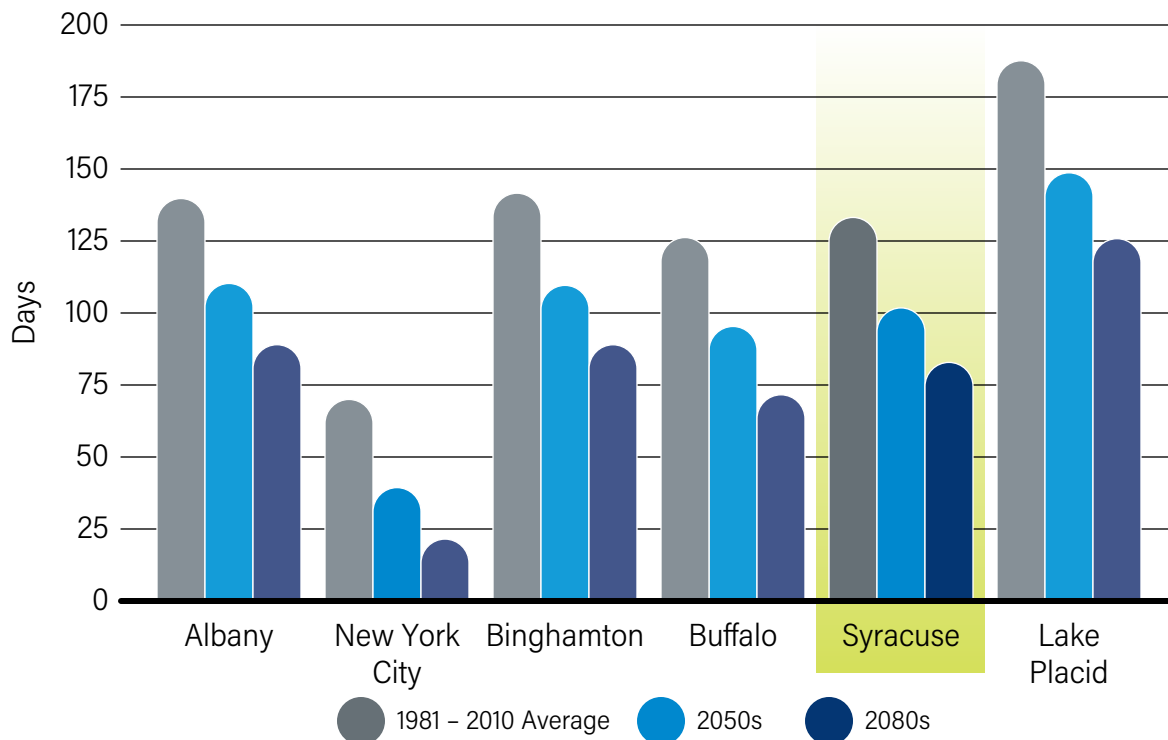
Temperature

The warming climate increases air temperatures globally, but this change is not distributed evenly across our planet or even New York State. **Temperatures are increasing faster at the north and south poles and in colder parts of the U.S., including the upstate region of New York, which unlike downstate areas such as Long Island, does not have proximity to the ocean as a buffer against rapid temperature change.** The differences in the expected temperature changes across the state are illustrated in the graphs below, including the City of Syracuse.

Winter Temperatures

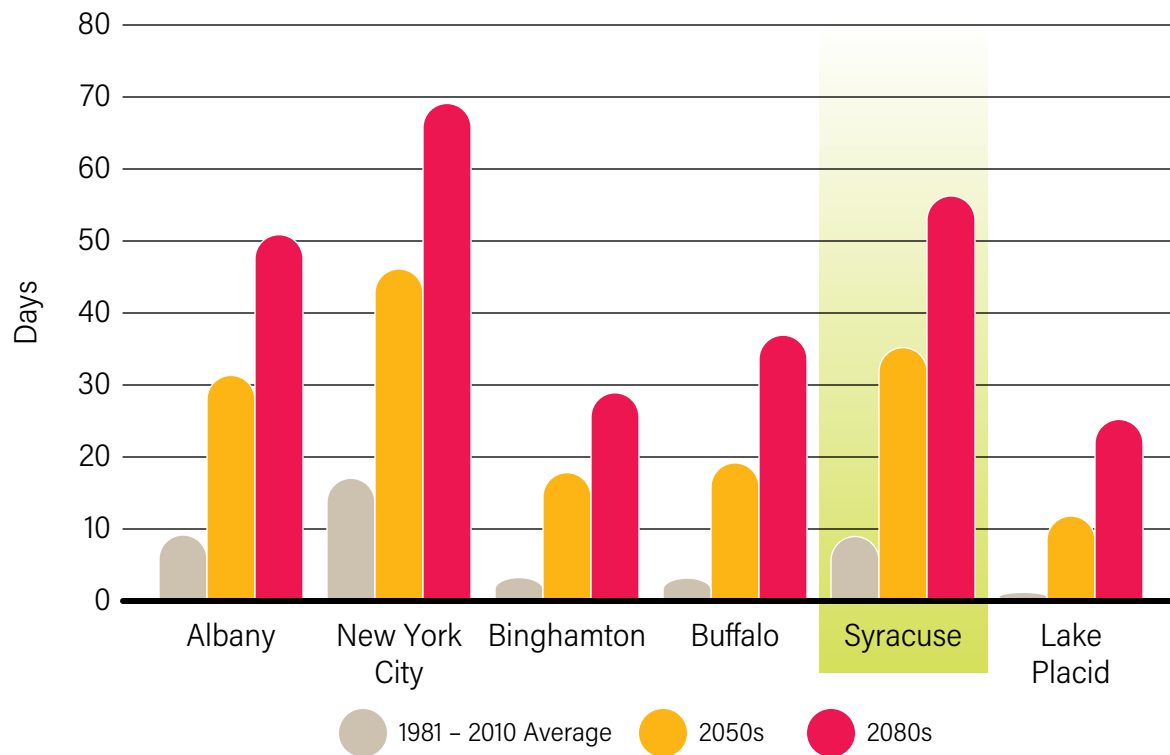
By the middle of this century (2050s), the average annual temperature will have increased by 4.5 to 6.4 degrees Fahrenheit (°F) relative to the 1981-2010 average. Winters will become shorter and warmer: between 1981 and 2010, Syracuse experienced an average of about 134 days below 32°F/0°C each winter. By the 2050s, it is projected to have declined to about 78-110 days, and by the 2080s, Syracuse is projected to have only 56-89 days below freezing. This will reduce the amount of energy needed to heat homes and businesses, but it will also seriously impact ecosystems, winter sports, cultural events, and winter-based tourism. More precipitation will fall as heavy snow, or rain, with impacts on everything from weight-bearing structures such as roofs, to stormwater. Lake effect snowfall may increase for a time, as Lake Erie freezes less and more moisture can evaporate from its surface to form snow, but over time the winter air temperatures will be too warm for that moisture to freeze, and it will fall as rain.

Figure 1-1
Projected Changes to the Number of Days Per Year with Temperatures Below 32°F for Six Locations Across the State



Source: New York State Climate Impacts Assessment: Temperature.
<https://nysclimateimpacts.org/explore-by-region/the-central-finger-lakes/>

Figure 1-2
Projected Changes to the Number of Days with Temperatures Above 90°F at Six Locations Across the State



Source: New York State Climate Impacts Assessment: Temperature.
<https://nysclimateimpacts.org/explore-by-region/the-central-finger-lakes/>

Summer Temperatures

Summers are projected to become longer and hotter, with more frequent, intense, and longer heat waves. Between 1981 and 2010 Syracuse experienced an average of about nine days per year over 90°F; this number is projected to increase to about 24 to 42 days by mid-century and to about 35 to 70 days per year by the 2080s.

At the same time, the heat index will also increase. The heat index is a measure that accounts for the effect of humidity on temperature, making hot days feel hotter. Climate change is putting more moisture into the atmosphere, which drives the heat index higher. Extreme heat is a serious public health concern.³ Together, these trends will increase the risk of heat stroke and other negative health effects associated with extreme, persistent heat. The increased heat will also impact outdoor activities in the summer, ecosystems, water bodies, agriculture, forestry, fishing, and other aspects of the natural environment (Table 1-1).

3. Extreme Heat in NY State. <https://dec.ny.gov/sites/default/files/2024-06/extremeheatsummaryimpactsreport.pdf>.

Effects from Increased Heat

Heat, Public and Environmental Health

The fundamental input of climate change is heat. Syracuse summers have been getting warmer for decades.⁴ Longer and more intense heat waves have health impacts. **Extreme heat is a significant threat to public health.** Of all disasters, extreme heat is already the leading cause of morbidity and mortality in New York. Extreme heat tends to be less noticeable since it typically impacts people with pre-existing conditions such as diabetes, heart and lung illnesses, high blood pressure, as well as the elderly and very young. Extreme heat events can send people to the emergency room with heat stroke, breathing and heart issues, and dehydration.

The heat will drive people indoors during the summer, curtail summer sports and other activities, as well as outdoor work such as construction, and increase the need for air conditioning. **Of particular concern in Syracuse, particularly around the City center and in disadvantaged neighborhoods, is the urban heat island effect where paved surfaces such as roads and parking lots, together with the lack of trees and grass magnify temperatures during the day and make it harder for the City to cool off at night.**

The impacts of climate change on heat and health are extensively described in the 2024 NY DEC report *Extreme Heat in New York State: Summary of Impacts and Vulnerabilities*.⁵ New York State has also developed an Extreme Heat Action Plan to coordinate action to equitably address extreme heat and its impacts. Adaptation planning and implementation support for communities is a key component of the plan.⁶ The State also maintains a list of cooling centers including those in the City of Syracuse.⁷ Syracuse has developed an Urban Forest Master Plan one of the objectives of which is to reduce the urban heat island effect.⁸

Table 1-1
Projected Winter and Summer Temperature Changes for the Central/Finger Lakes Region

		1981-2010	BY THE 2050S	BY THE 2080S
AVERAGE NUMBER OF DAYS PER YEAR BELOW FREEZING	Winter	134 Days	78 – 110 Days	56 – 89 Days
AVERAGE NUMBER OF DAYS PER YEAR OVER 90°F	Summer	9 Days	24 – 42 Days	35 – 70 Days

Source: New York State Climate Assessment – Central/Finger Lakes Region's Changing Climate.
<https://nysclimateimpacts.org/explore-by-region/the-central-finger-lakes/#section-2>.

4. Climate Central Extremely Hot Days 1970-2023. <https://www.climatecentral.org/graphic/extremely-hot-days-school-sports?graphicSet=Extremely+Hot+Days+1970+to+2023&location=Syracuse&lang=en>.

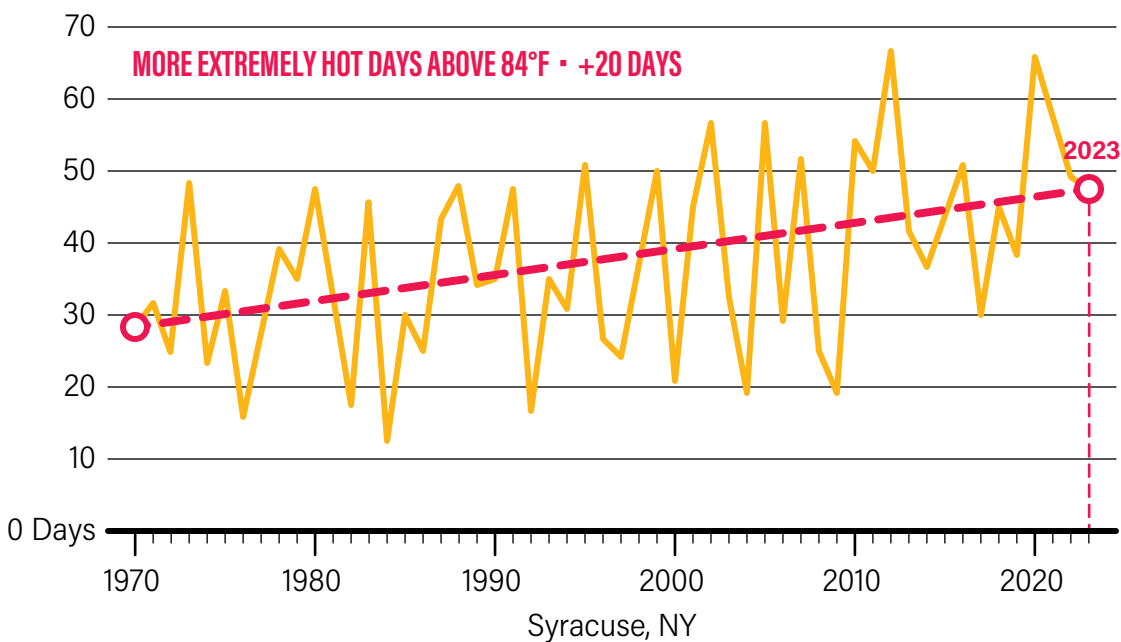
5. Extreme Heat in New York State. <https://dec.ny.gov/sites/default/files/2024-06/extremeheatsummaryimpactsreport.pdf>

6. Extreme Heat Action Plan Executive Summary - NYSDEC. <https://dec.ny.gov/environmental-protection/climate-change/effects-impacts/extreme-heat/extreme-heat-action-plan-executive-summary>.

7. Environmental Public Health Tracker – New York State Department of Health. https://apps.health.ny.gov/statistics/environmental/public_health_tracking/tracker/#/CCList.

8. Urban-forest-master-plan.pdf. <https://www.syr.gov/files/sharedassets/public/v/2/departments/parks-recreation/documents/forestry/urban-forest-master-plan.pdf>.

Figure 1-3
Number of Days Above 84°F in Syracuse, 1970 – 2023



Number of Days with Temperature Above 84°F in Syracuse, 1970 – 2023
 Source: Climate Central Extremely Hot Days 1970-2023.

Architecture and Housing

Central New York's traditional architectural styles were developed for a cold climate with the objective of keeping freezing air out and the heat in. According to the 2023 Syracuse Housing Market Study, 75% of housing in Syracuse was constructed before 1960. **It is imperative that the City and community partners take an active role in connecting residents with resources to install insulation and air conditioning in their homes and businesses.**

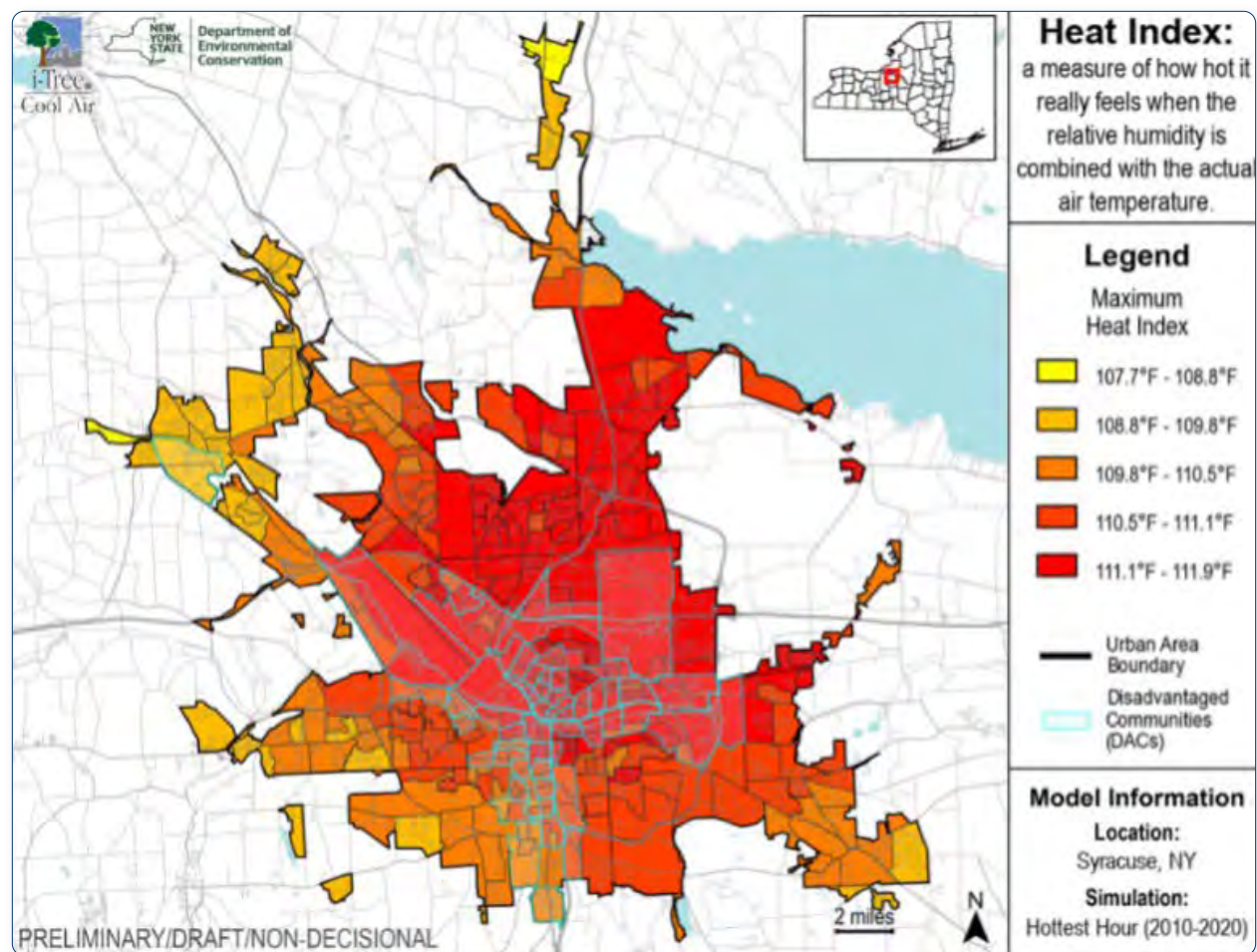
Syracuse is anticipating an influx of population and increased investment in new construction, especially housing; this development must take climate change into account. Most new constructions will have to have air conditioning included and adopt warmer climate architectural styles to accommodate the changes.

These styles and approaches reflect a more indoor-outdoor ethos with emphasis on shade trees, green space, porches, roof decks, patios, balconies, breezeways, fans, and larger windows and doors to promote air flow without having to insulate living spaces and turn the air conditioning on. **Environmentally proactive archi-**



tecture with green landscaping and hard-scaping infrastructure will exponentially return the geographic advantage of the milder temperatures and minimize the neighborhoods' urban heat island effect. The City must direct developers to build sustainably, with respect to the natural environment, and to anticipate the climate of the future.

Figure 1-4
Modeled Heat Index for Syracuse



Air Conditioning/Heat Pumps

Homes and businesses will experience some relief from high winter heating costs. But rising summer temperatures and a longer cooling season will drive people to buy air conditioners and use them more frequently. Today, New York State ranks 37th out of the 50 states in the household use of air conditioning, and in the bottom five in the use of central air.⁹ **New York State and Syracuse in particular have older housing stock that was not built with cooling in mind, and retrofits can be challenging.** Although air conditioning and heat pumps can provide relief from general heat and extreme heat events, they are electricity-in-

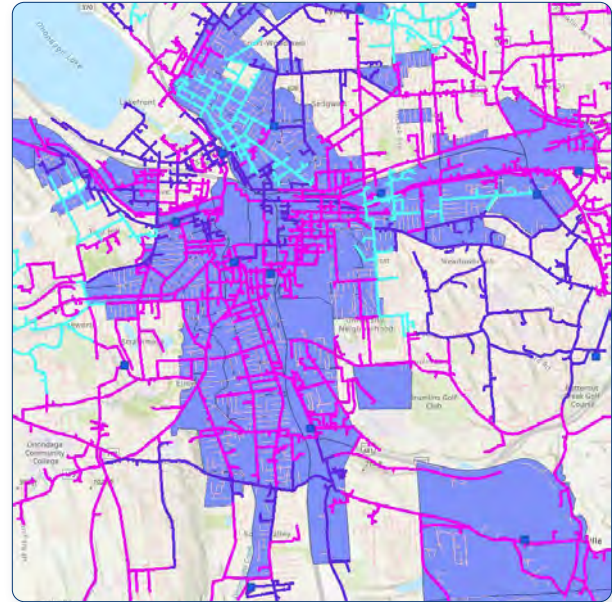
tensive, and electricity is becoming more expensive. **Without a move to energy-efficient cooling equipment, improved insulation, and strategies that are not dependent on technology, utility bills will increase the cost of living and doing business in the region.** At the same time, the increased use of air conditioning will increase the demand on the electric grid, which is in significant need of upgrades just to keep pace with expected growth after decades of stagnant electricity demand.

9. U.S. Energy Information Administration - EIA - Independent Statistics and Analysis. <https://www.eia.gov/consumption/residential/data/2020/index.php?view=state#nc>.

Electricity Grid

After years of stable electricity demand, there is increasing demand for electricity on the New York grid.¹⁰ Although electricity consumption by both the City and the community actually decreased since the 2010 GHG inventory, the arrival of Micron, the expansion of data centers, electric vehicles, heat pumps, and other electricity-intensive consumers points to future growth and higher prices.

As summer temperatures rise with global warming, increased demand could put stress on certain parts of the grid. **The electrical distribution system in Syracuse experiences varying degrees of congestion** (see map of existing capacity for illustrative purposes only)¹¹ with some areas more able to absorb more demand than others (the purple shading shows potential environmental justice areas with high levels of poverty and minority population).



