



Preparing for Climate Change

Presented by the Partnership for Community Development
and the Hamilton Climate Preparedness Working Group

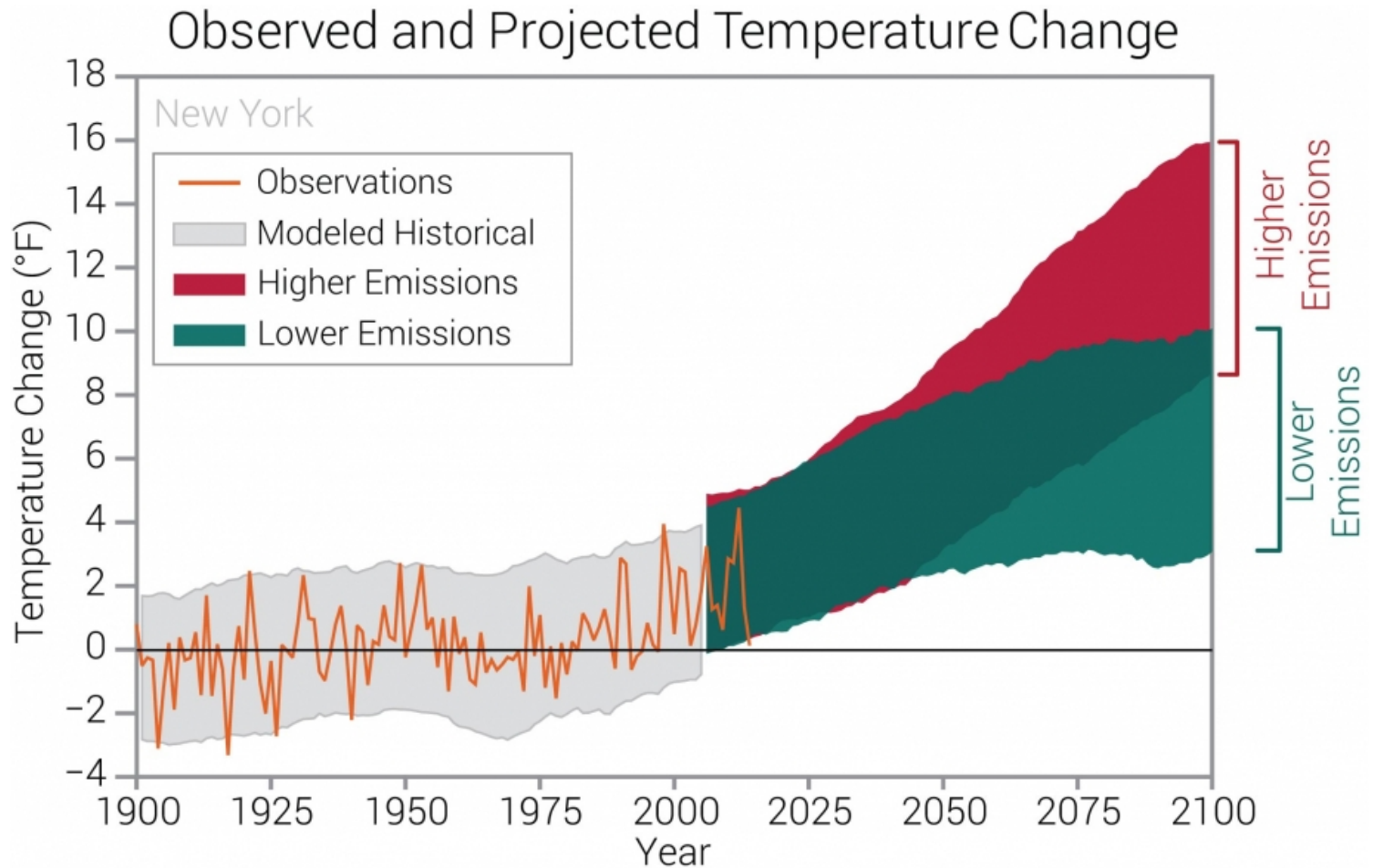


*A community vision for the