Greater than 1.5 MW
Capacity Remaining



600 kW to 1.5 MW
Capacity Remaining



Less than 600 kW
Capacity Remaining

10. NYISO "2025 Power Trends: The New York ISO Annual Grid and Markets Report". <https://www.nyiso.com/documents/20142/2223020/2025-Power-Trends.pdf/51517a1b-36fa-4f3d-d44d-eabe23598514?t=1749138890547>.

11. National Grid System Data Portal, Electrification Capacity, National Grid New York System Data Portal. <https://systemdataportal.nationalgrid.com/NY/>.



Precipitation

Higher atmospheric and water temperatures cause more evaporation, injecting more moisture into the atmosphere. This results in both more rain and snow, depending on the temperature. This effect is already being felt across New York State: between 1901 and 2022, total annual precipitation (rain and snow) increased by about 10% to 20%. This trend is expected to continue through the end of the century with an additional increase of about 6% to 17%. **Although it is fortunate that New York will not be suffering from chronic reductions in rainfall under climate change leading to drought, the increased rainfall causes more runoff, which can lead to flooding and contamination of rivers, streams, and lakes.**

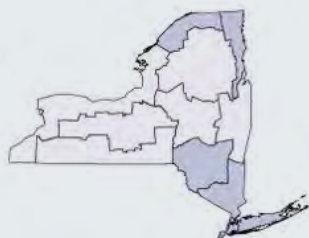
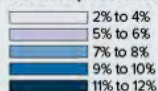
Heavy precipitation events have increased since the 1950s. Although the terrain around Syracuse is not conducive to extreme flooding events as is the case with the Southern Tier or the Adirondacks, certain neighborhoods are prone to “nuisance flooding” (i.e., not catastrophic but certainly extremely disruptive) and certain areas in and near the known FEMA-designated flood plains will experience more flooding in the future. There will also be flooding in areas that have not typically experienced flooding before.

Wear and tear on the sewer and stormwater systems due to repeated extreme events, combined with the simple overloading of these systems is of serious concern to the City and its citizens, who must cope with basement flooding and sewer back-ups; **therefore, identifying actions the community and municipality available to mitigate the impact of floods is a strategic and data driven initiative.**

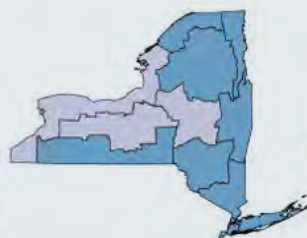


Figure 1-5
Projected Changes to Precipitation
in New York State

Change in precipitation since
baseline (1981–2010), percent



2030s

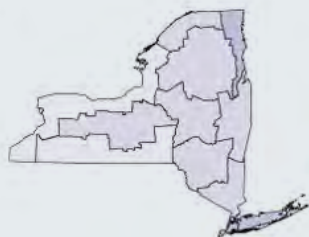
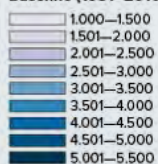


2050s

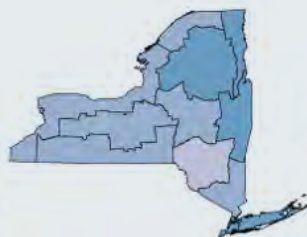


2080s

Change in precipitation since
baseline (1981–2010), inches



2030s



2050s



2080s

Source: New York State Climate Impacts Assessment: Precipitation.
<https://nysclimateimpacts.org/explore-the-assessment/new-york-states-changing-climate/nysc-precipitation/>.



Seasonal Snow and Rainfall

Winter precipitation is projected to increase between 11% and 31% by the 2080s relative to the 1981 – 2010 average, while spring precipitation is projected to increase 6% to 23% over the same period. More of this precipitation will fall as rain rather than snow due to warmer temperatures, with consequences for winter sports, culture, and tourism. It could also cause winter flooding as rain during spring melts and washes away accumulated snow, discharging substantial amounts of runoff into stormwater systems in a single event. The snow that does fall will typically be wetter and heavier, with implications for roofs and other outdoor load-bearing structures. Projections for summer and fall rainfall have been more difficult to forecast.

Climate Change by the Impact

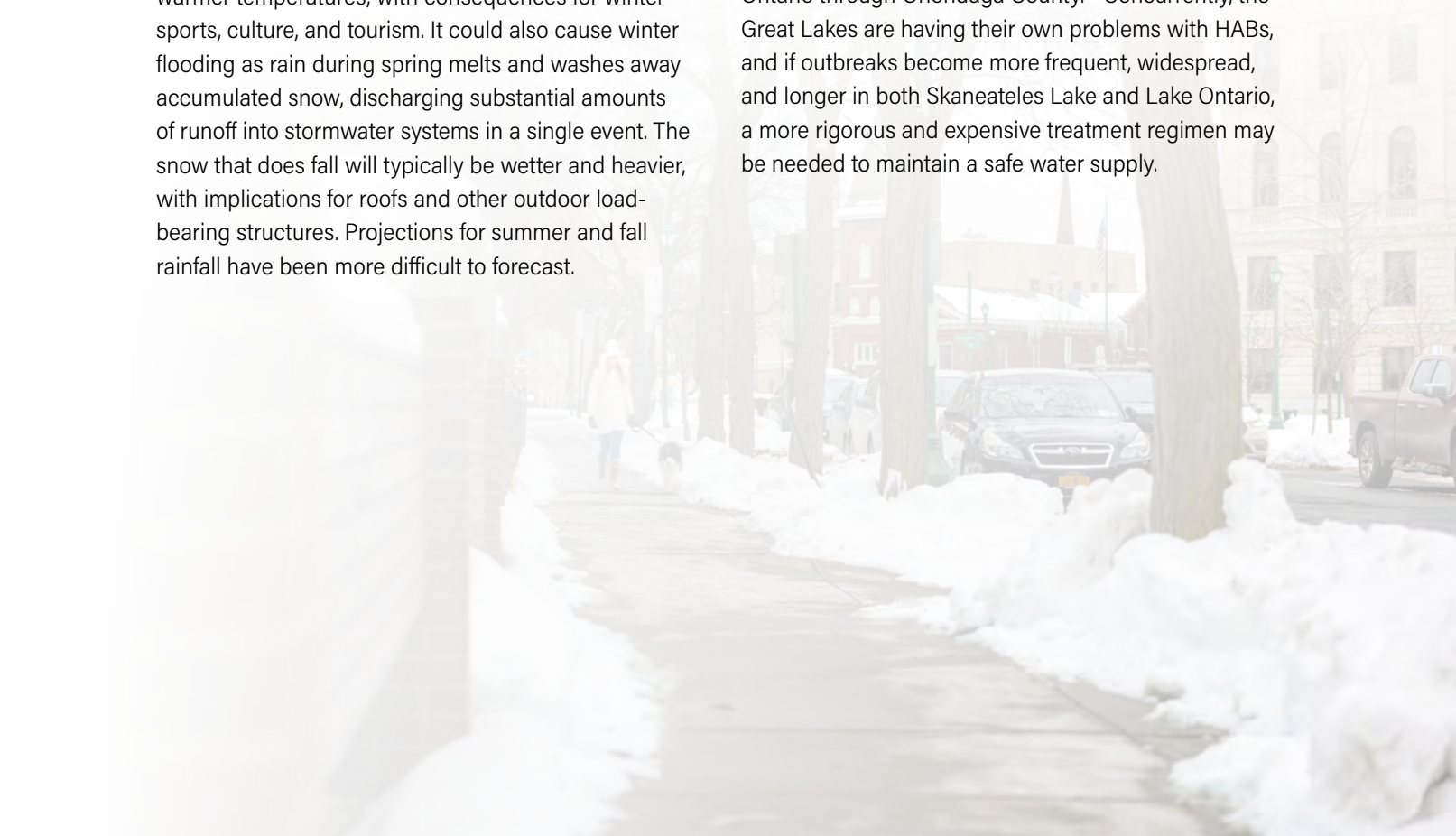
Public Health

Increasing Heat and Water Quality

Syracuse sources its drinking water from **Skaneateles Lake, located 20 miles southwest of the city.**

Water is transported to Syracuse via a gravity-fed system. Skaneateles Lake is one of the cleanest in the world, and one of the few in the country that has been approved as an unfiltered water supply.

Starting in 2017 however, harmful algal blooms (HABs) of toxic cyanobacteria have been observed in the lake at various times in the summer and fall,¹² brought on by higher water temperatures as well as excessive nutrients washed into the lake from the land. Giardia and Cryptosporidium, other disease-causing microorganisms, are also a concern. The drinking water from Skaneateles Lake is monitored and treated with chlorine for disinfection, and then with ultraviolet (UV) light at the Westcott and Woodland Reservoirs. The City also has access to a back-up water supply from Lake Ontario through Onondaga County.¹³ Concurrently, the Great Lakes are having their own problems with HABs, and if outbreaks become more frequent, widespread, and longer in both Skaneateles Lake and Lake Ontario, a more rigorous and expensive treatment regimen may be needed to maintain a safe water supply.



Urban Forests and Public Health

The City of Syracuse owns and manages about 46,401 trees, and thousands more live on private and other public lands. Elevated temperatures are both a potential benefit and hazard to trees. Some tree species will thrive in a warmer climate. Others will experience stress, particularly during extreme heat and droughts. Warmer temperatures, particularly in winter, help the spread of invasive pests that threaten entire species of trees. Historically, Upstate New York's harsh winters killed insects such as the hemlock woolly adelgid (which attacks hemlocks). Those who live in the City long-term will see a noticeable shift in tree species over the coming decades as these changes occur.

Collectively Syracuse's trees provide shade, reduce the urban heat island, protect water resources, bring nature into the City, and otherwise contribute to its livability and beauty. They also sequester carbon from the atmosphere in their wood and roots. They are therefore agents in the fight against climate change and the protection of the City against its negative effects. New York is promoting tree-planting as part of its state-wide Climate Action Plan. As part of the Climate Action Plan, Syracuse can plant more trees, and prioritize the preservation of the existing Urban Forest, to help reduce the negative impacts of both extreme heat and extreme rainfall.



Wild Fire Smoke and Air Quality

As wildfires raged in Canada during the fire season of 2023, 2024, and 2025, smoke has been blown across the northeast United States, including Syracuse. The impact to air quality was sufficient for the State DEC to issue air quality advisories based on the concentrations of fine particles of smoke that lead to both short-term health effects such as eye irritation and shortness of breath and aggravate existing conditions such as asthma and heart disease. **These effects are compounded in urban areas with existing air pollution and intensifying urban heat islands such as Syracuse.** Although not unprecedented, these wildfires have become more frequent and severe, as previously wet northern forests have dried out during extended droughts.

12. HAB Alerts – Skaneateles Lake Association. <https://skaneateleslake.org/bloom-updates/>.

13. Water Frequently Asked Questions – City of Syracuse. <https://www.syr.gov/Departments/Water/Water-FAQs>.

Quality of Life and Public Services

People: Socioeconomics, Demographics, Health, and Housing

It is not news that the City of Syracuse is a challenged socioeconomic environment. The population of Syracuse is uniquely vulnerable in terms of self-reliance and access to social capital. A review of United States Census data from 2023 shows that 48.3% of the population of Syracuse under the age of 18 is below the poverty line, and 22% of the population who is 65 and older are also living in poverty. Rents are low relative to the rest of New York, but the rate of home-ownership (39.3%) is much lower than the state-wide average of 54.1%.

Health and other metrics are also daunting in terms of the numbers of people who may need extra help in their daily lives as well as in climate change preparedness. For example, 16.5% of the population is living with a disability. Only 4.5% have no health insurance, however Syracuse's 31.6% poverty rate drives a high Medicaid enrollment of 31.8%,¹⁴ both indicators of high financial stress.¹⁵ **Lack of housing diversity, quality, and rising regional rents in Syracuse are well-known and well-documented problems tangential to strategies identified in this Climate Action Plan which should be supported in the City's Comprehensive Plan.**

The New York Climate Justice Working Group, as part of the implementation of the Climate Act, developed criteria to map those census tracts that would be disproportionately impacted by climate change. **Figure 1-6** shows that a large number of Syracuse communities are particularly vulnerable to its effects. **This broad classification identifies strong need for climate solutions in the Syracuse Community and identifies ample opportunity to capitalize on specific funding to help socioeconomically challenged environments.**

Climate change will fall hardest on those least able to cope with its effects. Those at the lower end of the socio-economic spectrum, the elderly, disabled persons, and the houseless will find living with the effects of climate change more difficult than the average person. Public and private health and social services organizations will experience increased demand as the climate warms. These types of services are highly dependent on federal, state, and local funding and their reach ebbs and flows depending on these funds. Outreach and support efforts to help vulnerable populations access social, health, and other services, e.g., cooling centers during heat emergencies is a necessary role of government when facing a climate crisis.

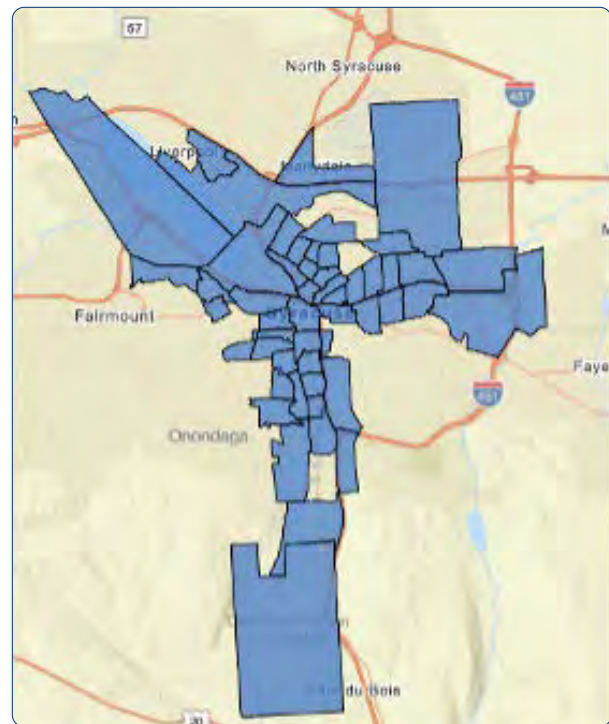


Figure 1-6
Disadvantaged Communities
in the Syracuse Area

14. Medicaid Coverage in New York Counties, 2023—Center For Children and Families. <https://ccf.georgetown.edu/2025/02/06/medicaid-coverage-in-new-york-counties-2023/>.

15. Syracuse city, New York - Census Bureau Profile. https://data.census.gov/profile/Syracuse_city_New_York?g=160X000US3673000.

Impacts to City Budgets

With damaging weather becoming more frequent, the regular wear and tear on City-maintained buildings, streets, sidewalks, storm drains, and other infrastructure will accelerate. Maintaining and repairing the City's assets is a priority but may necessitate difficult choices between maintaining existing infrastructure versus making improvements such as new bike trails, land purchases and restoration, and completing the projects in the Onondaga County Hazard Mitigation Plan (HMP).

In addition, the increased use of air conditioning, combined with the move to electrified heat to reduce emissions and the increasing price of electricity will directly impact the City's fiscal stability. The City's energy bill is over \$2.5 million a year, and is likely to increase 38% over the next 3 years due to these effects. **Projects to increase energy efficiency, cost-effectively implement electrification, and capitalize upon renewable energy opportunities need to be supported to preclude impending pressure on the City budget.**

These types of energy and stormwater projects are specifically intended to mitigate and enhance resilience to climate change, and must be promoted for their multiple benefits that enhance the resilience of the City, reduce costs, and increase quality of life for all.



Mayor Walsh speaking to the importance of sustainability as an aspect of fiscal responsibility and pragmatism at the Sustainable Syracuse Initiative Launch on April 20, 2025 at SUNY-ESF.

Looking to the Future

A Call to Action

The success of both the City and the Community to reduce in GHG emissions speaks to the ability of the City and the Community to get things done even under significant constraints.

Many initiatives that are in development or underway now, such as the I-81 project and the expansion of Bus Rapid Transit (BRT), point to a profound shift in momentum towards positive and long-lasting change. Now is the time to accelerate efforts to reduce GHG emissions and increase climate resilience to establish Syracuse as a resilient, innovative, and prosperous City for all, as put forth in the actions described in the Building a Climate-Ready Syracuse chapter.





2. Engagement Summary

Introduction

The City of Syracuse prioritized engagement during the development process of the GHGI Emissions Report and the Climate Action Plan across community and internal stakeholders. The intention of prioritization was to develop feasible and necessary actions that aligned with community, operational, and future needs of the

City of Syracuse. Additionally, during this engagement period, the City built buy-in and support from the community and internal stakeholders. This chapter outlines the engagement strategy used; further engagement will be essential to implementing the goals and actions outlined in the previous chapters.

A comprehensive summary of the engagement process for this program is provided below and features a summary of the engagement strategy, a summary of results of each specific engagement and how the engagement influenced CAP development/implementation.

WHEN	ENGAGEMENT STRATEGY	
June 2024	ALL CITY STAFF SUSTAINABILITY SURVEY	
WHEN	WHAT	
October 2024 – April 2025	A 10-question survey was distributed to city staff by Mayor Walsh to engage internal stakeholders in the concept of sustainability to inform the City's definition of sustainable operations in the Climate Action Plan.	
WHEN	WHY	
April 2025	This was an early effort to engage internal staff in the concept of sustainability as to allow for their influence and direction while gathering a full understanding of general support for sustainability as a value.	
WHEN	RESULTS	WHAT WE HEARD
June 2025	✓ 110 participants. ✓ 91% indicated interest in involvement with sustainability. ✓ City staff defined sustainability as generational systems thinking.	<i>"Education is the most important effort needed to spread the impact of sustainability. "</i> <i>"Energy reduction is both environmental and cost effective."</i>
WHEN		
July 2025		
WHEN		
September 2025 – October 2025		
WHEN		
March 2026		
	INFLUENCES OF CAP DEVELOPMENT	
	The results of this survey, most specifically the high level of staff interest was used in a formal briefing to the Walsh Administration to advocate for a cross-departmental and intensive CSC Task Force that initially focuses on education and mutual understanding of the impact of sustainability.	

WHEN

June 2024

WHENOctober 2024 –
April 2025**WHEN**

April 2025

WHEN

June 2025

WHEN

July 2025

WHENSeptember
2025 –
October
2025**WHEN**

March 2026

WHEN2026 &
Onward**ENGAGEMENT STRATEGY****BI-WEEKLY
CURRICULUM
CSC TASK FORCE****WHAT**

Mayor Walsh signed an executive memorandum to establish NYS DEC Climate Smart Communities Task Force. The City of Syracuse decided to initially use this tool to engage primarily internal and external operational stakeholders in an intensive 7-month, bi-weekly, sustain-

ability curriculum to foster community and establish a mutual base understanding of what sustainability is, the operational constraints of implementation, and overall impact on municipal and community functions within the portfolio of sustainability.

WHY

The method of which the City of Syracuse formed the CSC Task Force, initially, was to connect operational, planning, and leadership internal stakeholders with external partners in a manner that allowed them to learn about each other's ability and intrinsic constraints to implement sustainability projects while forming a foundational mutual understanding of what those projects could be.

RESULTS

The City's initial CSC Task Force included 27 individuals, which represented 17 different departments and agencies. The CSC Task Force grew to include 45 voluntary members by completion. During the intensive 7-month, bi-weekly curriculum, members were surveyed to assess confusion points and emerging themes. By the conclusion of the intensive curriculum, 82% of participants were very willing to commit to valuing sustainability in their operational workflows, 100% enjoyed working with the CSC Task Force members, 94% elected to attend the sequential quarterly meetings, and Energy Use and Green Building was ranked the highest priority to pursue in the CAP.

**INFLUENCES OF CAP
DEVELOPMENT**

The bi-weekly curriculum stage of the City's CSC Task Force heavily influenced the development of the CAP. At each curriculum meeting there was a themed education presentation to establish a mutual base understanding followed by small group operational feasibility discussions and concluded with each group sharing two to three actions they feel plausible to include pertaining to the educational theme. In later value curriculum meetings, these actions were reviewed to simulate prioritization of implementation. Prioritized actions were formatted into a spreadsheet and shared with the C&S Engineers team at the beginning of CAP action development.

ENGAGEMENT STRATEGY

SUSTAINABLE SYRACUSE INITIATIVE LAUNCH

WHEN

June 2024

WHEN

October 2024 –
April 2025

WHEN

April 2025

WHEN

June 2025

WHEN

July 2025

WHEN

September
2025 –
October
2025

WHEN

March 2026

WHEN

2026 &
Onward

WHAT

The Walsh Administration launched the Sustainable Syracuse Initiative on Earth Day 2025 at SUNY-ESF to announce the City's intention to engage, educate, and empower themselves and the Syracuse Community with tools to lessen carbon footprints, increase climate resiliency, and improve quality of life. Over 200 partners and students were in attendance including the Mayor, SUNY-ESF President, Senior Principal for Sustainability at C&S Engineers, and the NYS DEC Region 7 Director.

WHY

This event was to celebrate the inherited success of the Driscoll and Miner Administrations, in conjunction with the Walsh Administration's sustainability efforts that led to an unprecedented 67% reduction of municipal operations emissions compared to 2012 levels. This event also inspired the community to engage with the forthcoming climate education efforts and for external partners to connect with the Division of Planning and Sustainability with any potential projects that align with the mission of the Sustainable Syracuse Initiative.

RESULTS

- ✓ About 200 attendees.
- ✓ High visibility event with several community leaders in attendance.
- ✓ Formal and visible connection with the institutional partner of SUNY-ESF.

INFLUENCES OF CAP
DEVELOPMENT

Public event with CAP team members on hand to connect and share goals of the CAP with local leaders and supporters of sustainability initiatives.



WHEN

June 2024

WHEN

October 2024 –
April 2025

WHEN

April 2025

WHEN

June 2025

WHEN

July 2025

WHEN

September
2025 –
October
2025

WHEN

March 2026

WHEN

2026 &
Onward

ENGAGEMENT STRATEGY

QUARTERLY CSC TASK FORCE MEETING

WHAT

After the 7-month, 14-week, intensive curriculum, participants of the CSC Task Force, which grew by about 70%, were benchmarked and offered the option to continue participation in quarterly meetings of which the focus is development and implementation of the Climate Action Plan. Of the 42 participants, 94% elected to continue participation and indicated willingness to be a departmental steward for CAP actions and awareness.

WHY

The City was enthusiastic to continue hosting CSC Task Force meetings, under the Owens Administration, as they were popular among cross-department, inter-agency partners, and enthusiastic youth. The meetings were switched to quarterly occurrences to sustain personal capacity for continued engagement. The intention of the meetings shifted from broad education and engagement to pointed discussion of CAP development and implementation progress updates.

RESULTS

- ✓ 42 participants including 22 different departments and external agencies.
- ✓ Sustained attendance and active participation from members to either steward individual projects or act as a departmental/agency champion.

INFLUENCES OF CAP DEVELOPMENT

The quarterly CSC Task Force reviews the current list of CAP actions during each iteration of development to offer insight and advice on feasibility of implementation.

ENGAGEMENT STRATEGY

CSC CLIMATE CHANGE EDUCATION AND ENGAGEMENT PLAN**WHEN**

June 2024

WHENOctober 2024 –
April 2025**WHEN**

April 2025

WHEN

June 2025

WHEN

July 2025

WHENSeptember
2025 –
October
2025**WHEN**

March 2026

WHEN2026 &
Onward**WHAT**

To further the Sustainable Syracuse Initiative, Mayor Walsh signed an executive memorandum to enact the Climate Change Education and Engagement Plan, with structural guidance from the NYS DEC CSC program, to outline methods to connect the Syracuse Community with the tools available to lessen carbon footprints, increase climate resiliency, and improve quality of life. The methods outlined include direct stakeholder engagement, development of organized and publicly available climate education materials, a public meeting series, a community campaign, and youth engagement.

WHY

Outlining, indefinitely, how the City intends to engage and educate the community on climate change will further community support to the implementation of the CAP.

RESULTS

- ✓ EnergySmart CNY engaged the City of Syracuse to support a NYSERDA funded community solar campaign that was enacted by Common Council the next month.
- ✓ The City hosted four public meetings two months after.

INFLUENCES OF CAP DEVELOPMENT

Sections of the Climate Change Education and Engagement Plan support the stakeholder engagement necessary to implement large, community incorporating actions and outline all thematic chapters. Aspects of the Plan are also apparent in the Implementation chapter at the end of the CAP. This connects to the sequential engagement and development of the City's next Comprehensive Plan update.

WHEN

June 2024

WHENOctober 2024 –
April 2025**WHEN**

April 2025

WHEN

June 2025

WHEN

July 2025

WHENSeptember
2025 –
October
2025**WHEN**

March 2026

WHEN

June 2026

ENGAGEMENT STRATEGY**PUBLIC ENGAGEMENT MEETINGS****WHAT**

The City hosted four public engagement meetings to educate the community on four core topics. The topics included Flood Mitigation, Heat Islands and Urban Forestry, Energy and Green Building, and Transportation and Smart Growth. One meeting was held in each quadrant of the City, during the evenings, with meeting themes assigned to the most situationally applicable quadrant. Meetings included a core presentation on climate change in the Syracuse Community accompanied by a thematic presentation from local experts which was followed by open discussion with participants on how to further guide the development of the in-progress CAP. Participants were offered a feedback form and the opportunity to join the Sustainable Syracuse Initiative listserv.

WHY

- ✓ To educate the community on how climate change will impact the City of Syracuse.
- ✓ To highlight local expertise available within the Syracuse Community and engage those experts directly in the CAP development process.
- ✓ To engage the community directly in the CAP development process.

RESULTS

- ✓ Diverse group of community members attended public engagement meetings across City quadrants.
- ✓ Community members validated direction of the CAP actions being developed and offered insight to adjustments that would guide community access to implementation.
- ✓ In total, 10 local experts presented to the community throughout the four public engagement meetings.

INFLUENCES OF CAP DEVELOPMENT

Input gathered from community members and the local experts presenting at the public engagement meetings was documented. This data was organized and used to catalyst conversation with the City, C&S Engineers, EDR, and Prospect Hill to initiate the final round of CAP action development and right-sizing. Community comments from the public engagement meetings are fully reflected in the thematic chapters, implementation strategy, and long-term continued engagement plans.

WHEN

June 2024

WHENOctober 2024 –
April 2025**WHEN**

April 2025

WHEN

June 2025

WHEN

July 2025

WHENSeptember
2025 –
October
2025**WHEN**

March 2026

WHEN

June 2026

ENGAGEMENT STRATEGY**CAP PUBLIC
COMMENTING PERIOD****WHAT**

The Climate Action Plan Public Commenting Period was performed through a digital survey system hosted on the City of Syracuse website, connected to the Sustainable Syracuse initiative web-page. The community is encouraged to provide general feedback after reviewing the document. Feedback will be collected and analyzed by the Division of Planning and Sustainability to inform revisions to the document prior to proposal for adoption by the City of Syracuse Common Council.

WHY

Public oversight and ownership of the CAP with the intention to gather insight and encourage community ownership of action implementation.

RESULTS

- ✓ Extended public commenting period by 3 weeks to widen inclusion of community voices.
- ✓ Received over 150 public comments.
- ✓ Identified key partners and areas in need of development in the draft Climate Action Plan.



ENGAGEMENT STRATEGY

ENVISIONING NEXT STEPS

WHEN

June 2024

WHEN

October 2024 –
April 2025

WHEN

April 2025

WHEN

June 2025

WHEN

July 2025

WHEN

September
2025 –
October
2025

WHEN

March 2026

WHEN

2026 &
Onward

WHAT

Envisioning the next steps of engagement to promote the goals of the Climate Action Plan and greater community education is essential. Without widespread support, the vision of this Plan will not take hold. The movement must be action from many, not just one.

To begin, the City should maintain collaborative conversations with all partners. Climate solutions are always evolving as well as the needs of operational stakeholders and community members. With the adoption of the Climate Action Plan, the City should redesign the Climate Smart Communities Sustainability Task Force to include a broader base of community members, including waste, reuse and food experts, through an implementation committees' structure that specifically analyzes paths for implementation of strategic goals. These partners are outlined in the Build a Climate Ready Syracuse chapter. Additionally, the City should continue regional collaboration with Onondaga County, local entities, and state-wide municipal sustainability professionals through the informal network of MOSS.

The target of community engagement and education should be set for our youth. Working with the Syracuse City School District and local youth organizations will empower young minds with the agency to advocate for a better tomorrow for themselves. Additionally, climate education can encompass green job vocational training that empowers minority and woman groups to participate in the green economy.

WHY

Education and engagement must be sustained to continue climate action in the City of Syracuse. Learning the societal value of climate solutions, today and tomorrow.

RESULTS

- ✓ Greater public understanding of what a climate solution is and can be.
- ✓ Increased community involvement in climate solutions.
- ✓ Sustained interest in climate resiliency and impact.





3. GHG Emissions: Inventory Summary, Trends and Targets

This section summarizes the results of the 2024 Syracuse Municipal and Community GHG Emissions Inventory Report and make estimated projections of the level of effort required to meet the New York Climate Leadership and Community Protection Act (CLCPA) economy-wide GHG emissions reduction targets. The targets are 40% emissions reductions by 2030 and 85% by 2050, from the 1990 baseline, to put New York on a path towards carbon neutrality while ensuring equity, system reliability, and a just transition from a fossil fuel to a clean energy economy.¹⁶

This Climate Action Plan adopts these targets as benchmarks of success moving forward. Due to Syracuse not having a 1990 baseline, the Plan will use the 2002 emissions inventory for that purpose.

The City of Syracuse completed GHG inventories for the years 2002 and 2010 for both the community and for municipal operations, which enables the 2024 inventory to be compared against these benchmarks. Goals of a 40% reduction in municipal and 7% reduction in community emissions, against the 2002 baseline, were set in the 2012 Sustainability Plan.

These goals were both exceeded with a 67% reduction in municipal emissions, and 29% reduction in community emissions. A full description of the sources, data, and methods employed in the calculation of the 2024 GHGI can be found in the GHGI Emission Report.

Municipal Inventory

The Municipal Inventory included emissions from the following sources:

- Natural gas combustion for heating of City-owned buildings (Scope 1)
- Fuel consumption by City-owned fleet vehicles (Scope 1)
- Refrigerant losses from City-owned cooling systems (Scope 1)
- Energy related to treating the City's drinking water (Scope 1 + 2 – folded into the electricity and natural gas figures for municipal buildings)
- Electricity consumption for powering buildings and infrastructure such as streetlights (Scope 2)
- Carbon sequestration by the City's urban forestry program (Scope 3)
- Fertilizer use throughout the City (Scope 3)

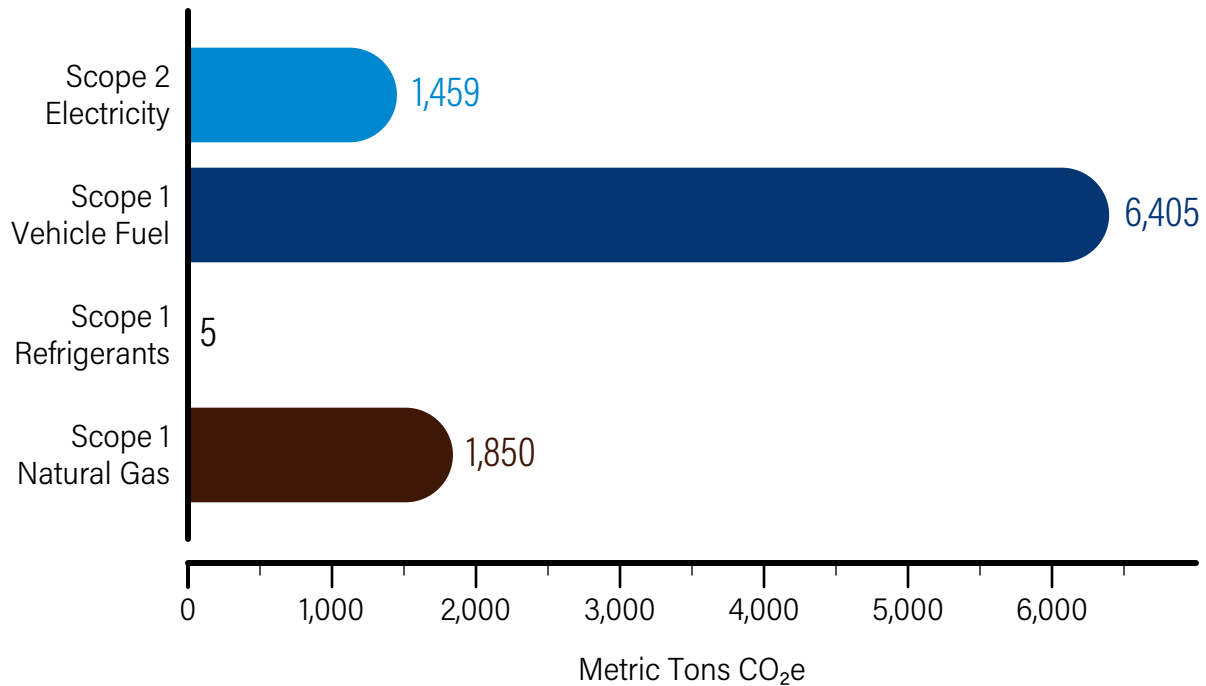
Total municipal emissions for 2024 were calculated to be 9,269 metric tons of carbon dioxide equivalent (MT CO₂e) of Scope 1 and Scope 2 emissions.

The key constituents and trends in GHG emissions for the municipal inventory are illustrated in the two figures below. The first graph shows the key components of the 2024 inventory. The second graph shows the trend in emission reductions by major source since 2002.



¹⁶. CLCPA Scoping Plan, page 3.

Figure 3-1
Municipal Inventory: Key Components of 2024,
Scope 1 and 2 Emissions



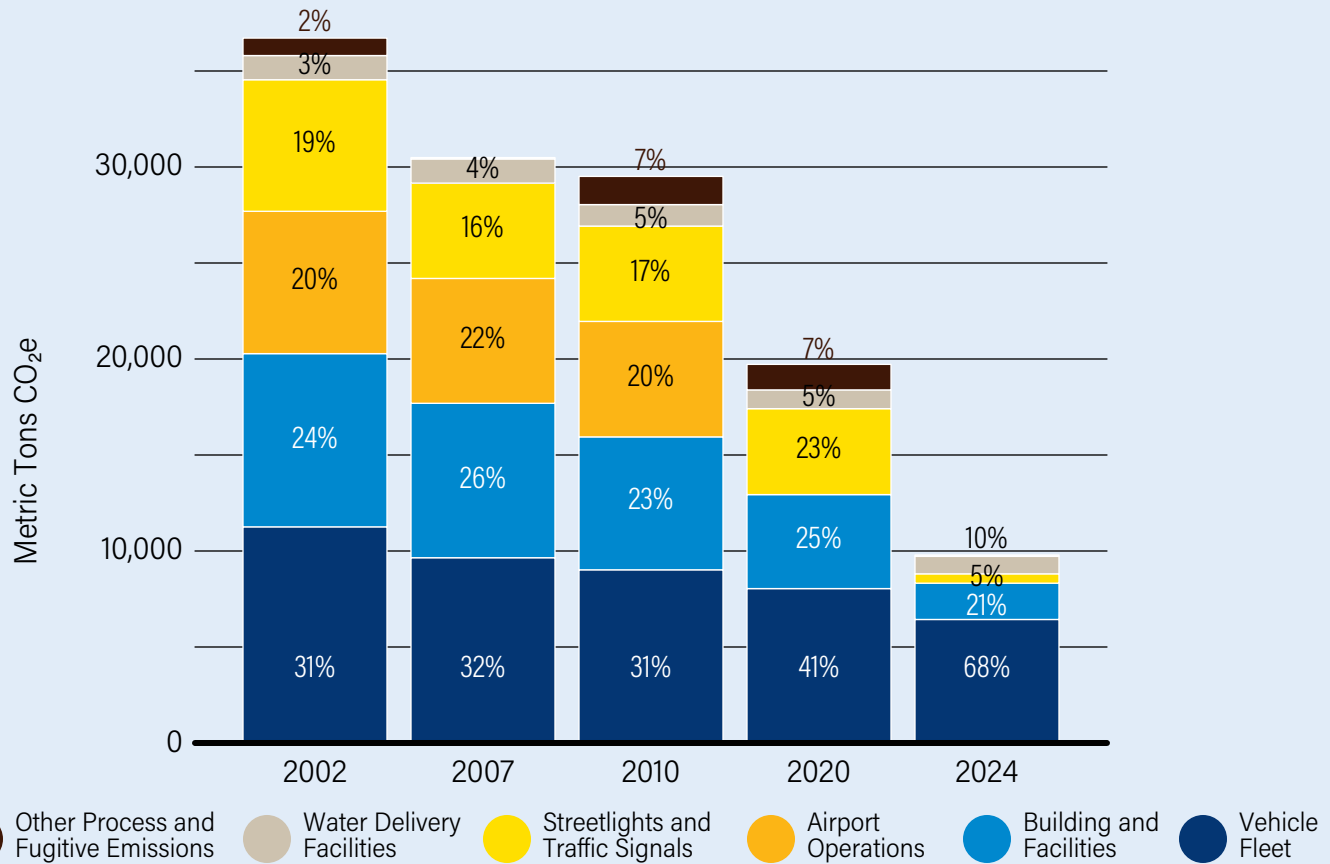
Municipal Inventory • Key Components of 2024, Scope 1 and 2 Emissions
Source: City of Syracuse, C&S Engineers, 2025.



Scope 3 Emissions

Scope 3 emissions were calculated for the CO₂ sequestered by trees located on City property, including parks and City rights-of-way. Scope 3 also includes the CO₂ produced when treating City areas with fertilizer, including parks, trees, and planters. **The annual amount of carbon sequestered by City-owned trees was estimated at 1,197 MT CO₂e/year.** Emissions from fertilizer use were calculated at 8.33 MT of CO₂e, combined for a net carbon removal of approximately 1,189 MT CO₂e/year. The net carbon sequestration in Scope 3 emissions is not being used to “cancel out” the Scope 1 and 2 emissions from an accounting perspective, but the number does show the value of the City’s trees as part of the fight against climate change.

Figure 3-2
Municipal GHG Emissions, 2002 – 2024



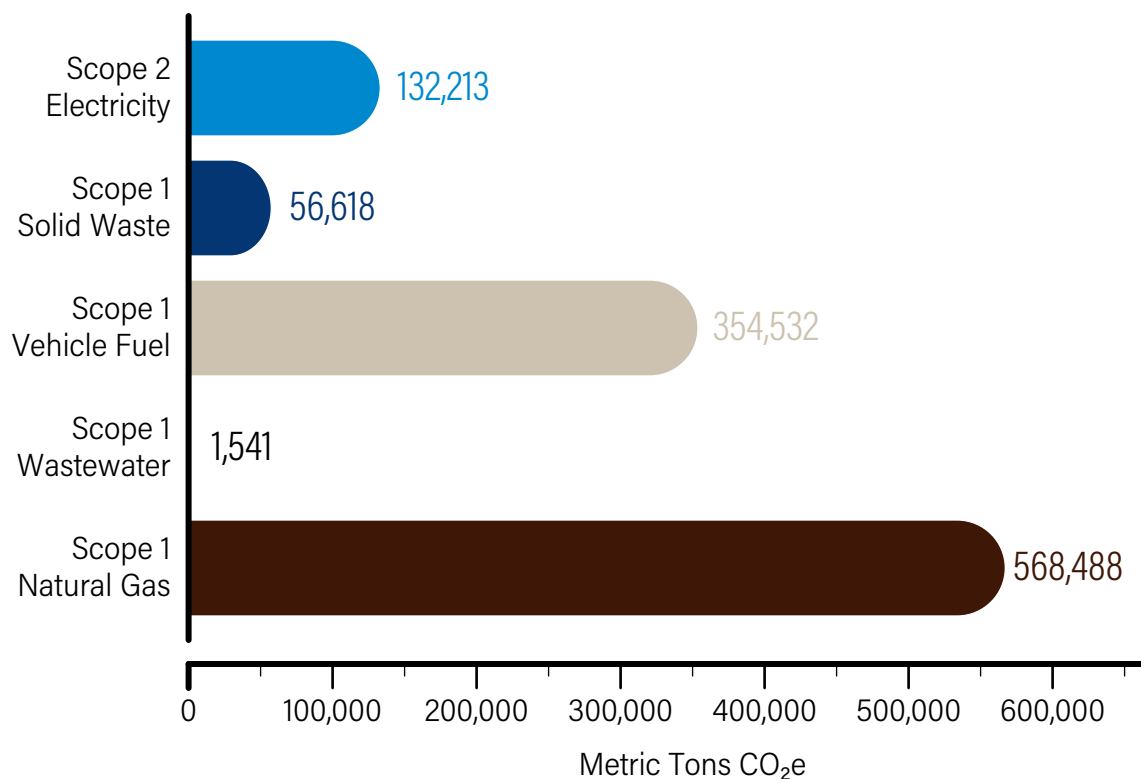
Municipal GHG Emissions, 2002 – 2024
Source: City of Syracuse, C&S Engineers, 2025.

Table 3-1
Municipal GHG Emissions, 2002 – 2024

MT CO ₂ E PER YEAR	2002	2007	2010	2020	2024
Other Process and Fugitive Emissions	901	69	1,466	1,320	5
Water Delivery Facilities	1,282	1,256	1,080	972	923
Streetlights and Traffic Signals	6,852	4,956	5,020	4,470	452
Airport Operations	7,439	6,564	5,961	0	0
Buildings and Facilities	8,996	7,989	6,928	4,928	1,934
Vehicle Fleet	11,251	9,674	9,039	8,039	6,405

Note: The airport was removed from City jurisdiction after the 2020 targets were set in the 2012 Sustainability Plan, and therefore the airport is not included in the 2020 targets in the graph above to ensure that reductions achieved in 2024 are not exaggerated.

Figure 3-3
**Community Inventory: Key Components of 2024,
 Scope 1 and 2 Emissions**



Community Inventory • Key Components of 2024, Scope 1 and 2 Emissions
 Source: City of Syracuse, C&S Engineers, 2025.