Town and Village of
Hamilton*

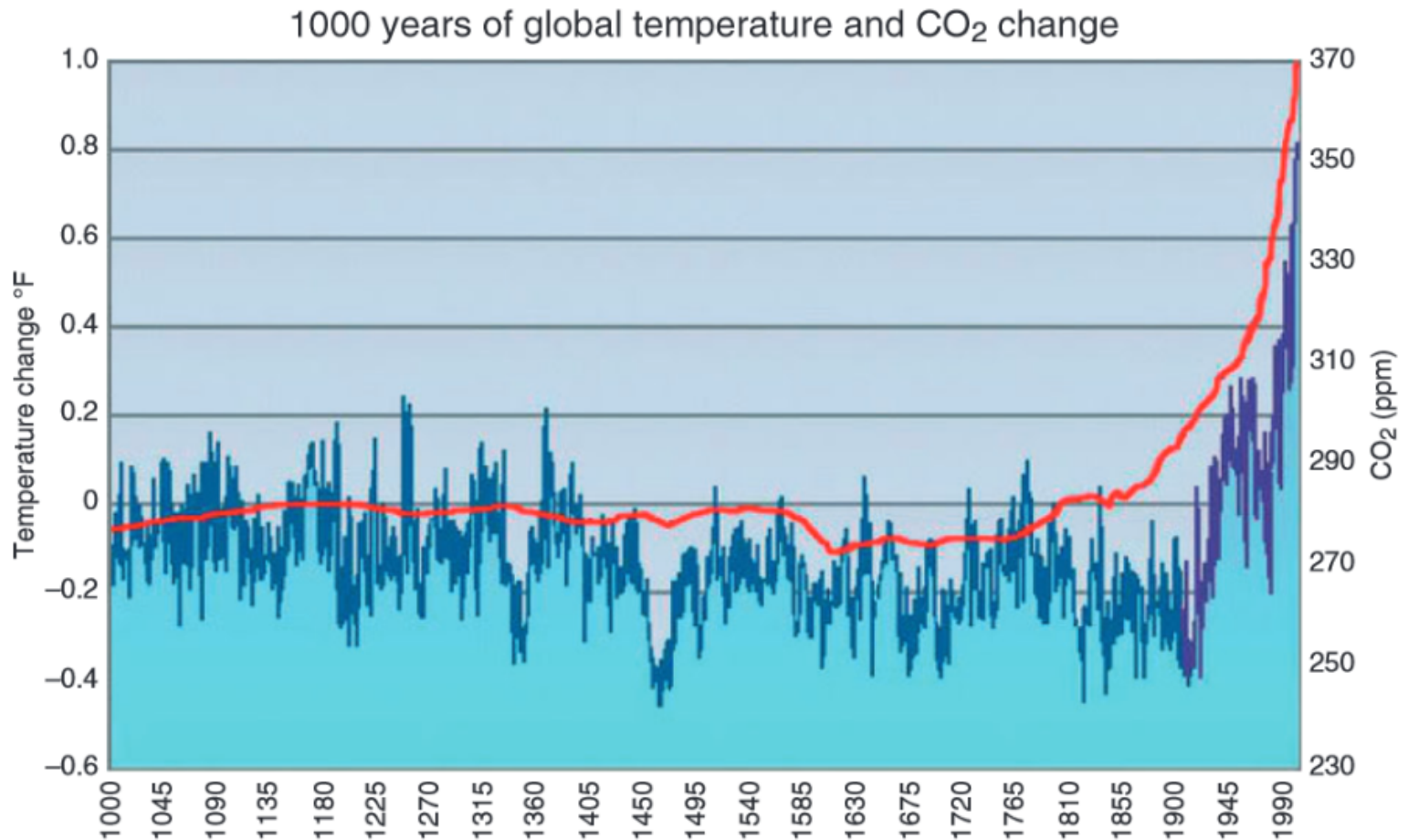
Operating Values

- Be respectful
- Keep your comments brief and on-topic
- Focus on climate action

What Is Climate Change?

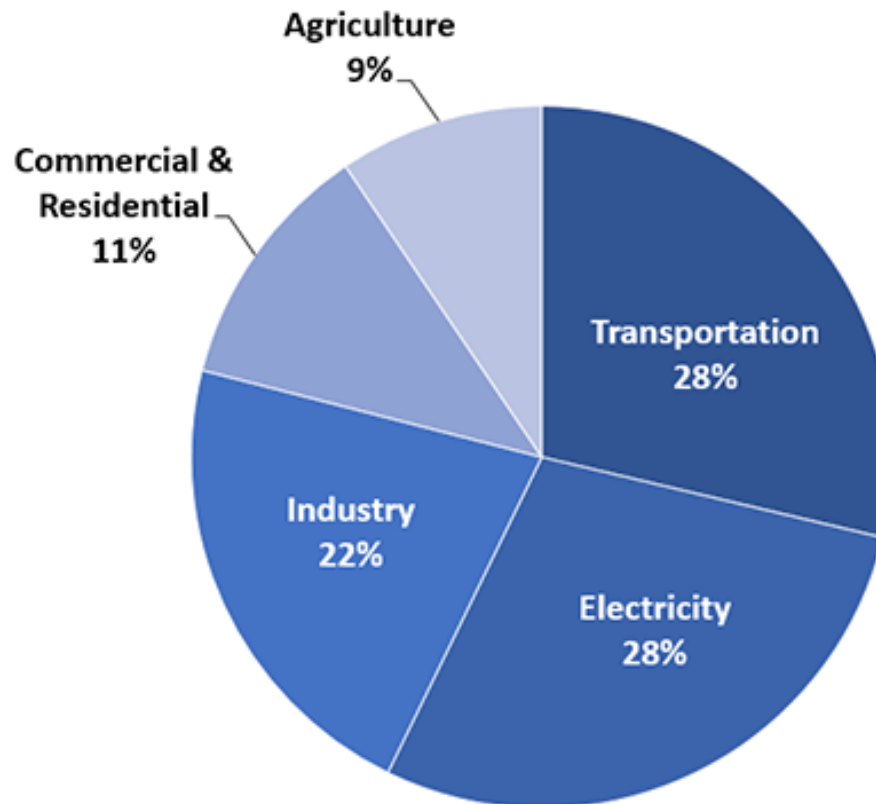


Causes of Climate Change



Causes of Climate Change

Total U.S. Greenhouse Gas Emissions by Economic Sector in 2016



Global Effects

- Melting of Arctic ice
- Increase in sea level
- More frequent and severe extreme weather events
 - Heat waves
 - Droughts
 - Tropical storms
 - Flooding
 - Extreme cold
- Changes in growing seasons and animal and plant ranges

IPCC Special Report

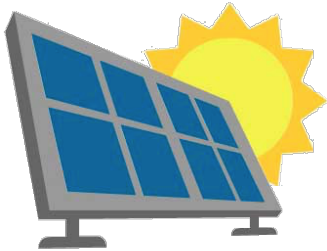
“Warming of 1.5°C or higher increases the risk associated with long-lasting or irreversible changes, such as the loss of some ecosystems”

“Limiting global warming to 1.5°C would require ‘rapid and far-reaching’ transitions in land, energy, industry, buildings, transport, and cities. Global net human-caused emissions of carbon dioxide (CO₂) would need to fall by about 45 percent from 2010 levels by 2030, reaching ‘net zero’ around 2050.”

Climate Change in CNY

- Increase in average annual temperature
- More warm nights, fewer very cold nights
- Increase in winter and spring precipitation
 - Increased risk of spring flooding

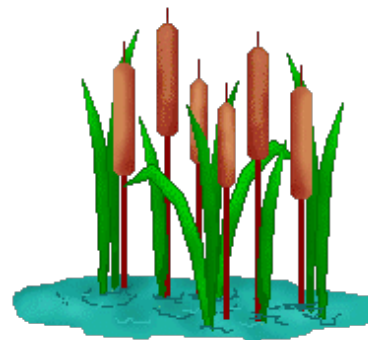
Mitigation



Vector images from:
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Adaptation & Resilience