Community Inventory

The Community Inventory included emissions from the following sources:

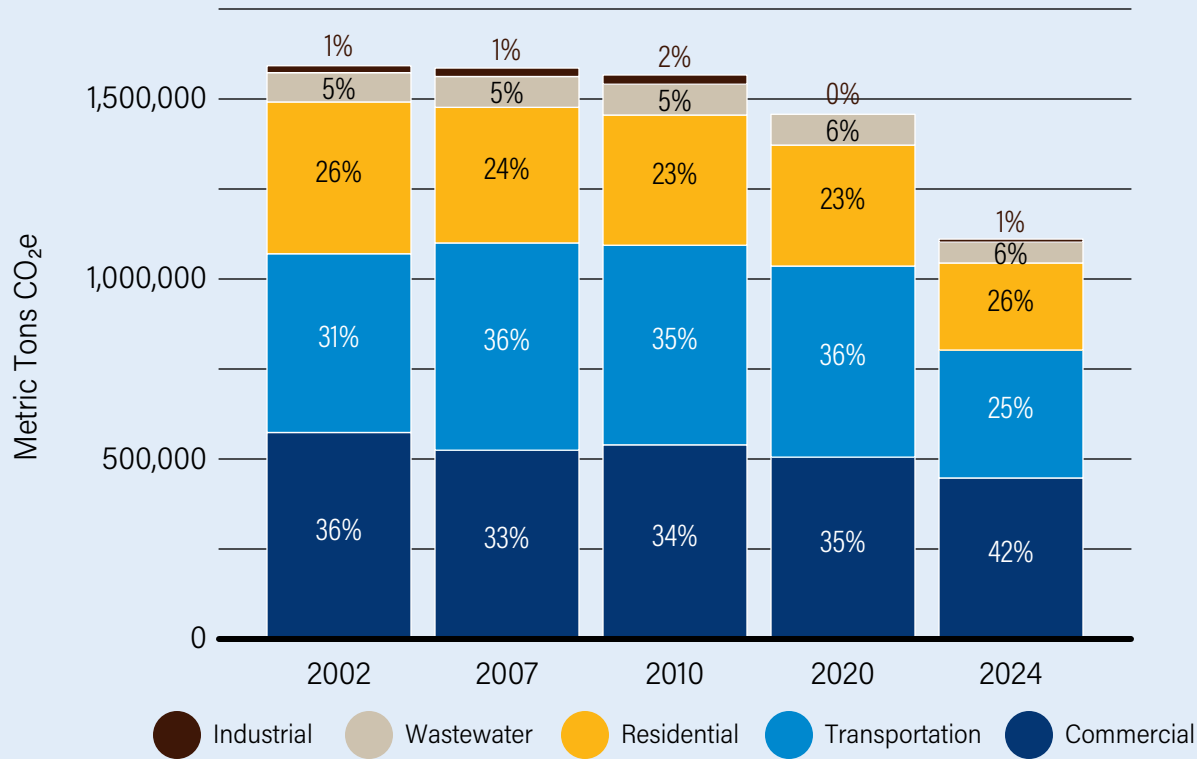
- Natural gas combustion for heating in project boundary (Scope 1)
- Fuel consumption from vehicle miles traveled within the project boundary (Scope 1)
- Wastewater treatment process emissions (Scope 1)
- Municipal solid waste (Scope 1)
- Electricity consumption for powering and conditioning buildings with the project boundary (Scope 2)
- Fertilizer use within project boundaries (Scope 3)

Community Inventory Scope 1 and 2 Emissions

Emissions from the Community Inventory resulted in 1,113,394 MT CO₂e of Scope 1 and 2 emissions.

The main constituents and the trends in GHG emissions for the municipal inventory are illustrated in the two figures below, which illustrate the magnitude of the decline in emissions since the first inventory was taken in 2002.

Figure 3-4
Community GHG Emissions, 2002 – 2024



Community GHG Emissions, 2002 – 2024
 Source: City of Syracuse, C&S Engineers, 2025.

Table 3-2
Community GHG Emissions, 2002 – 2024

MT CO ₂ E PER YEAR	2002	2007	2010	2020	2024
● Industrial	20,994.40	23,560.00	24,242.60	—	9,498.53
● Wastewater	81,428.10	85,698.60	86,005.10	85,996.00	58,159.20
● Residential	420,410.40	375,679.50	363,654.50	335,336.00	241,500.94
● Transportation	497,122.60	577,390.30	552,943.30	530,825.00	354,531.77
● Commercial	573,583.70	523,319.30	539,591.80	505,592.00	447,527.90

GHG Emissions, Targets, and Forecasts

CLCPA Alignment

Alignment with New York State's 2019 Climate Leadership and Community Protection Act (CLCPA) is a priority of the City of Syracuse's Climate Action Plan (CAP). The CLCPA set economy-wide emission targets to reduce GHG emissions to mitigate increasing risks and improve opportunity for climate equity. These targets are a 40% reduction of economy-wide emissions by 2030 and an 85% reduction by 2050, compared to 1990 baseline emission levels.

The emission reduction forecasts in [Figure 3-5](#) and [Figure 3-6](#) forecast effort for the municipality and the community to achieve the CLCPA targets by 2050. The three circles on each graphic show the 2002 baseline, then the 2030 and 2050 reduction targets. Both graphs show a dark blue line which illustrates what happens if nothing changes except the decarbonization of the grid: although clean electricity is important, its effects are minimal if natural gas heating and vehicles are not electrified. **The stacked columns show the impact each year of expected emission reductions (about 4% annually) following business-as-usual consumer choice shifts in the markets of vehicle electrification, natural gas electrification, energy efficiency, and refrigerant management.**

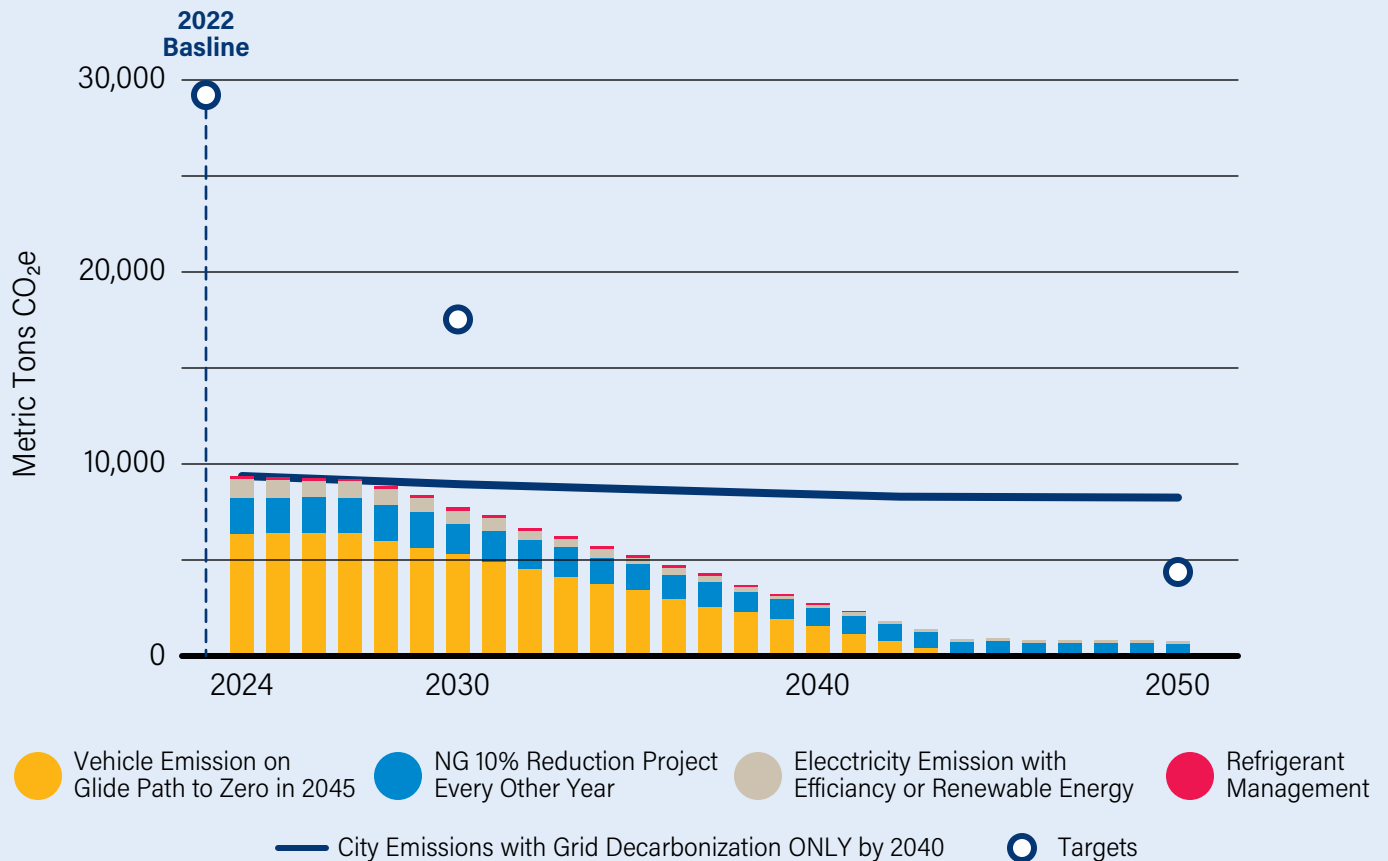
Even using 2002 as a baseline, the City has already achieved the 40% reduction target. The Community Inventory is close and could achieve the targets through collective effort. To close the gap and increase emission reductions past CLCPA targets, specific actions were prioritized, through stakeholder engagement, to guide the municipality and community. These specific actions to reduce emissions are outlined following the forecasting graphics. These actions are further contextualized and detailed in the Building a Climate Ready Syracuse chapter.



NEW YORK'S
CLIMATE LEADERSHIP and
COMMUNITY PROTECTION ACT



Figure 3-5
City of Syracuse Municipal Operations Forecast

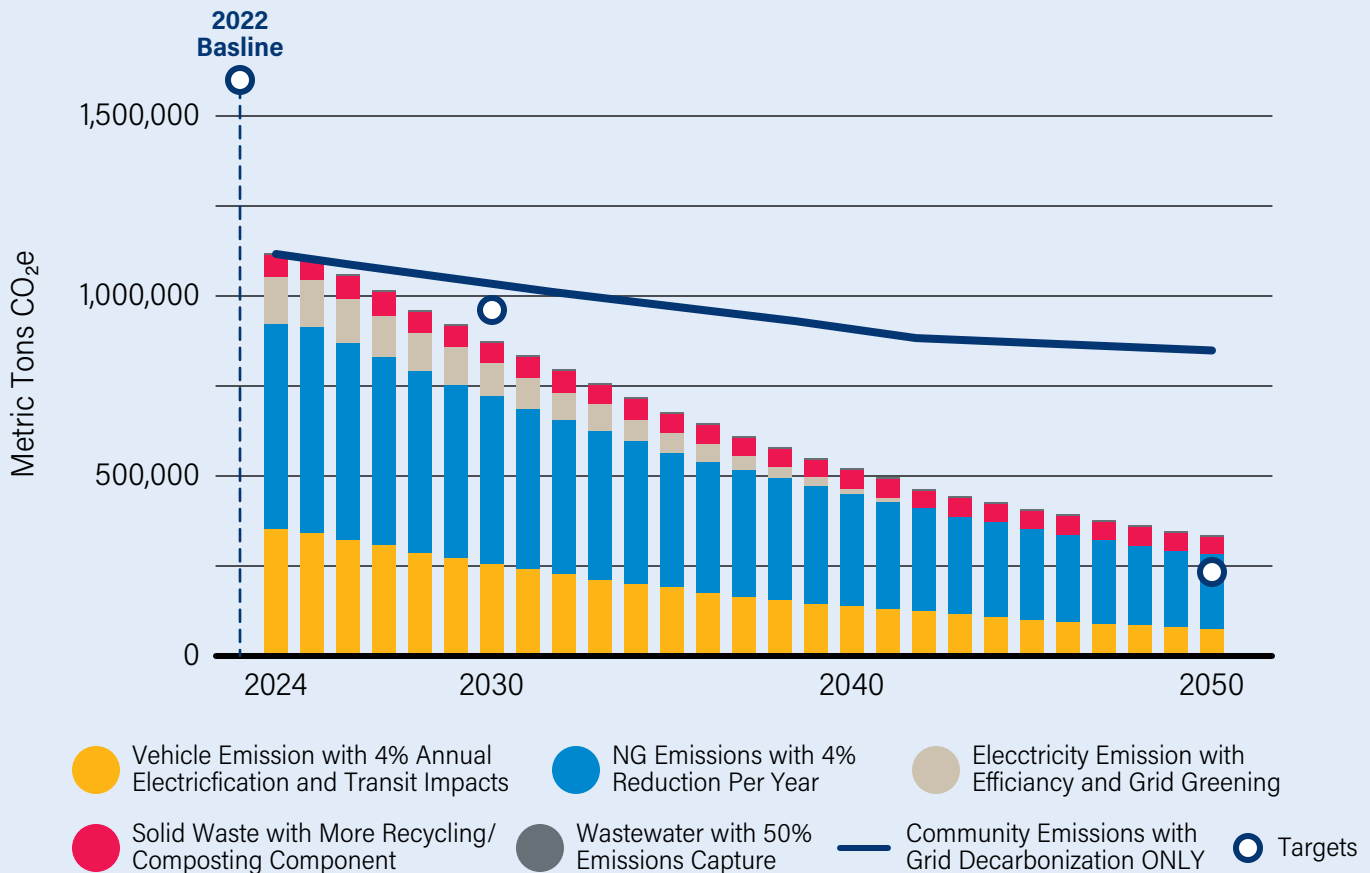


City of Syracuse Municipal Operations
Projected Emissions to 20250 with Comprehensive Building and Fleet Decarbonization vs. Business as Usual that Includes Grid Decarbonization.

Municipal Forecast

This figure shows future municipal operations emissions declining as a result of building energy efficiency and electrification, the transition of the municipal vehicle fleet to electric or low-carbon fuels over approximately 18 years, better refrigerant management, and the greening of the grid (over which the City has no control). The City may be able to achieve the 85% reduction with relative ease as it has a significant head start—it only has to cut its 2024 emissions in half. **The projections show the City far exceeding the CLCPA 85 percent target by 2050, largely depending on the transition of the municipal vehicle fleet, which logically is where the City should focus its efforts.**

Figure 3-6
City of Syracuse Community Emissions Forecast



City of Syracuse Community Emissions
Projected Emissions to 20250 with Comprehensive Building and Fleet Decarbonization vs. Business as Usual that Includes Grid Decarbonization.

Community Forecast

Since the City's emissions are less than one percent of the Community's emissions, it is important to focus on community-level reduction measures. The community may have a more challenging time reaching its 85% goal than the City. These projections took a conservative view of technological change and adoption, recognizing that buying cars and improving the efficiency of buildings are matters of individual choice that are affected by prices, incentives, and the performance of the technology itself. The business-as-usual consumer choice rate for electrification of natural gas and vehicles was therefore assumed at 4% per year. At that rate, the Community could achieve the 2030 goal but not the 2050 goal: efforts would have to accelerate after 2030 to catch up.



Municipal Emission Reduction Actions

The City of Syracuse celebrated a 67% reduction of emissions in the GHGI Report compared to 2002 base-line emission levels. **To further this pattern and align with the 2030 and 2050 goals of the CLCPA, the City outlines several actions.**

Specifically, but not limited to, in the Energy and Green Building Strategy, the City outlines an action to perform ASHRAE building and facility audits **(1.2.1)** to inform energy efficiency upgrades **(1.2.2)** such as heat pumps which would greatly reduce municipal natural gas Consumption. Once accomplished, or simultaneously, the City can begin to pursue renewable energy sources **(1.3.3)**. In the Transportation Strategy, the City outlines an action to transition Light Duty Vehicles **(2.3.3)** in the municipal fleet that lessens the carbon emissions of operational transportation. Lastly, in the Natural Environment Strategy, the City adheres to and promotes action to enforce its recently developed Municipal Tree Ordinance in pursuit of urban forestry expansion **(4.2.2)** that increases capacity in the City to sequester carbon emissions.

1.2.2 Municipal Building and Facilities Upgrades.

Perform building efficiency upgrades based on ASHRAE audit recommendations such as LED lights, metering installation, heat pumps, building envelope upgrades, etc.

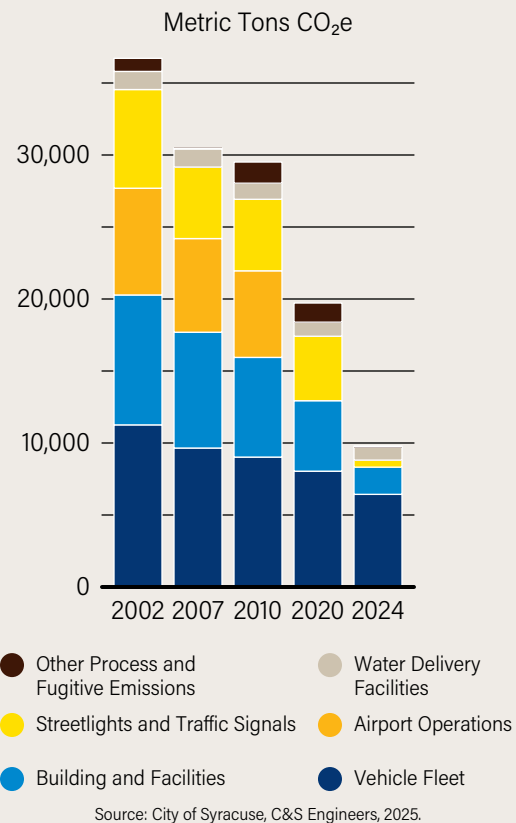
1.3.3 Municipal Renewable Generation and Storage.

Based on renewable energy generation and storage feasibility studies, implement renewable energy generators and associated storage facilities (batteries).

2.3.3 Light Duty Vehicle Fleet Transition.

Transition 10% of the light-duty-vehicle fleet by 2035. Start with administrative vehicles, then cycle department vehicles upon end-of-life. Use lease agreements with dealerships for maintenance.

MUNICIPAL GHG EMISSIONS, 2002 – 2024



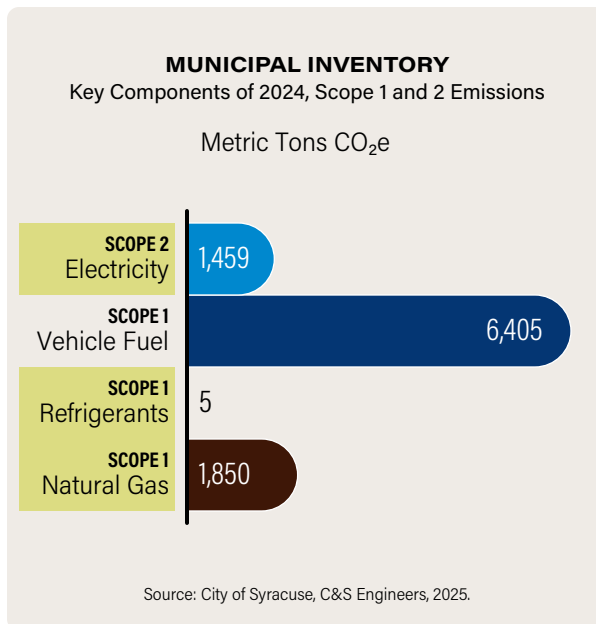
Estimated yearly emission reduction between a Gas-powered Chevy Equinox and All-electric Chevy Equinox is 2.13 metric tons of carbon with a projected lifetime savings (8 years) of 25.6 metric tons of carbon.

Source: A. Mazzone, Energy Program Manager at CNYRPDB & NYSEDA CEC Advisor, personal communication, June 11, 2025.



4.2.2 Maximize Tree Coverage on City Land.

Increase support for and continue implementation of the City's Urban Forestry Master Plan and Municipal Tree Ordinance including the initiative (in process) to modernize the tree ordinance.



Building and Facility envelope upgrades, to include roof and piping, could reduce hundreds of millions of CO₂ emissions over a 30-year period in commercial buildings.

Source: Independent Study Confirms Insulation Upgrades Save Energy and Emissions in Existing Buildings. (2023). Retrieved December 29, 2025, from <https://insulation.org/io/articles/independent-study-confirms-insulation-upgrades-save-energy-and-emissions-in-existing-buildings/>.

Community Emission Reduction Actions

The Syracuse Community celebrated a 29% reduction of emissions in the GHGI Report compared to 2002 baseline emission levels. **To further this pattern and align with the 2030 and 2050 goals of the CLCPA, the Syracuse Community is encouraged by the CAP to engage in several actions.**

Specifically, but not limited to the Energy and Green Building Strategy, the Community has the opportunity to engage with municipal partners to educate themselves on the benefits of and funding opportunities for building envelope upgrades **(1.2.3)** such as heat pumps which reduce natural gas consumption and pursue renewable energy generation **(1.3.1)**, sequentially or simultaneously. In the Transportation Strategy, the Community is encouraged to engage in alternative and public transportation **(2.1.1 & 2.1.2)** to reduce single-use vehicle use and, therefore, decrease community VMT emissions.

Lastly, in the Natural Environment Strategy, the Community, and Agencies within the Community, are encouraged to pursue the expansion of food waste reduction **(4.3.1)** and composting access expansion **(4.3.2)** as to reduce methane levels in waste processing facilities. In addition to reducing emissions, these actions, amongst several others, will reflect and magnify beneficial changes taking place in Syracuse such as widespread improvements in transportation infrastructure, increased vehicle efficiency and cheaper electric vehicles, more use of renewable energy, and more electrified energy-efficient buildings. It is key to ensure that the benefits are broadly accessible to all who live in the City of Syracuse.

The next section will identify the climate actions that the Syracuse Municipal Government and the Community will undertake to reduce GHG emissions, increase climate resilience, and prepare for a climate-impacted future.

1.2.3 Community Building and

Facilities Upgrades. Promote opportunities for residents, businesses, and organizations to upgrade their buildings and facilities to be more energy efficient such as heat pumps, LED lights, building envelopes, etc.