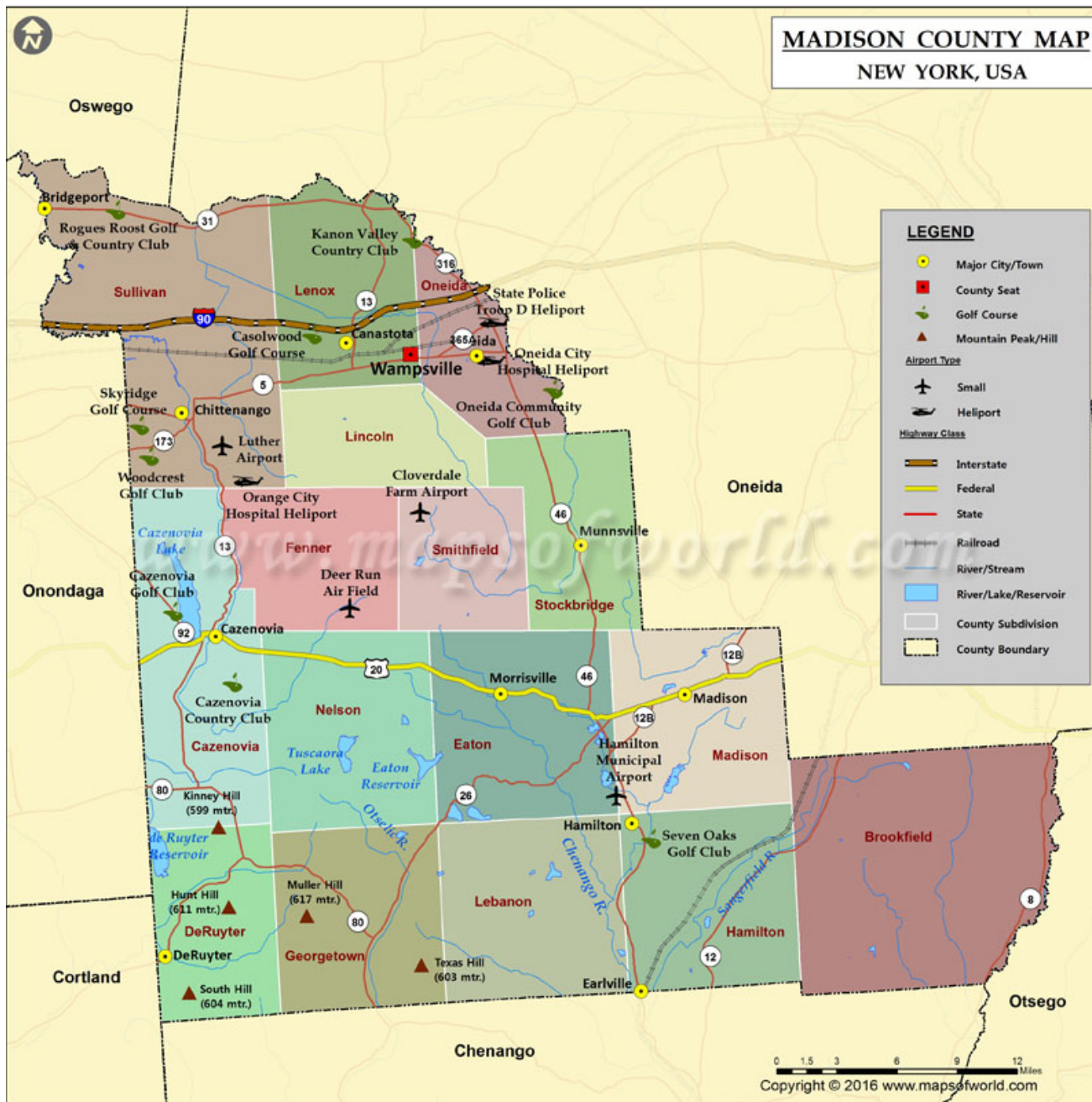


Climate Change in the Village of Hamilton

- Impact on Infrastructure
- Emergency preparedness
- Making small changes count

Climate Change in the Town of Hamilton

- Road & infrastructure damage
- Residential property loss
- Agricultural crop loss and pests



Hamilton Climate Preparedness Working Group

- Partnership between the Town and Village of Hamilton to plan and prepare for current and future impacts of climate change on our community.
- Meeting monthly since 2016 to discuss climate challenges and actions.
- Includes representatives from:
 - Town of Hamilton
 - Village of Hamilton
 - Madison County Planning Office
 - Partnership for Community Development
 - Hamilton Business Alliance
 - Hamilton Central School
 - Cornell Cooperative Extension
 - Colgate University
 - Community members appointed by Town and Village leadership.

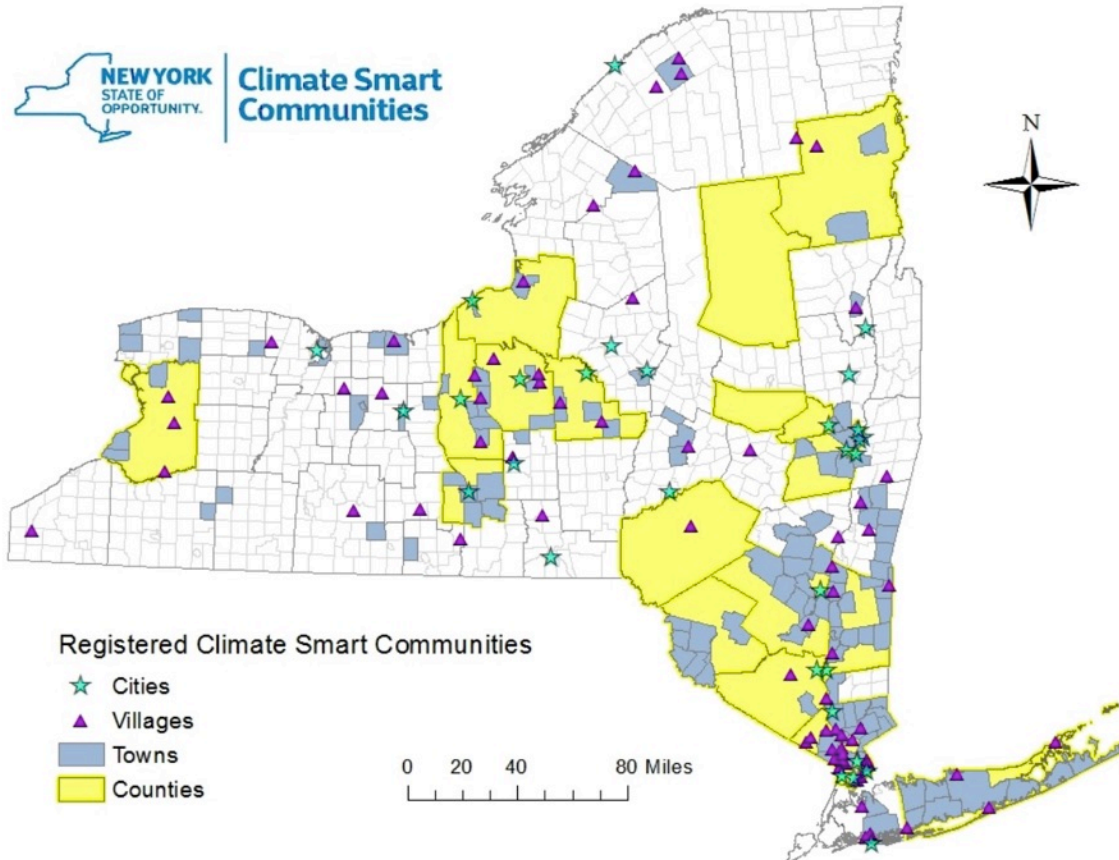
Climate Smart Communities (CSC)

- A NY Department of Environmental Conservation program.
- Supports NY communities in climate planning efforts.
- Communities adopt a 10 element pledge to reduce GHG emissions and prepare for climate change.
- Communities adopt a CSC pledge and then work to gain points toward certification (120 points = Bronze certification).
- Town of Hamilton adopted CSC pledge in Sept 2016; Village of Hamilton in Jan 2017. Madison County certified Bronze in Feb 2017.



**Climate Smart
Communities**

Climate Smart Communities in New York State



- 241 municipalities throughout New York State have signed a pledge to become Climate Smart Communities
 - 17 Bronze Certified CSCs
 - 4 Silver Certified CSCs

Climate Preparedness Jargon

GREENHOUSE GAS EMISSIONS (GHGs)

CO₂, methane and other contributors to the greenhouse effect and our changing climate.



METRIC TONS of CO₂ EQUIVALENT (MTeCO₂)

Standardized measure of GHGs.

CLIMATE MITIGATION

Work to inventory and reduce a community's GHG "footprint."

CLIMATE ADAPTATION and RESILIENCE

Building community capacity to understand, prepare for, and adapt to impacts from a changing climate.

CLIMATE VULNERABILITY and JUSTICE

Identifying and giving a voice to those community members most at risk from climate impacts.

CLIMATE ACTION PLAN (CAP)

Strategic planning document that supports a community's mitigation and adaptation efforts, setting specific goals and timelines for action.