1.3.1 Community Renewable Generation.

Promote opportunities for residents, businesses, and organizations to utilizing existing renewable energy sources (Community Solar subscriptions) or implement their own generation and storage systems.

2.1.2 Centro-Bus Rapid Transit System. Promote the use of BRT system through education and map distribution.

Communities with strong public transportation networks can reduce the United States emissions by 37 million metric tons of carbon yearly.

Source: Reducing Your Transportation Footprint. Retrieved on December 29, 2025 from <https://www.c2es.org/content/reducing-your-transportation-footprint/>.

4.3.1 Gleaning and Food Waste. Utilize the NYS Food Donations and Food Scrap Recycling Law, and local organizations such as the Onondaga Food Rescue Network to divert food waste that lowers emissions and addresses community hunger.

4.3.2 Composting and Organic Waste Management. Educate community members on composting and organic waste management practices to divert waste from the landfill. The composting material can additionally be used for urban agriculture systems and fertilizer needs.

Methane has a warming impact 86 times stronger than CO₂. Waste from food and other organic materials account for 20% of methane emissions.

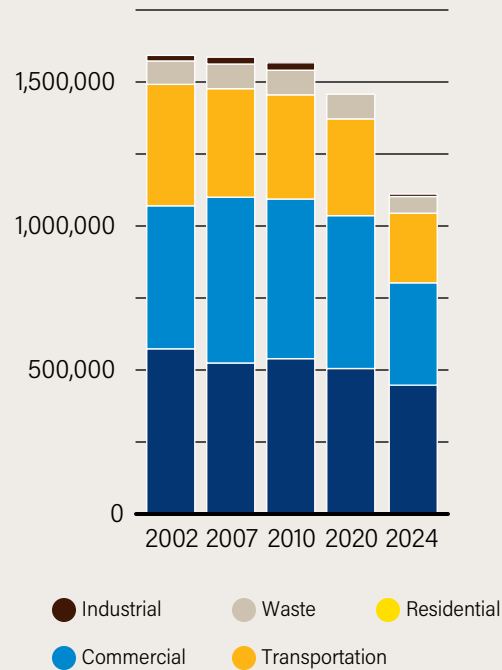
Source: Climate and Clean Air Coalition, Methane. (2021). Retrieved December 29, 2025, from <https://www.ccacoalition.org/short-lived-climate-pollutants/methane>.

Emission Reductions and Strategic Action to Improve Climate Resiliency and Quality of Life for All

Actions to reduce greenhouse gas emissions can, and often do, improve quality of life. This chapter specifically acknowledged core GHG emission reduction actions for the municipality and community to take to achieve targets set by New York State in the Climate Leadership and Community Protect Action. The sequential chapter will highlight these actions, and others, that aim to improve climate resiliency and quality of life, for all.

COMMUNITY GHG EMISSIONS, 2002 – 2024

Metric Tons CO₂e

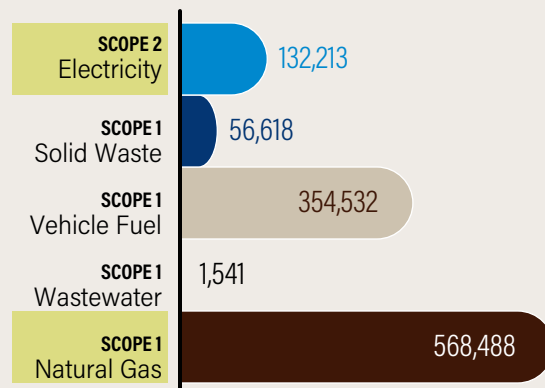


Source: City of Syracuse, C&S Engineers, 2025.

COMMUNITY INVENTORY

Key Components of 2024, Scope 1 and 2 Emissions

Metric Tons CO₂e



Source: City of Syracuse, C&S Engineers, 2025.



4. Building a Climate-Ready Syracuse

This chapter reflects efforts of a comprehensive and community-centered plan to reduce greenhouse gas emissions while strengthening Syracuse's resilience to a changing climate.

Together, **these strategies focus on sectors that contribute to the largest local emitters found in the 2024 Greenhouse Gas Emission Inventory and are core climate adaptation levers to improve community resiliency.** These include Green Building and Energy Use, Transportation, Climate Adaptation and the Natural Environment. Goals of the strategic focus areas support New York State's climate targets and address other strategies for climate resilience to include food, waste, and reuse systems. **By pairing innovation, smart growth, and strong partnerships with a commitment to equitable implementation, the City of Syracuse continues to position itself to deliver climate solutions that are practical, affordable, and impactful.**

Across municipal operations and the greater Syracuse community, improving energy management and efficiency, then investing in renewable generation and storage are essential. Investments in energy management, building envelopes, electric heating and cooling systems, and renewable energy will reduce utility costs, improve comfort, and lower emissions from the City's aging building stock. Simultaneously forming a transportation system to expand micro and public transit options, alongside strategic electrification of vehicles and charging infrastructure, will lower emissions, improve air quality, safety, and economic access.

Syracuse must prepare for the local impacts of climate change, particularly extreme heat and increasing precipitation. This section advances a proactive climate adaptation framework that combines green infrastructure, flood mitigation, urban forestry, cooling access, and public education. Protecting and expanding our natural environment mitigates the effects of climate change and improves quality of life. The natural environment chapter explores avenues to utilize nature-based solutions to achieve the same.

Together, the goals of this chapter form an integrated approach to mitigation and adaptation that recognizes climate action as both an environmental necessity and an opportunity to improve public health, affordability, equity, and quality of life. **Through collective action, the Syracuse Community will build a prosperous community for today's generation and those yet to come.**



Green Building and Energy Use

What

Building and Facility operations account for 34% of municipal operations emissions and 69% of the Syracuse Community's carbon footprint (2024 GHGI Report, page 4, 28). **Across the nation, Building and Facility emissions are consistently the highest emitting sector in community profiles.** To adhere to New York State's goals of 40% (2030) and 85% (2050) economy wide emission reductions it is essential that both the community and municipality intentionally consider their electrical, natural gas, and refrigerant emissions to find pathways for efficient energy use. As energy efficiency improves, both sectors should strive to increase dependency on renewable energy production.

It is essential that both the community and municipality work to understand their base level of energy use and source. Partners such as National Grid and New York State agencies (NYSERDA) offer opportunities to manage and understand baseline energy use. Both sectors should strive to distinguish fiscal opportunities that empower them to improve building envelopes such as insulation, efficient appliances and Electric heating/cooling mechanisms. **After energy use is understood and buildings are adequately updated, both sectors can pursue renewable energy opportunities such as community solar subscriptions or renewable energy generation and storage infrastructure.**

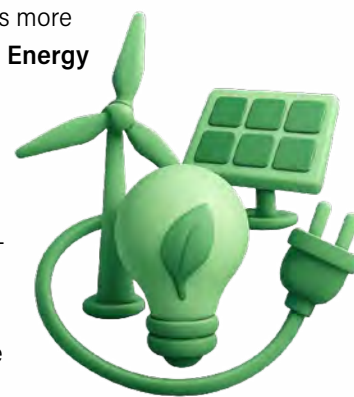
Work outlined in the Green Building and Energy Use chapter builds on a precedent of action within the Syracuse Community and municipal government. Prior actions taken include installation of LED streetlights, LED building light upgrades, subscriptions to renewable energy sources, installation of renewable energy generation, and the "greening of the grid" by the public utility.

The 'greenest' building is the one already built. The City of Syracuse and Syracuse Community must act on their current building portfolios to ensure compliance with NYS's CLCPA (2019). The goals of this chapter encompass actions to move toward an energy efficient and resilient community.

Why

Using less energy will make Syracuse homes, businesses, and public buildings more affordable and comfortable. **Energy efficiency lowers utility bills, reduces greenhouse gas emissions, and improves indoor air quality.** By supporting projects that improve insulation, lighting, and heating systems, the City will create cleaner, healthier neighborhoods, a resilient economy, and improve quality of life for all.

Intergovernmental, cross-departmental and external active coordination through all levels of government within City Hall and externally will ensure that Actions surrounding emission reductions can be accomplished. It will take a continued, proactive, and collective approach, led by the City to ensure energy approach to keep everyone at the table focused on energy efficiency and building improvement prioritizations.



Partners

- ✓ National Grid
- ✓ NSYERDA Flex Tech Program
- ✓ Clean Energy Communities
- ✓ City Engineering Department
- ✓ City Public Works Department
- ✓ NYPA
- ✓ City Budget Department
- ✓ Syracuse University
- ✓ SUNY-ESF
- ✓ City Communications Department
- ✓ Central New York Regional Planning and Development Board
- ✓ EnergySmart CNY

Public Health Connection

Improving building efficiency and energy use requires upgrades to the building structure envelope.

Improving a building structure has numerous benefits other than energy efficiency, particularly related to public health. For example, unrestricted air flow increases air quality that contributes to decreased asthma symptoms and allergic reactions. Another benefit of heat pumps, used to heat and cool buildings, is that they expand access to cooling mechanisms, currently lacking in aging housing stock which lessens public health concerns during heat waves.



Over 50 years, existing residential buildings with proper air sealing and insulation could save energy costs ranging from 10% to 45%.

Source: Independent Study Confirms Insulation Upgrades Save Energy and Emissions in Existing Buildings. (2023). Retrieved December 29, 2025, from <https://insulation.org/io/articles/independent-study-confirms-insulation-upgrades-save-energy-and-emissions-in-existing-buildings/>.

Subscription to community solar power sourcing will result in a bill credit on your utility bill that can range from about 5% to 20% of the total energy bill.

Source: Community Solar Basics. Retrieved December 29, 2025 from, <https://www.energy.gov/eere/solar/community-solar-basics>.

FUN FACT

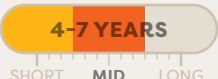
The City of Syracuse's average building age is 70 years old!

Timeline of Actions

Municipal & Community

SHORT TERM 1-3 YEARS	MEDIUM TERM 4-7 YEARS	LONG TERM 8 - 10 YEARS	CONTINUOUS
Energy Management System (1.1.3)	Municipal Building and Facilities Upgrades (1.2.2)	Commercial Building Award System (1.1.2)	Smart Metering (1.1.1)
Building and Facilities Audits (1.2.1)	Municipal Renewable Energy Generation and Storage (1.3.3)		Community Building and Facilities Upgrades (1.2.3)
Municipal Renewable Feasibility Studies (1.3.2)			Community Renewable Energy Generation (1.3.1)

Green Building and Energy Use

STRATEGIES AND RESPONSIBILITIES	GOAL AND ACTION(S)	TIME FRAME
ORGANIZED OPERATIONS	Community 1.1.1 Smart Metering Promote utility (National Grid) tools for residents, business, and organizations to meter their energy use. Potential Funding NA	 CONTINUOUS SHORT MID LONG
	Municipal 1.1.2 Commercial Building Award System Create an award system to acknowledge commercial and residential leaders in efficient energy use and management using Energy Star Portfolio. Potential Funding NYS DEC Climate Smart Communities	 8-10 YEARS SHORT MID LONG
	Municipal 1.1.3 Energy Management System Construct, contract, or hire an internal position to manage municipal energy bills and energy use for the annual on average electrical load of 14,480,380 kwh. Potential Funding NYSEDA • NYS DEC Climate Smart Communities	 1-3 YEARS SHORT MID LONG
EFFICIENT ENERGY USE	Municipal 1.2.1 Building & Facilities Audits Conduct ASHRAE level 2 or 3 building efficiency audits for 50-75%, or more, of the City's existing energy portfolio. Potential Funding NYSEDA • NYS DEC Climate Smart Communities	 1-3 YEARS SHORT MID LONG
	Municipal 1.2.2 Municipal Building & Facilities Upgrades Perform building efficiency upgrades based on ASHRAE audit recommendations such as LED lights, metering installation, heat pumps, building envelope upgrades, etc. Potential Funding NYSEDA • NYS DEC Climate Smart Communities • NYS DOS • NYPA	 4-7 YEARS SHORT MID LONG
	Community 1.2.3 Community Building & Facilities Upgrades Promote opportunities for residents, businesses, and organizations to upgrade their buildings and facilities to be more energy efficient such as heat pumps, LED lights, building envelopes, etc. Potential Funding C-PACE Financing • NYSEDA • National Grid	 CONTINUOUS SHORT MID LONG
RENEWABLE ENERGY GENERATION	Community 1.3.1 Community Renewable Energy Generation Promote opportunities for residents, businesses, and organizations to utilizing existing renewable energy sources (Community Solar subscriptions) or implement their own generation and battery energy storage systems. Potential Funding National Grid • NYSEDA	 CONTINUOUS SHORT MID LONG
	Municipal 1.3.2 Municipal Renewable Feasibility Studies ID municipal buildings & facilities or land for potential renewable energy generation and storage, then perform feasibility studies of those sites for implementation recommendations. Potential Funding NYSEDA • NYS DEC Climate Smart Communities	 1-3 YEARS SHORT MID LONG
	Municipal 1.3.3 Municipal Renewable Generation & Storage Based on renewable energy generation and storage feasibility studies, implement renewable energy generators and associated storage facilities (batteries). Potential Funding NYSEDA • NYS DEC Climate Smart Communities • NYS DOS • NYPA	 4-7 YEARS SHORT MID LONG

Transportation

What

Vehicle emissions account for 66% of municipal and 32% of the Syracuse Community's carbon footprint (2024 GHGI Report, page 4, 6). Across the nation, communities increasingly face transportation challenges as more Americans emigrate to metropolitan centers. Climate change broadens the scope of the transit crisis as increased use of fossil fuel dependent vehicles will pollute air quality and lessen quality of life through increased traffic congestion and traffic fatalities. In addition, as household wealth gaps increase across the nation, it is critical for communities to comprehend the cost of a personal vehicle, necessary to access economic opportunity and food centers, compared to alternate options such as public transit and micromobility. **Both the City of Syracuse and the Syracuse Community should strive to increase public transit and micro-mobility access to mitigate transportation emissions, then expand electric charging infrastructure and electrify vehicle fleet operations.**

The City of Syracuse is experiencing an unprecedented time of transportation development. The I-81 highway corridor, currently dissecting a prominent neighborhood, is being redeveloped as an innovative Connective Corridor. The public transit authority, CENTRO, plans to implement a Bus Rapid Transit (BRT) system in 2028 to connect neighborhoods with prominent business corridors and economic opportunities. The City intends to release an updated Bike Plan in 2026 to prolong their work with bike lane expansion, municipal sidewalk program, and use the adoption of a Vision Zero Policy to include a Complete Street Toolkit. Lastly, the City participates in redesign projects for the Regional Farms Market which local produce to community members, reducing transportation emissions from food supply chains. As alternative methods of transportation are expanded, it is essential to empower the Community with avenues to maximize this moment.

For vehicle users, such as the City's municipal operations fleet, that cannot transition to alternative mobility options, tactics to transition fossil fuel fleets toward electrification should be pursued by both sectors. Expanding EV charging infrastructure is essential for a fleet transition but should be done with consideration of the current electrical grid capacity and, therefore, in collaboration with the public utility. New York State has set a mandate that no fossil fueled light duty vehicle (LDV) can be sold within the State starting in 2035. **Expansion of charging infrastructure is essential to ensure equitable access to transportation and community-wide adherence to NYS's 2035 mandate.** Transition of larger vehicles, such as buses, sanitation trucks, and snowplows, is important, especially because of their use of diesel fuel, and should be strategically considered. Options to transition medium and heavy-duty vehicles include hydrogen power and electrification, therefore, strong consideration should be taken for a pragmatic path forward considering current battery technology and the City's globally recognized winter weather.



The 'greenest' transit is the one outside a metal wall. The City of Syracuse and Syracuse Community should expand alternative mobility options, then begin a community and municipal fleet transition. The goals in this chapter encompass actions to move toward a clean and equitable transit community that empowers smart growth and mixed-use development.



Partners

- ✓ City Public Works Department
- ✓ NYS DEC Climate Smart Communities
- ✓ City Engineering Department
- ✓ NYSEDA
- ✓ City Communications Department
- ✓ NYS DOT
- ✓ NYS DOS
- ✓ CENTRO
- ✓ City Parks Department
- ✓ City API Department
- ✓ NYSEDA
- ✓ SMTc
- ✓ National Grid

Why

Transportation is a major source of greenhouse gas emissions. Cleaner travel means less pollution, healthier air, lower fuel costs, and safer streets. Connecting community members with infrastructure for alternative mobility and vehicle electrification will mitigate impacts of climate change and social inequality in the transportation sector.

Public Health Connection

Alternative mobility options such as walking and riding a bike can increase public health through increasing physical activity and exposure to nature, statistically proven to reduce cortisol levels (stress hormones).

Individuals can save more than \$9,738 per year by taking public transportation instead of driving

Source: Reducing Your Transportation Footprint. Retrieved on December 29, 2025 from <https://www.c2es.org/content/reducing-your-transportation-footprint/>.

The average cost of owning and operating a personal vehicle was about \$12,000, in 2024. The City of Syracuse's median household income was \$51,770 in 2024.

Source: 1. Average Cost of Owning and operating an Automobile. (2024). Retrieved on December 29, 2025, from <https://www.bts.gov/content/average-cost-owning-and-operating-automobilea-assuming-15000-vehicle-miles-year>. 2. United States Census Bureau - Syracuse, NY. (2025). Retrieved on December 29, 2025 from https://data.census.gov/profile/Syracuse_city_New_York?g=160XX00US3673000.

FUN FACT

In 2025, the City of Syracuse and the surrounding area received more transportation funding than New York City!

Timeline of Actions

Municipal & Community

SHORT TERM 1-3 YEARS	MEDIUM TERM 4-7 YEARS	LONG TERM 8 - 10 YEARS	CONTINUOUS
Municipal Charging Infrastructure (2.2.2)	Expand Public Charging Infrastructure (2.2.1)	Light Duty Fleet Transition (2.3.3)	Pedestrian & Cyclist Infrastructure (2.1.3)
Fleet Transition Plan (2.3.2)		CENTRO Bus Rapid Transit System (2.1.2)	Develop Mechanical Capacity (2.3.1)
Bike and Pedestrian Trails (2.1.1)			

Transportation

STRATEGIES AND RESPONSIBILITIES	GOAL AND ACTION(S)	TIME FRAME
ALTERNATIVE MODES OF TRANSPORTATION	2.1.1 Bike and Pedestrian Trails Promote the use of expanded bike lanes and municipal sidewalk trails through use education and map distribution using guidance of Vision Zero to promote safe use of pathways and vehicles of micro-mobility. Potential Funding NA	1-3 YEARS SHORT MID LONG
	2.1.2 Centro-Bus Rapid Transit System Promote the use of BRT system through education and map distribution. Potential Funding NA	8-10 YEARS SHORT MID LONG
	2.1.3 Pedestrian & Cyclist Infrastructure Seek and implement development opportunities to support Syracuse residents ability to utilize alternative modes of transportation such as protected bike lane expansion, the municipal sidewalk program, and private e-bike/e-scooter partnerships aligned with Vision Zero's Complete Street toolkit. Potential Funding NYS DOT • TIP/TAP • NYS DEC Climate Smart Communities	CONTINUOUS SHORT MID LONG
EV CHARGING INFRASTRUCTURE	2.2.1 Expand Public Charging Infrastructure Use public land to install EV, e-scooter, and e-bike charging infrastructure. Potential Funding NYSERDA • NYS DEC Climate Smart Communities • NYS DOS • National Grid	4-7 YEARS SHORT MID LONG
	2.2.1 Municipal Charging Infrastructure Install EV charging stations for municipal fleet operations in municipal lots and garages. Potential Funding NYSERDA Charge Ready 2.0 Program • National Grid Make Ready Program • NYS DEC Climate Smart Communities • NYS DOS	1-3 YEARS SHORT MID LONG
MUNICIPAL FLEET TRANSITION	2.3.1 Develop Mechanical Staff Recruit EV technically trained mechanics. Potential Funding NYPA	CONTINUOUS SHORT MID LONG
	2.3.2 Fleet Transition Plan Develop a planning document that outlines methods to right-size fleet operations, then assesses different methods to transition the light duty vehicle fleet by 10% by 2030. Potential Funding NYS DEC Climate Smart Communities • NYSERDA	1-3 YEARS SHORT MID LONG
	2.3.3 Light Duty Vehicle Fleet Transition Transition 10% of the light-duty vehicle fleet by 2030. Start with administrative vehicles and use lease agreements with dealerships for maintenance needs until internal staff are acquired. Potential Funding NYS DEC Climate Smart Communities ZEV Program • NYSERDA Clean Energy Communities Program	8-10 YEARS SHORT MID LONG

Climate Adaptation

What

The City of Syracuse climate adaptation vision is to acknowledge, respect, and proactively plan for the impacts of a changing climate on the entire Syracuse Community, specifically the impacts of increasing temperatures and precipitation levels to protect vulnerable populations and mitigate negative impacts on quality of life. Temperatures in Upstate New York are increasing at a more rapid rate than Downstate New York communities due to the lack of coastal buffers which impacts the simultaneous increase in precipitation for the region. **The projected increases in temperature and precipitation will negatively impact native ecosystems, the health of water bodies from increased runoff, and members of the Syracuse Community due to stress placed on the built environment.** Central impacts of climate change on the entire geographic community of Syracuse include extreme heat and flooding. To mitigate these impacts, the City and Community must assess baseline impact predictions, research and plan for long term mitigation projects, and, simultaneously, empower residents to protect themselves while creating avenues for people unable to act to avoid the extreme repercussions of a changing climate.