Relative Emissions from Communities in New York State



NEW YORK STATE
218,000,000 MTeCO₂

6 MTeCO₂
per capita

11 MTeCO₂
per capita



NEW YORK CITY
52,000,000 MTeCO₂

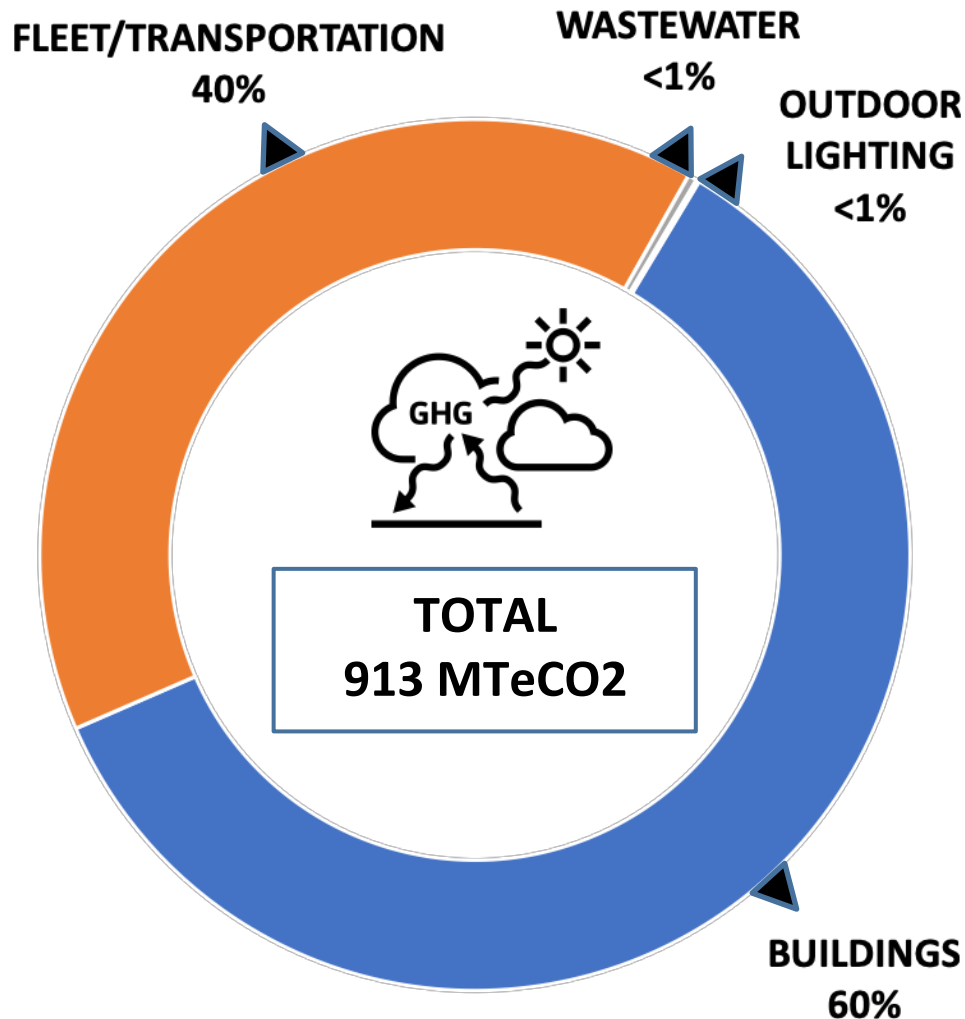
10.6 MTeCO₂
per capita

MADISON CTY
777,338 MTeCO₂

9-14 MTeCO₂
per capita (teeny dot)

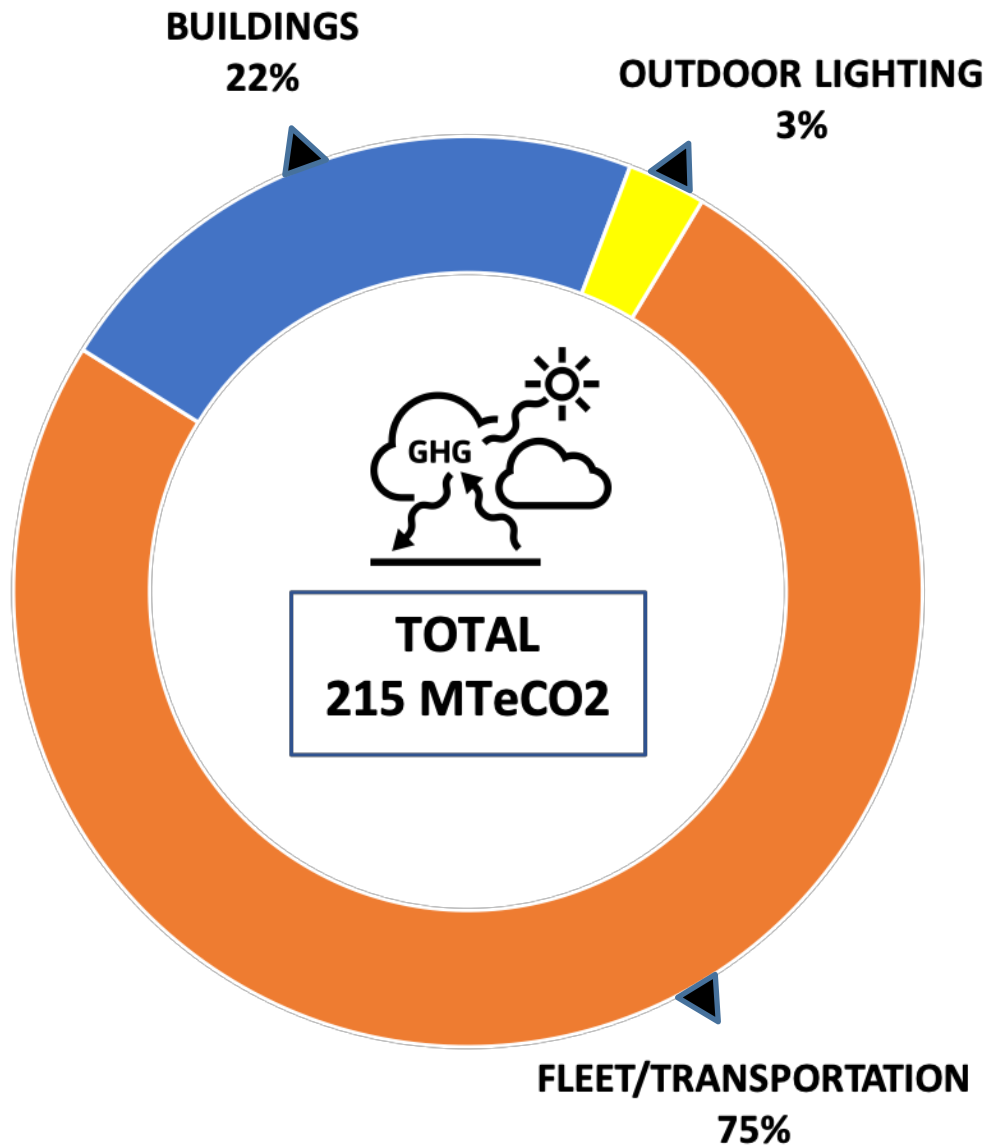
TOWN/VILLAGE of HAMILTON
~60,000-90,000 MTeCO₂