The municipality's average facility age is 70 years old and within the City boundary there are 2,045 parcels in designated FEMA flood zones, predominately in underserved neighborhoods. This chapter outlines how the City and Community can plan, communicate, and take action to address the increasing dangers of climate change across the City. Extreme heat can be combated by connecting residents to programs that fund insulation and cooling systems as well as expansion of tree canopy. Tree canopy shade can reduce temperatures, cool the air, and absorb water to mitigate impacts of flooding.

Flood mitigation measures such as permeable surfaces, lessen the street flooding and impacts of runoff on local ecosystems. In addition to pursuing green infrastructure, it is essential for the governing bodies in the Syracuse Community to advocate for affordable flood insurance, educate residents on the impacts, and develop centers for resilience designed to safeguard vulnerable populations. **Mitigation and education are critical components for climate adaptation action.**

The Syracuse Community benefits from geographic protection against climate change, enjoyed throughout Upstate New York. Although the seasons may become less distinct, the Syracuse Community can reasonably expect to continue experiencing changing seasons and limited exposure to extreme weather and natural resource depletion. One of these natural resources being drinking water from Skaneateles Lake which is endangered by harmful algae blooms and increasing runoff from nearby agricultural practices.

It is imperative to acknowledge that inaction from both sectors will only increase the current predictions of impact from climate change. With extreme heat already the leading cause of mortality in New York State and a City experiencing aging water and sewage infrastructure, local leaders must act to adapt to the imminent system changes facing this community.

Why

The populations least able to act will be most impacted by the effects of climate change. The young, elderly, disabled persons, and houseless are vulnerable to the biological impacts of extreme heat. In addition, the neighborhoods with the highest concentration of FEMA flood zones, will increasingly be impacted by rising flood insurance costs and inability to make home improvements. **The cost of inaction during an extreme climate event will be greater than the cost to act now.**

Partners

- ✓ City Engineering Department
- ✓ Onondaga County
- ✓ Mayor's Office
- ✓ NYS DEC
- ✓ NYS DOS
- ✓ FEMA
- ✓ SUNY-ESF
- ✓ Syracuse University
- ✓ Central New York Regional Planning and Development Board
- ✓ City Communications Department
- ✓ Onondaga Earth Corps
- ✓ Syracuse Urban Food Forest Project
- ✓ Skaneateles Lake Association
- ✓ NYS DHSES

Climate Predictions

Predictions & Actions

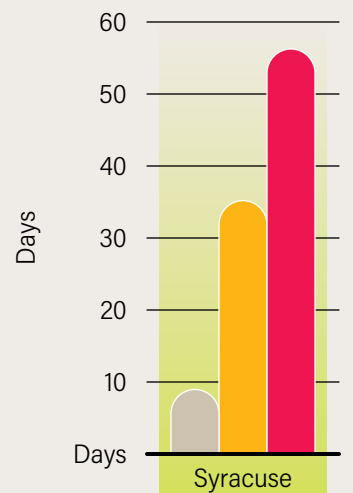
By 2050, average annual temperatures will increase by between 4.5 to 6.4 degrees Fahrenheit relative to 1981 – 2010 levels.

Higher atmospheric and water temperatures cause more evaporation, injecting more moisture into the atmosphere; between 1901 and 2022, total annual precipitation (rain and snow) increased by 10 to 20%.



In a FEMA flood zone, if the cost of improvements or the cost to repair damage exceeds 50% of the market value of the building, it must be brought to the current floodplain management standards.

Source: FEMA (2014, June). Homeowner's guide to retrofitting. Washington, DC.: FEMA.



NUMBER OF DAYS WITH TEMPERATURE ABOVE 90°F IN NEW YORK STATE

Public Health Connection

Hot summers and poor air quality put residents' health at risk, especially for older adults, children, the disabled persons, and the unhoused population. Older buildings in Syracuse lack cooling mechanisms, making them dangerously warm in extreme heat. **The expansion of designated community cooling spaces and tree canopy is essential for equitable protection against the impacts of climate change.** By providing cool spaces and keeping residents informed, the City will help improve public health and quality of life for all.

FUN FACT

The City of Syracuse was ranked one of the snowiest cities in the world in 2025.



Timeline of Actions

Municipal & Community

SHORT TERM 1-3 YEARS	MEDIUM TERM 4-7 YEARS	LONG TERM 8 - 10 YEARS	CONTINUOUS
Flood Mitigation Plan (3.1.4)	Development Site Selection (3.1.1)		Climate Resiliency Centers (3.3.2)
Land Acquisition: Flood Storage Development (3.1.5)			Green Infrastructure Projects (3.1.2)
Climate Events Education (3.3.1)			Public Water Management Efforts (3.1.3)
			FEMA Community Rating System (3.1.6)
			Onondaga County Hazard Mitigation Plan (3.1.7)
			Increase Urban Tree Canopy (3.2.1)
			Expand Cooling Access (3.2.2)

Climate Adaptation

STRATEGIES AND RESPONSIBILITIES	GOAL AND ACTION(S)	TIME FRAME
FLOOD MITIGATION	COMMUNITY 3.1.1 Development Site Selection Implement the city ordinance for construction within the Special Flood Hazard Area (100 Year Floodplain). Potential Funding NYSDEC • FEMA	4-7 YEARS SHORT MID LONG
	COMMUNITY 3.1.2 Green Infrastructure Projects Continue public amenity green infrastructure projects and funding; specifically for the avoidance of impervious surfaces and expansion of water retention. Potential Funding City Parks and Recreation Department • NYS DEC Riparian Program	CONTINUOUS SHORT MID LONG
	COMMUNITY 3.1.3 Public Water Management Efforts Use stormwater best practices on private properties i.e. plant trees, reduce paved area, install porous pavement, rain gardens, rain barrels, retention structures, etc. Potential Funding NA	CONTINUOUS SHORT MID LONG
	MUNICIPAL 3.1.4 Flood Mitigation Plan Develop a formal flood mitigation plan for Syracuse. Include public participation components. Potential Funding NYSDEC • FEMA	1-3 YEARS SHORT MID LONG
	MUNICIPAL 3.1.5 Land Acquisition: Flood Storage Development Identify strategic land acquisitions to retain open space for flood storage which can additionally help with regional heat mitigation. Potential Funding NYSDEC • FEMA	1-3 YEARS SHORT MID LONG
	MUNICIPAL 3.1.6 FEMA Community Rating System Continue participation in the FEMA Community Rating System for flood insurance discounts for the 4.9% of parcels in the City that are in a designate flood zone. Work to improve to the next level. Potential Funding NYSDEC • FEMA	CONTINUOUS SHORT MID LONG
	MUNICIPAL 3.1.7 Onondaga County Hazard Mitigation Plan Implement all Syracuse flood mitigation measures in the County Hazard Mitigation Plan including upgrading sewer and stormwater management systems. Potential Funding NYSDEC • FEMA	CONTINUOUS SHORT MID LONG

STRATEGIES AND RESPONSIBILITIES		GOAL AND ACTION(S)	TIME FRAME
HEAT MITIGATION	MUNICIPAL	3.2.1 Increase Urban Tree Canopy Use heat island and index maps to strategically plant 2,870 trees each year to increase shade and natural cooling mechanisms; called evapotranspiration. Additionally, fruit-bearing trees can be planted to increase community food access. Potential Funding DASNY • Federal Programming	 CONTINUOUS SHORT MID LONG
	COMMUNITY	3.2.2 Expand Cooling Access Empower residents in aging housing stock with opportunities to install electrical cooling systems and building envelope improvements to reduce extreme heat in residences. Potential Funding NYSERDA • National Grid	 CONTINUOUS SHORT MID LONG
PUBLIC HEALTH	COMMUNITY	3.3.1 Climate Events Education Engage in City and County educational materials, communication networks, and workshops to understand the impacts of climate events (extreme heat, flooding, and wildfire smoke). Potential Funding NA	 1-3 YEARS SHORT MID LONG
	MUNICIPAL	3.3.2 Climate Resiliency Centers Develop five climate resiliency centers at Parks Recreation Buildings that function through microgrids to provide emergency service, food storage, and shelter during climate events. Additionally these spaces can act as cooling centers and places of community. Potential Funding NYS DOS • NYS DEC Climate Smart Communities • City Parks and Recreation Department	 CONTINUOUS SHORT MID LONG

Natural Environment

What

The City of Syracuse is home to over 150 public parks, a temperate climate, plentiful natural resources and several opportunities for all-season outdoor recreation. The natural environment attracts residents and improves the community's resilience to climate change; however, a changing climate will impact the health and therefore the positive impacts from the natural environment. The City and community must act to preserve their greatest defense from the effects of climate change and a community treasure, central to the City's culture.

In 2023, the City adopted **Rezone**, a comprehensive update to the City's zoning code that implemented the first Open Space zoning classification. Rezone additionally permitted urban agriculture, established mixed-development zones, and began analyzing the relationship between green and grey infrastructure. **Mixed-use development zones**, planned around transportation corridors, increase localized living opportunities and promote a higher quality of life in urban areas. Currently, the City utilizes the established values of interconnected transportation, development, and environmental planning to advise the development of Syracuse Metropolitan Transportation Council's Food Connectivity Study and the redesign of the Regional Farmer's Market.

In 2024 the City received its first **Tree City of the World** designation which reflects the City's continued efforts seen through the recent development of the **Municipal Tree Ordinance** that also promotes urban food forests that increase canopy and food access in the community. These urban forest expansion efforts rewarded the Syracuse Community with a public tree count of 46,401 that sequestered 1,197 metric tons of carbon in 2024 (GHGI Report, page 17). The Division of Forestry benefits from external partnerships with Onondaga Earth Corps, Syracuse Urban Food Forest, and the NYS Department of Environmental Conservation. Now, as the City begins to address their natural areas, they found partnership and resources as a member of the Forest in Cities network.

Protection and preservation of the natural environment, filled with native species, are essential to build community climate resiliency. Expansion of natural areas will increase the community's ability to naturally purify the air, filter drinking water sources, capture stormwater, cool areas experiencing the urban heat island effect, and sequester emitted carbon. Destruction of the natural environment will release embodied carbon, further polluting the ecosystem.

An example of natural environment preservation is the expansion of the Onondaga Creekwalk, a natural greenway maintained by the City and community advocates. While highlighting the preservation of the natural environment, it is important to note the remediation of contaminated sites of the built environment known as brownfields and encourage their remediated use plan to work towards community resiliency such as a reuse and revitalization center or urban solar farms.

As both the City and Community work to preserve the natural environment, **it is essential for both sectors to critically examine the pollution caused by processing waste.** In 2023 and 2024, the City implemented the standardized use of trash and recycling carts alongside a recycling education campaign. As the City's recycling rate was 14% in 2026, there is still substantial need for education, which can begin to include education on composting mechanisms, reuse and repair centers and byproduct repurpose such as urban wood reutilization. Expansion of education on food waste diversion, gleaning, currently led by the Onondaga Food Recovery Network, addresses community needs and mitigates waste processing emissions.

The fight against climate change is ultimately to protect the natural environment. The goals of this strategy direct how the City and Community can act to protect the beauty and culture of Syracuse.

"Everyone has a role to play! The City is leading by example, but residents, businesses, and community organizations are essential partners."

Partners

- ✓ Onondaga Earth Corps
- ✓ SU Center of Excellence
- ✓ City Communications Department
- ✓ City Department of Parks and Recreation
- ✓ CNYRPDB
- ✓ SUFFP
- ✓ OCRRA
- ✓ City Code Enforcement Department
- ✓ City Department of Public Works
- ✓ Onondaga Food Recovery Network
- ✓ Creekrats
- ✓ Syracuse Grows
- ✓ SOFSA

Why

The amount of biodiversity in a natural area is an indicator of an ecosystem's health. The expansion of diverse natural areas will increase the ability to mitigate the impacts of climate change and, if in tandem, with addressing large emitters such as waste processing, the community could develop a system wide strategy to increase climate resiliency.

Public Health Connection

Connecting residents to natural areas as third spaces will improve public health. Parks promote physical health through outdoor fitness and mental health through proximity to nature, both statistically proven to reduce stress.

A small tree is valued at \$450 to appreciate to the value of \$7,411 when mature and classified as a large tree over the 20 years (adjusted to 2024 currency).

Source: Geiger, J. (2004). The large tree argument: The case for large v small trees. Western Arborist, Volume 30 No. 1, p. 14 - 15.

The City of Syracuse pays OCRRA \$107 and \$40 per ton processed for waste and recycling respectively. There is a \$67 cost saving per ton of recycling processed versus general waste.

Source: Ordinance Authorizing an Agreement with the Onondaga County Resource Recovery Agency (OCRRA) For Use of OCCRA's Solid Waste Disposal System, City of Syracuse Ordinance No 992. (2025).

FUN FACT

The City of Syracuse benefits from the clean water in Skaneateles Lake that directly transits an unfiltered water supply, through a gravity fed system, to residents and businesses in the community.

Timeline of Actions

Municipal & Community

SHORT TERM 1-3 YEARS	MEDIUM TERM 4-7 YEARS	LONG TERM 8 - 10 YEARS	CONTINUOUS
Natural Resources Inventory (4.1.1)	Native Areas Expansion (4.1.4)	Maximize Tree Coverage on City Land (4.2.2)	Protection of Natural Areas (4.1.2)
	Composting & Organic Waste Management (4.3.2)	Gleaning & Food Waste (4.3.1)	Private Tree Canopy Expansion (4.2.1)
	Natural Areas Management (4.1.3)		
			Recycling Education & Engagement (4.3.3)

Natural Environment

STRATEGIES AND RESPONSIBILITIES	GOAL AND ACTION(S)	TIME FRAME
NATIVE SPECIES & BIODIVERSITY	MUNICIPAL 4.1.1 Natural Resources Inventory Inventory Flora and Fauna through partnership, engagement, and contracted services to database a Natural Resource Inventory to inform a Natural Areas Management Plan and Open Space Plan. Potential Funding NYS DEC Climate Smart Communities	1-3 YEARS SHORT MID LONG
	MUNICIPAL 4.1.2 Protection of Natural Areas Protect the natural ecosystem of the Onondaga Creekwalk, City Parks, and other potential natural areas. Potential Funding NYS DEC	CONTINUOUS SHORT MID LONG
	MUNICIPAL 4.1.3 Natural Areas Management Create natural areas management and protection plan to influence updates to the City's zoning ordinance that protects natural assets. Potential Funding NYS DEC Community Reforestation Grant	4-7 YEARS SHORT MID LONG
	COMMUNITY 4.1.4 Native Areas Expansion Encourage the community's development of mini-meadows through adjustment of the City's Code Enforcement ordinance that prohibits growth past six inches in height. Potential Funding NA	4-7 YEARS SHORT MID LONG
URBAN FORESTRY	COMMUNITY 4.2.1 Private Tree Canopy Expansion Connect private residences to right-of-way request a tree program administered by the Parks Department's Forestry Division. Potential Funding City Department of Parks and Recreation	CONTINUOUS SHORT MID LONG
	MUNICIPAL 4.2.2 Maximize Tree Coverage on City Land Increase support for and continue implementation of the City's Urban Forestry Master Plan and Municipal Tree Ordinance including the initiative (in process) to modernize the tree ordinance. Potential Funding DASNY • Federal Programming	8-10 YEARS SHORT MID LONG
WASTE REDUCTION	MUNICIPAL 4.3.1 Gleaning & Food Waste Establish a centralized location for gleaned food and a non-profit organizational structure that guides and distributes gleaned food to centers of need within the Syracuse community. Potential Funding NYS DEC Climate Smart Communities	8-10 YEARS SHORT MID LONG
	COMMUNITY 4.3.2 Composting & Organic Waste Management Develop scaled composting systems that minimize landfilled organic waste. Start with education, progress to drop off sites, then implement a residential collection system. Potential Funding NYS DEC Climate Smart Communities	4-7 YEARS SHORT MID LONG
	COMMUNITY 4.3.3 Recycling Education & Engagement Engage in City and OCRRA educational materials on recycling practices. Potential Funding NYS DEC Climate Smart Communities	CONTINUOUS SHORT MID LONG



5. Implementation

The Syracuse Community is at an inflection point.

Unprecedented investment, urban redesign, and innovation have presented this moment for municipal and community leaders to challenge the status quo and design a pathway toward a welcoming, equitable, and opportunistic City, distinct from other metropolitan centers. At the precipice of change, the City acknowledges asset and legacy components of its infrastructure, housing stock, and natural resources. Opportunity exists on the Onondaga Lakefront, vacant land, redevelopment of the East Adams Neighborhood, and implementation of the Housing Market Strategy. Guidance for these strategic investments is to be pragmatic, with the intention of long-term impact, and to serve all members of this community, their future generations, and the communities the City intends to attract. The *Sustainable Syracuse Initiative* reflects this guidance and encourages one step further, the mitigation of carbon emissions and investment in climate resiliency. As the effects of climate change are realized, it is imperative that the municipality and community strategically acknowledge climate change will be a system change to the current use of infrastructure, housing stock, and natural resources. **This chapter intends to demonstrate sustainability as a necessary value to achieve future community and economic prosperity by connecting strategies of the Climate Action Plan to tangential investment and programming that ultimately informs the development of priorities in Comprehensive Plan 2040.**

Green building design and energy use connect development to the opportunities, and needs, of tomorrow by incentivizing economic investment, building climate resiliency, and diminishing the disproportional impact of rising energy costs across the Syracuse community. Action now, by the City and community, to understand current energy use and the overall grid capacity will inform strategies toward efficient energy use tactics (metering, load balancing) that increase the effect of strong building envelopes (windows, insulation) and appliances (heat pumps, LED lighting).



Furthering the greening of the grid, led by public utilities and incentivized by state agencies, to develop renewable energy sources is essential. Proposed NYS Cap and Invest policy to curtail carbon emissions will incentivize such investment and attract economic activity. **If the Central New York region's infrastructure offers salvation against increasing operational costs due to carbon taxing, then industry, including their workforce, will flock to the lower cost option.** Additionally, green building and energy efficiency creates opportunity for workforce development in operational and administrative roles across sectors of industry. Efficient energy use lowers GHG emissions and energy costs across the residential, commercial, and industrial sectors of the Syracuse economy and attracts private investment to the City. Green building and energy use actions are the foundation for community and economic impact related to climate change.

The NYS CLCPA (2019) mandates 70% renewable energy generation by 2030.

Source: Climate Change Statutes, Regulations, and Policies. (2025). Retrieved December 29, 2025, from https://dec.ny.gov/environmental-protection/climate-change/statutes-regulations-policies#:~:text=The%20Climate%20Leadership%20and%20Community%20Protection%20Act,%20**Energy%20storage**%203%2C000%20megawatts%20by%202030.

Transformative urban growth requires innovative transportation solutions. Municipal and community leaders acknowledge the relationship and are using this unprecedented moment to redesign the transportation network of Syracuse. **As the I-81 Interstate is redesigned, there is space to redevelop a transportation network that prioritizes alternative mobility options across the sectors of public transportation, bike infrastructure, and pedestrian pathways.** The focus on the development of multi-modal options yield both economic development and climate action opportunities for the Syracuse community. **Economically, these options are less expensive than a single-use vehicle, and alternative transportation infrastructure connects disadvantaged neighborhoods to economic centers inaccessible, because of transportation barriers, prior to development.** When viewed as a method for climate action, micromobility and public transit emit substantially fewer GHGs than single use vehicles and could equitably protect the Syracuse residents from future fuel taxes, which often disproportionately impact underserved populations.

For those that cannot, or choose not, to utilize alternative mobility infrastructure, the municipality and community must develop the infrastructure necessary to support an electric vehicle transition. **Disproportional access to charging infrastructure will impede climate mitigation overall and economic development in two distinct forms.** First, it will deter EV users. Second, without equitable charging distribution, the underserved neighborhoods of Syracuse will lack adequate infrastructure to adhere with NYS mandates, such as the 2035 mandate to ban non-electric light duty vehicle sales. The transportation network redesign will affect all aspects of quality of life. During development it is essential to acknowledge the connection of transportation to economic development and the system shift of climate change.

Implementation of the Municipal Tree Ordinance will continue the efforts of the Division of Forestry to expand and protect tree cover.

Source: Tree Ordinance Modernization. (2025). Retrieved December 29, 2025, from <https://www.syr.gov/Departments/Parks-Recreation/Tree-Ordinance-Modernization>.

The impacts of climate change will be felt by the most vulnerable populations first. These populations include the elderly, young, people with disabilities, houseless, and impoverished. Community mitigation and adoption efforts can be further supported by intentional action from local government bodies, such as collective efforts toward the Onondaga County Hazard Mitigation Plan and the Harmful Algal Bloom and Nine Element Clean Water Plan. The Syracuse community will experience increasing temperatures and precipitation levels throughout the 21st century. To adapt the built and natural environment to the impending ecosystem shift, it is essential to educate residents, businesses, and industry on the impacts of climate change. However, it is education alongside implementation that will build a climate resilient city. **Implementation of climate adaptation goals such as stormwater mitigation infrastructure, tree canopy expansion, and equitable access to cooling spaces reduce the community risk and public health costs of unprecedented extreme events.** By addressing FEMA flood zones, curbing the urban heat island effect, and offering sanctuary from extreme heat, the Syracuse community will make a strategic economic investment, reduce individual burden and develop climate resiliency.