Village of Hamilton Municipal GHG Emissions, MTeCO₂ (%)



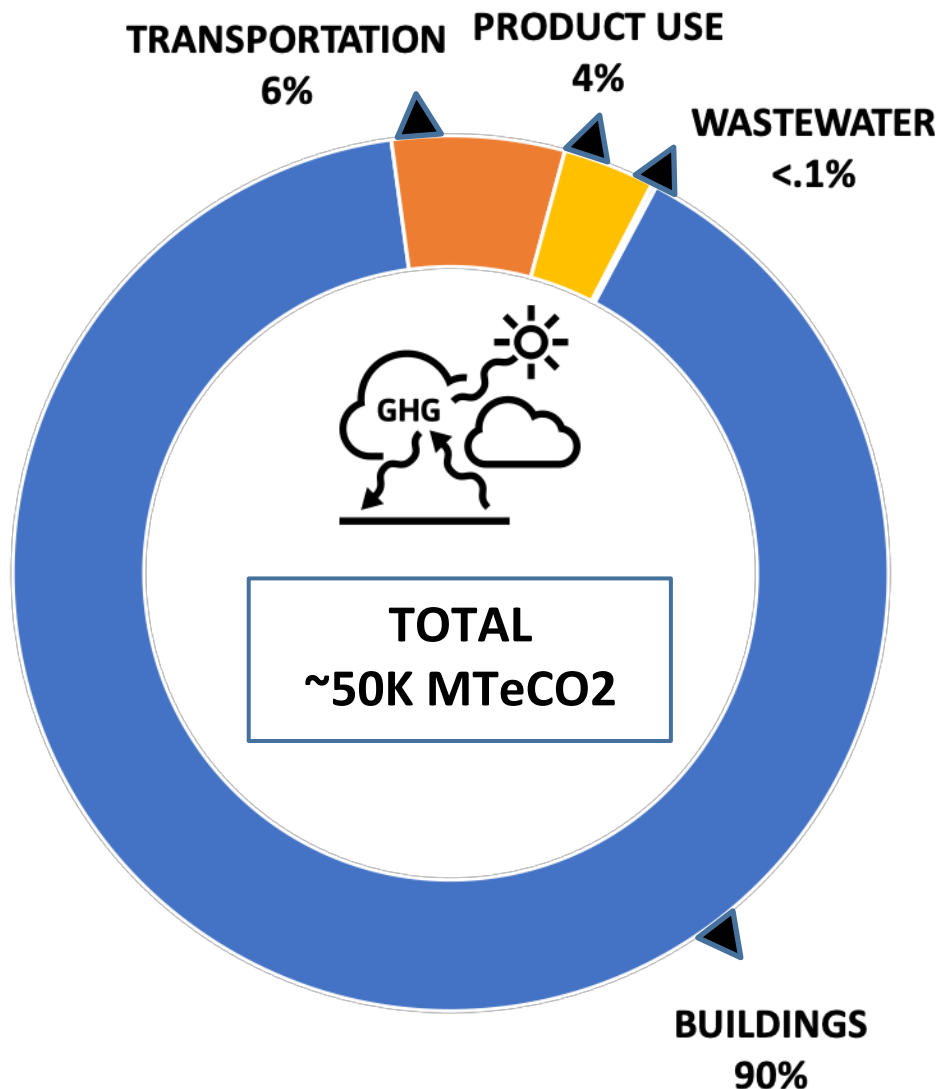
- Village municipal emissions largely from buildings, fleet vehicles, and employee commuting.
- Many Village streetlights already converted to LEDs, and more on the way.