Preservation of the natural environment is the greatest strategy to mitigate effects of climate change because local greenery cools temperatures, cleans the air, absorbs stormwater, and sequesters carbon emissions. Economically, preservation of the natural environment protects natural resources, such as water filtration and natural cooling systems that lessen the need for adaptation investments. Additionally, to protect the natural environment it is important to decrease greenhouse gas emission sources produced by food (methane) and excessive waste. **Education on recycling, composting, and reuse opportunities reduce potent waste processing emissions and implement a circular economy structure that connects residents, businesses, and industry to less expensive and wasteful pathways for procurement of goods.** Strategies and goals to address the impending impacts of climate change are economic, protect the community, and ultimately aim to preserve the natural environment.

As municipal and community leaders steward the major investments and programs present in the Syracuse community, they must be pragmatic, think long-term, design to serve all, and be sustainable in implementation. Development opportunities on vacant land and adjacent to water should incorporate flood mitigation architecture. Homes addressed by the Housing Market Strategy should consider building envelope and energy efficiency upgrades as well as green infrastructure. Transit routes affected by I-81's demolition, new bike and pedestrian pathways, and Centro's Bus Rapid Transit system should adhere to the City's Vision Zero Complete Streets Toolkit. Marketing to attract new residents to the City of Syracuse should advertise the community's plethora of green space and natural resource amenities. **As Syracuse navigates the inflection point of the century, it is imperative that the municipality and community value sustainability as a method to design the distinct, equitable, economically prosperous, and climate resilient city of tomorrow.**

To implement the goals of the **Climate Action Plan** and designate sustainability as a value for decision making, in the Comprehensive Plan 2040, there are four core tools to reach achievement:

- ✓ **Collaboration**
- ✓ **Data Management**
- ✓ **Funding Acquisition**
- ✓ **Benchmarking**

Outlined in the following graphic are methods to use these tools, applicable to municipal and community operations, and the overarching timeline of goals delineated in the Climate Action Plan strategy chapters.

The next two pages outline what the municipality and community should do in the near term to take action toward the climate goals set in this Climate Action Plan.

Collaboration

- ✓ Sustainability Task Force
- ✓ Institutional Engagement with Educational and Medical Institutions
- ✓ Adherence to the Climate Education and Engagement Executive Memorandum
- ✓ Youth Empowerment

Data Management

- ✓ Building & Facility Maintenance and Energy Management System
- ✓ GHGI Tracking Dashboard
- ✓ ArcGIS Visualization of Climate Impacts

Funding Acquisition

- ✓ Engagement with NYS funding opportunities (NYSERDA, NYS DEC, NYPA, NYS DOS)
- ✓ Create Sustainability Programming Fund within Municipal Budget
- ✓ Attract External Investment
- ✓ Explore Carbon Markets

Benchmarking

- ✓ Climate Action Progress Dashboard
- ✓ Track Revenue
- ✓ Track Savings

Near Term Municipal Climate Action

Action taken by the City of Syracuse toward the goals outlined in this plan are aimed to lower the GHG emissions from City operations, save taxpayer dollars, and improve delivery of services to constituents.

Green Building. Over the next few years, the City should prioritize management of their energy use and organization of their building and facilities management portfolio. With this organization, the City will be prepared to strategically engage with opportunities to improve building efficiency and create renewable energy generation and storage.

Transportation. The City should focus on two aspects of transportation in the coming years. First, they should expand micro-mobility infrastructure and access to public transportation. Second, they should begin to expand municipal EV charging infrastructure for a light duty fleet transition. As the City expands charging infrastructure, they should right size their fleet prior to transition toward electric vehicles.

To adhere to the NYS 2035 LDV zero-emission only sales mandate, the City will explore methods to transition the light-duty fleet.

Source: DEC Announces Adoption of Advanced Clean Cars II Rule for New Passenger Cars and Light-Duty Truck Sales. (2022). Retrieved December 29, 2025, from <https://www.nyserda.ny.gov/About/Newsroom/2022-Announcements/2022-12-29-DEC-Announces-Adoption-of-Advanced-Clean-Cars-II>.

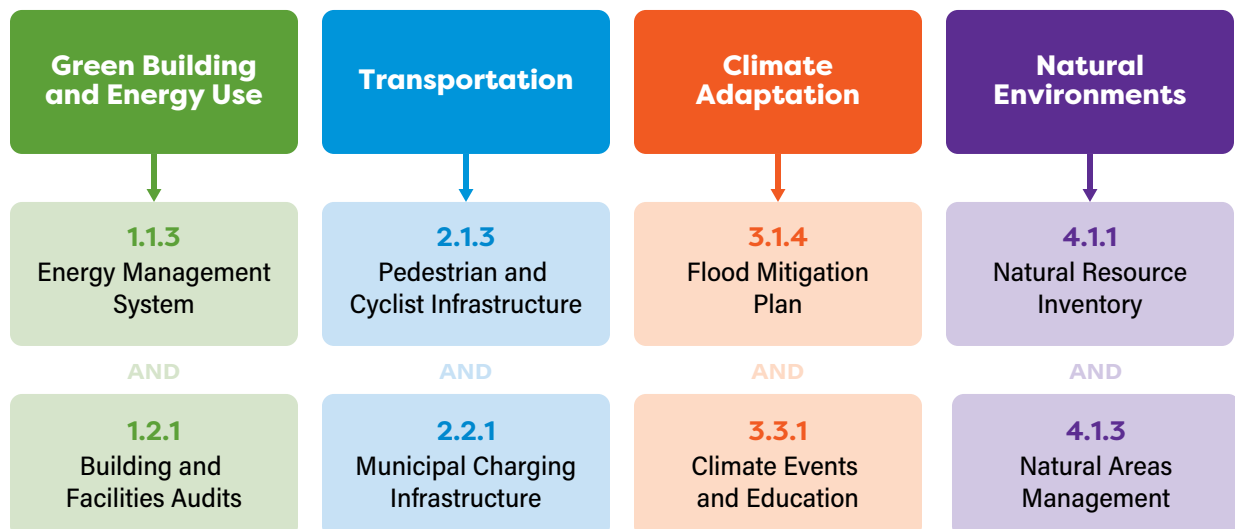
Climate Adaption. This City has a major role to play in the climate adaptation transition for the Syracuse Community. Stormwater management must be at the forefront of infrastructure project planning, to include sewer systems, green infrastructure, and tree canopy. The City should also promote opportunities to expand cooling access and architecture upgrades in the City's aging housing stock. Additionally, the City should coordinate with Onondaga County cooling centers to open recreation facilities for summer cooling hours, especially where youth congregate.

Natural Environment. Protection, management, and expansion of the natural environment is essential to achieve climate resiliency in the City of Syracuse. Over the next few years, the City should perform a Natural Resource Inventory and create a Natural Areas Management Plan. These tools will guide City Officials to make data informed decisions, during development, so that projects improve the natural and built ecosystem of the Syracuse Community.

To promote intergovernmental coordination, the City should incorporate Onondaga County's Hazard Mitigation Plan into the future planning.

Source: Onondaga County Department of Planning (2025). 2025 Onondaga County Multi-Jurisdictional Hazard Mitigation Plan. Onondaga County, New York.: Department of Planning. Retrieved from <http://www.ongov.net/planning/2025OnondagaCountyMulti-JurisdictionalHazardMitigationPlan.html>.

RELATED GOALS FROM BUILDING A CLIMATE-READY SYRACUSE CHAPTER



Near Term Community Climate Action

Action taken by the community and external partners should in the near terms are aimed to lower GHG emissions, improve economic opportunity, and improve quality of life, for all.

Green Building. The community can empower themselves with green building actions through engagement with the local energy hub, EnergySmart CNY, and National Grid. These organizations educate and empower residents and businesses with opportunities to understand, manage, and become more efficient in their energy use. As energy costs rise, it is important for the Syracuse Community to become energy literate.

Transportation. The greatest action that can be taken by community members toward a climate resilient community is using a transportation method other than a personal vehicle. Utilizing micro-mobility infrastructure and public transportation is economic and climate smart. The entire transportation planning community of Syracuse should support and utilize expansion of these opportunities, specifically the implementation of a Bus Rapid Transit system by CENTRO.”

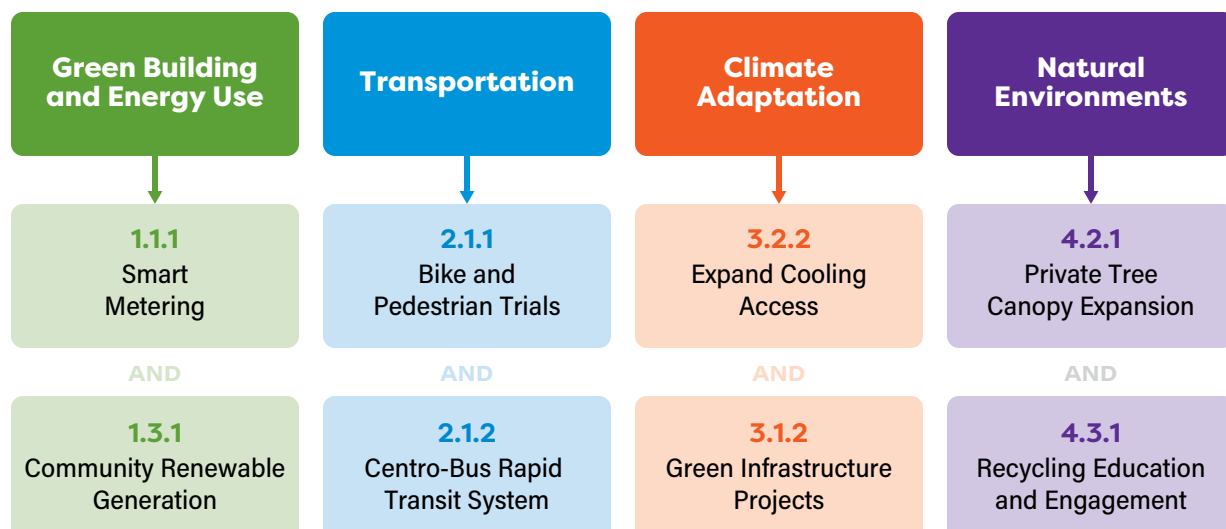
Biking and pedestrian infrastructure planned in tandem with zoning policy will initiate continued smart growth and a walkable city.

Climate Adaptation. To adapt to the changing climate, community members should improve their homes and businesses to be more resilient to increasing precipitation and temperature. This includes pursuing green infrastructure projects and installing cooling mechanisms on private property.

Natural Environment. Protection and preservation of the natural environment, on the community level, can take shape in many ways. Planting of native trees, shrubs, and meadows will increase biodiversity and protect the natural ecosystem. Additionally, community members can be conscious with waste management to include increasing recycling and exploring options to compost food waste as to expand residential and community urban agriculture.

Developing distinguished neighborhood climate resiliency centers will equitably connect all residents to safeguard from extreme heat, flood risks, and power outages.

RELATED GOALS FROM BUILDING A CLIMATE-READY SYRACUSE CHAPTER





6. Conclusion

During the development of the City of Syracuse's inaugural Climate Action Plan, the City made a direct effort to learn from all systems of climate knowledge, operational efficiency, and fiscal strategy available.

Emerging voices from engagement instructed the Division of Planning and Sustainability to think pragmatically. Climate action toward a climate resilient community can be both climate conscious and align with the systematic needs of community members, operational stakeholders, and administrative visions of a better future for all. This collective guidance empowered the City to create the Plan you read today.

For the City of Syracuse, this Plan exemplifies the ability to think of climate change as a system change toward an equitable and prosperous society. Every goal in this plan acts toward climate resiliency, fiscal stability, and an improved quality of life for all.

This Plan will guide the community towards greater resiliency and quality of life; however, it is not all encompassing. Climate action will continue to evolve during the 21st century. It is essential to consider the impacts of current planned regional development and where the greater sphere of climate influence will take society. The sequential Climate Action Plan and Greenhouse Gas Emission Inventory should build upon this work and further include carbon markets, scope 3 emission calculations, waste diversion such as reuse and revitalization, and the overall connection of climate change and food.





Appendices

A. Climate Actions

The following implementation matrix presents the full set of goals, strategies, and actions that together form the foundation of the City of Syracuse Climate Action Plan.

Organized by major thematic areas—including Green Buildings and Energy Use, Transportation, Climate Adaptation, and the Natural Environment, **the matrix translates the plan's long-term vision into specific, implementable steps that can be undertaken by municipal departments, community partners, and regional stakeholders.**

For each action, the matrix identifies the corresponding goal and strategy, responsible parties, potential implementation partners, estimated order-of-magnitude costs, potential funding sources, and anticipated timelines. Where applicable, the table also indicates connections to greenhouse-gas reduction objectives, fiscal

impacts, and alignment with broader City planning efforts. **This structure is intended to provide decision-makers, staff, and community partners with a clear roadmap for implementation while supporting prioritization, coordination, and accountability over time.**

Taken together, the actions listed in this matrix represent a comprehensive portfolio of near-, mid-, and long-term initiatives designed to reduce greenhouse gas emissions, strengthen climate resilience, improve environmental quality, and advance equitable, sustainable development across Syracuse. The matrix will be updated periodically as actions are completed, refined, or expanded to reflect evolving opportunities, funding availability, and community priorities.

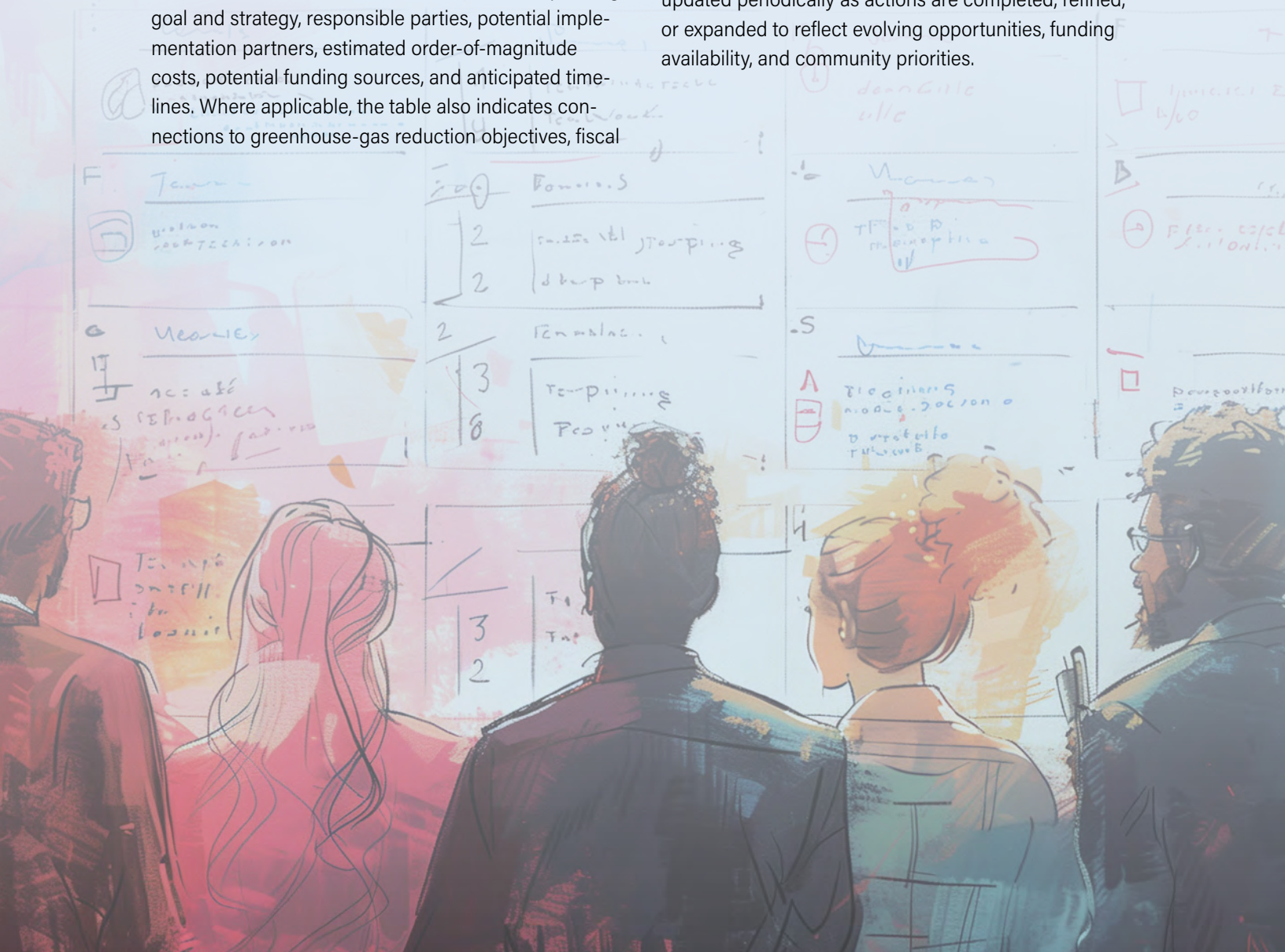


Table 5-1
Syracuse, NY Climate Action Plan Actions

RESPONSIBILITY	STRATEGY	GOAL ID	GOAL	ACTION	IMPLEMENTATION PARTNERS
THEME GREEN BUILDING AND ENERGY USE (1)					
Community	Organize Operations (1.1)	1.1.1	Smart Metering	Promote utility (National Grid) tools for residents, business, and organizations to meter their energy use.	National Grid • City Communications Department
Municipal		1.1.2	Commercial Building Award System	Create an award system to acknowledge commercial and residential leaders in efficient energy use and management using Energy Star Portfolio.	City of Syracuse Common Council • City Code Enforcement Department
Municipal		1.1.3	Energy Management System	Construct, contract, or hire an internal position to manage municipal energy bills and energy use for the annual on average electrical load of 14,480,380 kwh.	City Budget Department
Municipal	Efficient Energy Use (1.2)	1.2.1	Building & Facilities Audits	Conduct ASHRAE level 2 or 3 building efficiency audits for 50 – 75%, or more, of the City's existing energy portfolio.	City Engineering Department
Municipal		1.2.2	Municipal Building & Facilities Upgrades	Perform building efficiency upgrades based on ASHRAE audit recommendations such as LED lights, metering installation, heat pumps, building envelope upgrades, etc.	City Engineering Department
Community		1.2.3	Community Building & Facilities Upgrades	Promote opportunities for residents, businesses, and organizations to upgrade their buildings and facilities to be more energy efficient such as heat pumps, LED lights, building envelopes, etc.	New York Central Regional Planning and Development Board • EnergySmart CNY • National Grid • City Communications Department
Community	Renewable Energy Generation (1.3)	1.3.1	Community Renewable Energy Generation	Promote opportunities for residents, businesses, and organizations to utilizing existing renewable energy sources (Community Solar subscriptions) or implement their own generation and battery energy storage systems.	New York Central Regional Planning and Development Board • EnergySmart CNY • National Grid • City Communications Department
Municipal		1.3.2	Municipal Renewable Feasibility Studies	ID municipal buildings & facilities or land for potential renewable energy generation and storage, then perform feasibility studies of those sites for implementation recommendations.	SUNY-ESF • Syracuse University: School of Engineering

POTENTIAL FUNDING SOURCES	ORDER OF MAG COST	TIMELINE	COMPREHENSIVE PLAN ALIGNMENT	GHG EMISSION CONNECTION	FISCAL CONNECTION
NA	Staff Time	Continuous	No	No	No
NYS DEC Climate Smart Communities	Low (25K – 75K)	Long (8 – 10 Years)	No	No	No
NYSERDA FlexTech Program	Low (25K – 75K)	Short (1 – 3 Years)	No	No	No
NYSERDA • NYS DEC Climate Smart Communities	Medium (80K – 200K)	Short (1 – 3 Years)	No	No	No
NYSERDA • NYS DEC Climate Smart Communities • NYS DOS • NYPA	Very High (1 mil+)	Medium (4 – 7 Years)	No	Building and Facility envelope upgrades, to include roof and piping, could reduce hundreds of millions of CO2 emissions over a 30-year period in commercial buildings.	
C-PACE Financing • NYSERDA • National Grid	Low (25K – 75K)	Continuous	No	No	Over 50 years, existing residential buildings with proper air sealing and insulation could save energy costs ranging from 10% to 45%.
National Grid • NYSERDA	Low (25K – 75K)	Continuous	No	No	Subscription to community solar power sourcing will result in a bill credit on your utility bill that can range from about 5% to 20% of the total energy bill.
NYSERDA • NYS DEC Climate Smart Communities	Staff Time	Short (1 – 3 Years)	No	No	No

RESPONSIBILITY	STRATEGY	GOAL ID	GOAL	ACTION	IMPLEMENTATION PARTNERS
Municipal		1.3.3	Municipal Renewable Generation & Storage	Based on renewable energy generation and storage feasibility studies, implement renewable energy generators and associated storage facilities (batteries).	City Engineering Department • City Department of Public Works
THEME TRANSPORTATION (2)					
Community	Alternative Modes of Transportation (2.1)	2.1.1	Bike and Pedestrian Trails	Promote the use of expanded bike lanes and municipal sidewalk trails through use education and map distribution using guidance of Vision Zero to promote safe use of pathways and vehicles of micro-mobility.	City Communications Department • City Department of Public Works • City Department of API
Community		2.1.2	Centro-Bus Rapid Transit System	Promote the use of BRT system through education and map distribution.	City Communications Department • City Department of API • CENTRO
Municipal		2.1.3	Pedestrian & Cyclist Infrastructure	Seek and implement development opportunities to support Syracuse residents ability to utilize alternative modes of transportation such as protected bike lane expansion, the municipal sidewalk program, and private e-bike/e-scooter partnerships aligned with Vision Zero's Complete Street toolkit.	City of Syracuse Common Council • City Public Works Department
Community	EV Charging Infrastructure (2.2)	2.2.1	Expand Public Charging Infrastructure	Use public land to install EV, e-scooter, and e-bike charging infrastructure.	City Engineering Department • City Public Works Department • City Parks Department
Municipal		2.2.2	Municipal Charging Infrastructure	Install EV charging stations for municipal fleet operations in municipal lots and garages.	City Department of Public Works • City Department of Engineering
Municipal	Municipal Fleet Transition (2.3)	2.3.1	Develop Mechanical Staff	Recruit EV technically trained mechanics.	City Department of Public Works • City Department of Human Resources • OCC • SCSD
Municipal		2.3.2	Fleet Transition Plan	Develop a planning document that outlines methods to right-size fleet operations, then assesses different methods to transition the light duty vehicle fleet by 10% by 2030.	City Department of Public Works

POTENTIAL FUNDING SOURCES	ORDER OF MAG COST	TIMELINE	COMPREHENSIVE PLAN ALIGNMENT	GHG EMISSION CONNECTION	FISCAL CONNECTION
NYSERDA • NYS DEC Climate Smart Communities • NYS DOS • NYPA	Very High (1 Mil+)	Medium (4 – 7 years)	The NYS CLCPA (2019) mandates 70% renewable energy generation by 2030.	No	No
NA	Staff Time	Short (1 – 3 Years)	No	No	No
NA	Staff Time	Long (8 – 10 Years)	The BRT system will transform the City's connection corridors and the community's ability to transit.	"Communities with strong public transportation networks can reduce the United States emissions by 37 million metric tons of carbon yearly."	"Individuals can save more than \$9,738 per year by taking public transportation instead of driving."
NYS DOT • TIP/TAP • NYS DEC Climate Smart Communities	Very High (1 Mil+)	Continuous	Biking and pedestrian infrastructure planned in tandem with zoning policy will initiate continued smart growth and a walkable city.		The average cost of owning and operating a personal vehicle was about \$12,000, in 2024. The City of Syracuse's median household income was \$51,770 in 2024.
NYSERDA • NYS DEC Climate Smart Communities • NYS DOS • National Grid	High (250K – 750K)	Medium (4 – 7 Years)	No	No	No
NYSERDA Charge Ready 2.0 Program • National Grid Make Ready Program • NYS DEC Climate Smart Communities • NYS DOS	Very High (1 Mil+)	Short (1 – 3 Years)	No	No	No
NYPA	Medium (80K – 200K)	Continuous	No	No	No
NYS DEC Climate Smart Communities • NYSERDA	Low (25K – 75K)	Short (1 – 3 Years)	No	No	No

RESPONSIBILITY	STRATEGY	GOAL ID	GOAL	ACTION	IMPLEMENTATION PARTNERS
Municipal		2.3.3	Light Duty Vehicle Fleet Transition	Transition 50% of the light-duty-vehicle fleet by 2035. Start with administrative vehicles, then cycle department vehicles upon end-of-life. Use lease agreements with dealerships for maintenance.	City Department of Public Works
THEME CLIMATE ADAPTATION (3)					
Community	Flood Mitigation (3.1)	3.1.1	Development Site Selection	Implement the city ordinance for construction within the Special Flood Hazard Area (100 Year Floodplain).	City Engineering Department • Onondaga County • Towns Surrounding Syracuse
Community		3.1.2	Green Infrastructure Projects	Continue public amenity green infrastructure projects and funding; specifically for the avoidance of impervious surfaces and expansion of water retention.	Onondaga County • Developers • Private Residences, Businesses, and Organizations
Community		3.1.3	Public Water Management Efforts	Use stormwater best practices on private properties i.e. plant trees, reduce paved area, install porous pavement, rain gardens, rain barrels, retention structures, etc.	Community Members
Municipal		3.1.4	Flood Mitigation Plan	Develop a formal flood mitigation plan for Syracuse. Include public participation components.	City Engineering Department • Onondaga County • Towns Surrounding Syracuse
Municipal		3.1.5	Land Acquisition: Flood Storage Development	Identify strategic land acquisitions to retain open space for flood storage which can additionally help with regional heat mitigation.	City Engineering Department • Onondaga County • Towns Surrounding Syracuse
Municipal		3.1.6	FEMA Community Rating System	Continue participation in the FEMA Community Rating System for flood insurance discounts for the 4.9% of parcels in the City that are in a designate flood zone. Work to improve to the next level.	City Engineering Department • Onondaga County • Towns Surrounding Syracuse
Municipal		3.1.7	Onondaga County Hazard Mitigation Plan	Implement all Syracuse flood mitigation measures in the County Hazard Mitigation Plan including upgrading sewer and stormwater management systems.	City Engineering Department, Onondaga County • Towns Surrounding Syracuse

POTENTIAL FUNDING SOURCES	ORDER OF MAG COST	TIMELINE	COMPREHENSIVE PLAN ALIGNMENT	GHG EMISSION CONNECTION	FISCAL CONNECTION
NYS DEC Climate Smart Communities ZEV Program • NYSERDA Clean Energy Communities Program	Very High (1 Mil+)	Long (8 – 10 Years)	To adhere to the NYS 2035 LDV zero-emission only sales mandate, the City will explore methods to transition the light-duty fleet.	Estimated yearly emission reduction between a Gas-powered Chevy Equinox and All-electric Chevy Equinox is 2.13 metric tons of carbon with a projected lifetime savings (8 years) of 25.6 metric tons of carbon.	The average yearly savings between a Gas-powered Chevy Equinox and All-electric Chevy Equinox is \$768 with a projected lifetime (8 year) savings of \$10,644.
NYSDEC • FEMA	High (250K – 750K)	Medium (4 – 7 Years)	No	No	No
City Parks and Recreation Department • NYS DEC Riparian Program	Staff Time	Continuous	No	No	No
NA	Staff Time	Continuous	No	No	No
NYSDEC • FEMA	Staff Time	Short (1 – 3 Years)	No	No	No
NYSDEC • FEMA	Very High (1 Mil+)	Short (1 – 3 Years)	No	No	No
NYSDEC • FEMA	Staff Time	Continuous	No	No	"If the cost of improvements or the cost to repair damage exceeds 50% of the market value of the building, it must be brought to the current floodplain management standards."
NYSDEC • FEMA	Very High (1 Mil+)	Continuous	To promote intergovernmental coordination, the City should incorporate Onondaga County's Hazard Mitigation Plan into the future planning.	No	No

RESPONSIBILITY	STRATEGY	GOAL ID	GOAL	ACTION	IMPLEMENTATION PARTNERS
Municipal	Heat Mitigation (3.2)	3.2.1	Increase Urban Tree Canopy	Use heat island and index maps to strategically plant 2,870 trees each year to increase shade and natural cooling mechanisms; called evapotranspiration. Additionally, fruit-bearing trees can be planted to increase community food access.	City Parks Department • SUNY ESF
Community		3.2.2	Expand Cooling Access	Empower residents in aging housing stock with opportunities to install electrical cooling systems and building envelope improvements to reduce extreme heat in residences.	EnergySmart CNY • City Communications Department
Community	Public Health (3.3)	3.3.1	Climate Events Education	Engage in City and County educational materials, communication networks, and workshops to understand the impacts of climate events (extreme heat, flooding, and wildfire smoke).	City Communications Department
Municipal		3.3.2	Climate Resiliency Centers	Develop five climate resiliency centers at Parks Recreation Buildings that function through microgrids to provide emergency service, food storage, and shelter during climate events. Additionally these spaces can act as cooling centers and places of community.	Mayor's Office • City Engineering Department • City Parks Department

THEME | NATURAL ENVIRONMENT (4)

Municipal	Native Species & Biodiversity (4.1)	4.1.1	Natural Resources Inventory	Inventory Flora and Fauna through partnership, engagement, and contracted services to database a Natural Resource Inventory to inform a Natural Areas Management Plan and Open Space Plan.	City Parks Department • Onondaga Earth Corps
Municipal		4.1.2	Protection of Natural Areas	Protect the natural ecosystem of the Onondaga Creekwalk, City Parks, and other potential natural areas.	City Parks Department • Creekkrats
Municipal		4.1.3	Natural Areas Management	Create natural areas management and protection plan to influence updates to the City's zoning ordinance that protects natural assets.	City Parks Department • Onondaga Earth Corps
Community		4.1.4	Native Areas Expansion	Encourage the community's development of mini-meadows through adjustment of the City's Code Enforcement ordinance that prohibits growth past six inches in height.	City Code Enforcement Department

POTENTIAL FUNDING SOURCES	ORDER OF MAG COST	TIMELINE	COMPREHENSIVE PLAN ALIGNMENT	GHG EMISSION CONNECTION	FISCAL CONNECTION
DASNY • Federal Programming	Very High (1 Mil+)	Continuous	No	No	No
NYSERDA • National Grid	Medium (80K – 200K)	Continuous	No	No	No
NA	Low (25K – 75K)	Short (1 – 3 Years)	No	No	Since 1992, there have been about \$7125 billion dollars in extreme climate event claims for damage. Onondaga County has endured between 18 and 21 extreme climate events since 1954.
NYS DOS • NYS DEC Climate Smart Communities • City Parks and Recreation Department	Very High (1 Mil+)	Continuous	Developing distinguished neighborhood climate resiliency centers will equitably connect all residents to safeguard from extreme heat, flood risks, and power outages.	No	No
NYS DEC Climate Smart Communities	Low (25K – 75K)	Short (1 – 3 Years)	No	No	No
NYS DEC	Medium (80K – 200k)	Continuous	No	No	No
NYS DEC Community Reforestation Grant	Staff Time	Short (1 – 3 Years)	No	No	No
NA	Staff Time	Medium (4 – 7 Years)	No	No	No

RESPONSIBILITY	STRATEGY	GOAL ID	GOAL	ACTION	IMPLEMENTATION PARTNERS
Community	Urban Forestry (4.2)	4.2.1	Private Tree Canopy Expansion	Connect private residences to right-of-way request a tree program administered by the Parks Department's Forestry Division.	City Parks Department • City Communications Department
Municipal		4.2.2	Maximize Tree Coverage on City Land	Increase support for and continue implementation of the City's Urban Forestry Master Plan and Municipal Tree Ordinance including the initiative (in process) to modernize the tree ordinance	City Parks Department
Municipal	Waste Reduction (4.3)	4.3.1	Gleaning & Food Waste	Establish a centralized location for gleaned food and a non-profit organizational structure that guides and distributes gleaned food to centers of need within the Syracuse community.	SOFA • Center of Excellence • Onondaga Food Rescue Network
Community		4.3.2	Composting & Organic Waste Management	Develop scaled composting systems that minimize landfilled organic waste. Start with education, progress to drop off sites, then implement a residential collection system.	Syracuse Grows • Center of Excellence • OCRRA • NYS Food Scraps Donation and Recycling Law
Community		4.3.3	Recycling Education & Engagement	Engage in City and OCRRA educational materials on recycling practices.	OCRRA • City Communications Department • NYS Food Scraps Donation and Recycling Law

POTENTIAL FUNDING SOURCES	ORDER OF MAG COST	TIMELINE	COMPREHENSIVE PLAN ALIGNMENT	GHG EMISSION CONNECTION	FISCAL CONNECTION
City Parks Department	Medium (80K – 200K)	Continuous	No	"The average tree absorbs an average of 22 pounds of carbon emissions per year for the first 20 years of life."	A small tree is valued at \$450 to appreciate to the value of \$7411 when mature and classified as a large tree over the 20 years (adjusted to 2024 currency).
DASNY • Federal Programming	Very High (1 Mil+)	Long (8 – 10 Years)	Implementation of the Municipal Tree Ordinance will continue the efforts of the Division of Forestry to expand and protect tree cover.	No	No
NYS DEC Climate Smart Communities	High (250K – 750K)	Long (8 – 10 Years)	No	No	No
NYS DEC Climate Smart Communities	High (250K – 750K)	Medium (4 – 7 Years)	No	Methane has a warming impact 86 times stronger than CO ₂ . Waste from food and other organic materials account for 20% of methane emissions.	No
NYS DEC Climate Smart Communities	Staff Time	Continuous	No	No	The City of Syracuse pays OCRRA \$107 and \$40 per ton of waste processed for general waste and recycling respectively. There is a \$67 cost saving per ton of recycling processed versus general waste.

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C. Glossary of Terms

Building Envelope. The physical barrier between the inside and outside of a building (walls, roof, windows, doors) that controls heat, air, and moisture flow.

Carbon Credits. Permits that represent the right to emit a certain amount of carbon dioxide (or equivalent); they can be traded in carbon markets.

Climate Adaptation vs. Resilience. Adaptation and resilience are similar, but different!

- **Climate Adaptation.** Adjustment or preparation of natural or human systems to the effects of climate change in ways that reduce harm or exploit beneficial opportunities e.g. planting heat-tolerant trees as local climates warm up.
- **Climate Resilience.** The capability to anticipate, prepare for, respond to, and recover from climate impacts with minimum damage to social well-being, the economy, and the environment. Resilience doesn't guarantee that bad things, e.g. a damaging flood, will have no impact, but it does speak to the ability of a community to bounce back i.e. return to intact homes and resume daily life.

Cross-departmental collaboration. Coordination and teamwork between different departments within the same organization.

Embodied Carbon. The total greenhouse gas emissions associated with producing, transporting, and installing a material or product (not just using it).

Energy Management. The process of monitoring, controlling, and optimizing energy use to improve efficiency and reduce costs and emissions.

Evapotranspiration. The combined process of water evaporating from land and transpiring (releasing moisture) from plants into the atmosphere.

Gleaning. Collecting leftover crops from fields after harvest, from a market, or a restaurant to prevent food waste and redistribute food.

Global Warming. The long-term increase in Earth's average surface temperature, mainly due to human-caused greenhouse gas emissions.

Global Warming Potential (GWP). Different greenhouse gases warm the atmosphere differently and stay in the atmosphere for different periods of time. Understanding this is important when calculating the GHG inventory: you aren't counting just one currency – you have dollars and euros and pounds and pesos and yen that you need to compare and add up to a single number. Global warming potential (GWP) is a way to create a single currency of how much warming each gas contributes. Each greenhouse gas is compared to carbon dioxide which has GWP of 1, and remains in the atmosphere for thousands of years. However methane (natural gas) has a GWP of 27-30 versus carbon dioxide: it a powerful GHG, but doesn't remain in the atmosphere for as long as carbon dioxide. GWP allows for the conversion of different greenhouse gas emissions into the same emissions unit, carbon dioxide equivalent (CO₂e) – similar to how we compare foreign currencies to the dollar.

Green Electricity. Electric power generated from renewable sources like wind, solar, or hydropower with little or no greenhouse gas emissions.

Green Infrastructure. Natural or nature-based systems (like parks, green roofs, wetlands) that manage water, reduce heat, and improve environmental quality.

Greenhouse Gases (GHGs). Gases in the atmosphere (like carbon dioxide, methane, and nitrous oxide) that trap heat and warm the Earth.

Greening the Grid. Transitioning the electricity system to rely more on renewable energy and lower-carbon sources.

Grey Infrastructure. Traditional, engineered systems (like roads, pipes, sewers, and buildings) used for transportation, water, and other services.

Intergovernmental Collaboration. Cooperation between different levels of government (local, state, federal, or international).

Location-Based Electricity Emissions. The location-based approach to calculating electricity emissions is based on the electricity physically delivered to an entity, in this case the City of Syracuse by National Grid. It relies on average regional electric grid emission factors to calculate emissions.

Market-Based Electricity Emissions. The market-based approach is where it gets more complicated. When you buy green power on your electricity bill, or buy solar from a community solar projects, or buy RECs, the GHG grid-based emissions will be adjusted based on the amount of green power that is purchased. Syracuse does not participate in any green power programs or purchase RECs, but if it did, it would use the market-based calculation.

Micromobility. Small, lightweight transportation modes (like bikes, e-scooters, and e-bikes), typically used for short distances.

New York Climate Leadership and Community Protection Action (CLCPA). A major New York State law (passed in 2019) that commits the state to reducing greenhouse gas emissions, transitioning to clean energy, and prioritizing environmental justice.

Positive Feedback Loop. A process where an initial change triggers effects that amplify that change (e.g., melting ice reduces reflectivity, causing more warming and more melting).

Rate of Change. How quickly something increases or decreases over time (e.g., temperature rising per decade).

Renewable Energy Certificate. A renewable energy certificate, or REC, allows entities to buy and sell the environmental, social, and other non-power attributes of renewable electricity (e.g., the “greenness”) even if the electricity they are consuming directly from the grid is not carbon-free. RECs are typically purchased in one megawatt-hour (MWh) increments and include identifying information such as the source of the electricity and when it was generated.

Scope 1 GHG Emissions. This is a term used in GHG inventories, and it describes the category of emissions that occur on-site e.g., burning natural gas or oil to heat a building, or burning gasoline or diesel in a vehicle. These are typically calculated from figures reported in utility or fuel bills. Scope 1 emissions are a mandatory component of both municipal and community GHG inventories.

Scope 2 GHG Emissions. This term describes the categories of emissions from the power plants that supply electricity to the grid. These are typically calculated based on electricity consumption reported in electric bills, multiplied by the emissions factor (kg of CO₂ equivalent per megawatt hour of electricity) of the power plants which made the electricity in a certain region. Scope 2 emissions are a mandatory component of a municipal or community GHG inventory.

Scope 3 GHG Emissions. These are indirect or life-cycle emissions generated through activity (this is regardless of where these emissions generating activities occur) such as waste generation, consumption of food and water, the manufacturing of the clothing you wear, and building the buildings you live and work in. Comprehensive Scope 3 emissions are optional for municipal and community GHG inventories today: they are complicated and, in many cases, impossible or impractical to calculate. However, certain categories within Scope 3 such as employee commute can be estimated and are useful to measure certain impacts of government operations on GHG emissions.

Unrestricted Air Flow. Air can move freely through a space, system, or object without significant blockage, resistance, or obstruction. In buildings, unrestricted air flow created by modern HVAC systems decreases asthma symptoms and allergic reactions to dust particles.

Urban Heat Island Effect. A phenomenon where cities and densely built urban areas become significantly warmer than nearby rural areas, especially at night, because of a lack of tree canopy and dark pavement.

D. Frequently Asked Questions (FAQs)

What Is a Climate Action Plan (CAP)? A CAP is a strategic document that presents the risks (and opportunities!) posed by climate change and the actions that must be taken to 1) reduce emissions of greenhouse gases (GHG) that cause climate change, and 2) increase adaptation and resilience to climate risks to protect communities and the environment.

Why does Syracuse need a CAP? Climate change is accelerating, with negative impacts to our daily lives from everything from nuisance flooding to the erosion of City budgets, buildings, infrastructure, and the natural environment. With a plan, the City and the community can prioritize actions and programs to protect the things we care most about, reduce GHG emissions, and be better positioned to obtain funding for projects that will improve resilience – for everyone.

What is a greenhouse gas inventory (GHGI) and what is it for? A greenhouse gas inventory (GHGI) lists emissions sources and quantifies the emissions from each source using standardized calculations. Organizations develop GHG inventories for a variety of reasons, including:

- To establish accountability for their contribution to global climate change.
- To identify the important GHG sources so these sources can be reduced
- To “keep score” as projects reduce emissions over time
- To compare against peer entities i.e. other counties, towns, and cities in New York

- To participate in voluntary or mandatory GHG programs (e.g. New York State’s Climate Smart Communities program) and achieve recognition for actions taken.
- To calculate how many carbon credits or renewable energy certificates to buy.
- Syracuse has an emissions inventory from 2010, so it will be very interesting to see how the City and community performed over the last 14 years.

What is the different between climate and weather?

“Climate is what you expect. Weather is what you get.” As the climate changes, seasonal weather patterns and events we remember growing up are happening at different times of year, or are happening at different times of year, or aren’t happening at all. In some cases, we are seeing weather we have never seen before.

What are the effects of climate change and the risks posed to Syracuse? In general the effects from climate change include things that we are already seeing around us today: shorter winters, hotter and longer summer temperatures, heatwaves, wildfire smoke (local or regional), extreme weather events (especially rainfall, wet snowfalls with sudden thaws). The risks include flooding at any time of year, heat stress/stroke in the summer, damage to public and personal property, less outdoor activities in hot summer months, and changes to natural ecosystems. Some of the effects may not be 100% negative – warmer temperatures may be welcome in Syracuse! But as the climate changes, so must we.

What is a Government Operations CAP? A Government Operations CAP covers municipally owned assets such as City buildings, streets, streetlights, drinking water treatment facilities, and parks. In addition, it covers the day-to-day City operations and policies. A Government Operations CAP will include actions to reduce GHG emissions from City buildings and operations, actions the City should take to support resilience throughout the community, and changes to City policy instruments such as zoning ordinances that will increase climate resilience or reduce emissions.

What is a Community CAP? A Community CAP applies to actions across an entire geographic area. For example, the area within the city limits of Syracuse, comprising its citizens, its businesses, its organizations, and other stakeholders. Writing these plans is built on deliberate public outreach process to gather input and reach agreement on what the actions are going to be. Sometimes the goals are more general, less specific as they require collective action. But the community CAP provides the vision and goals that everyone in Syracuse can strive towards. The most meaningful projects often have benefits beyond just being a climate action: for example, planting more street trees doesn't just provide shade and pull carbon out of the atmosphere, but helps to cool entire neighborhoods, mitigate stormwater runoff, and beautify urban landscapes.

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