Town of Hamilton Municipal GHG Emissions, MTeCO₂ (%)



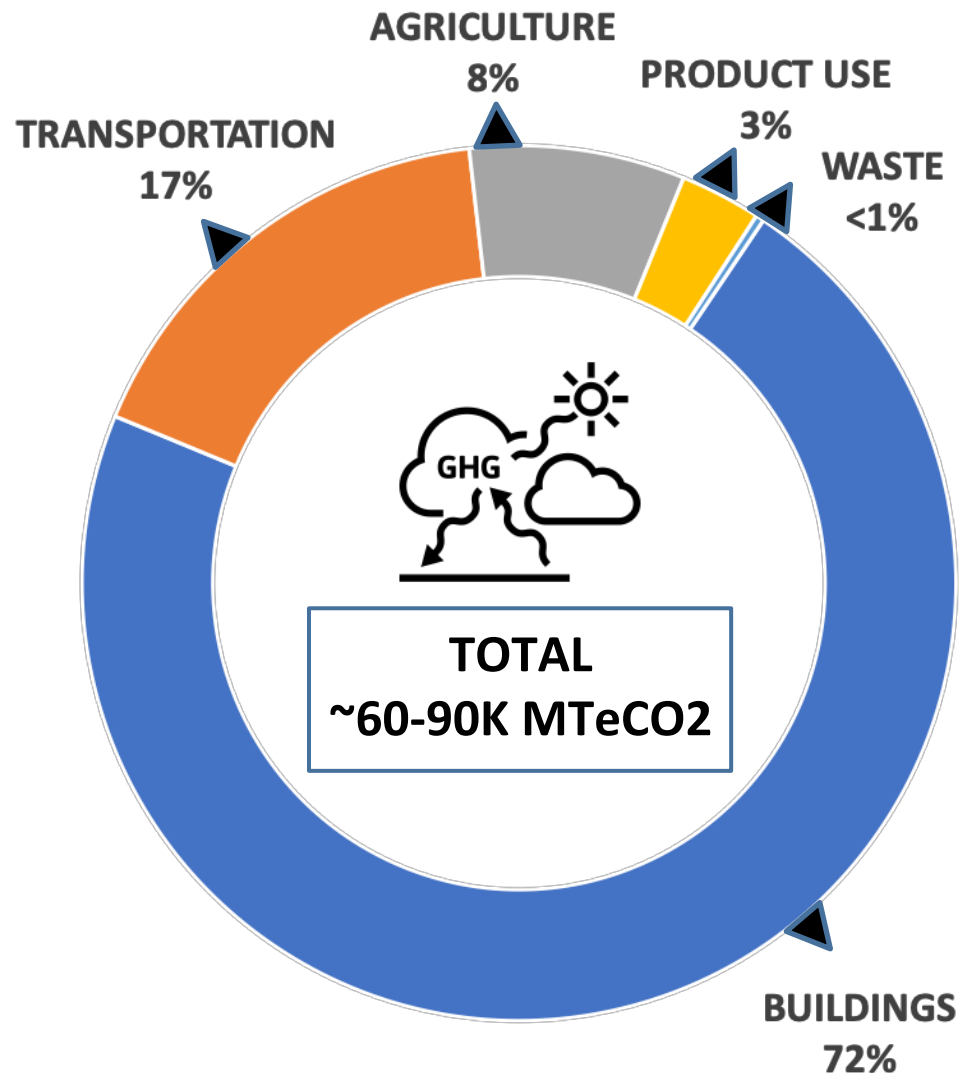
- Town municipal emissions largely from town vehicles.
- Town municipal garage already incorporates solar and geothermal energy use.

Village of Hamilton Community GHG Emissions, MTeCO₂ (%)



- Building energy use contributes the largest share of Village community GHG emissions.
- Colgate University accounts for 8,846 MTeCO₂, or ~16% of the Village's total GHG emissions.
- Emissions from product use mainly due to refrigerants (fridges, AC units, etc).
- County landfill generates energy from waste, allowing the Village to count -82 MTeCO₂ against its total footprint!

Town of Hamilton Community GHG Emissions, MTeCO₂ (%)



- Transportation includes GHG emissions from residents' travel as well as travel through the Town by non-residents.
- Proportion of emissions from ag/livestock (8%, vs NY 4%) reflects the importance of agriculture for our rural economy.
- Still working to collect and combine the best data for the Town and Village.

Adaptation and Resiliency Planning

- Key threats include extreme storms and temperatures, more frequent flooding events, and new pests and diseases.
- Vulnerability assessment allows us to catalog and plan for these risks.
- Correlation between climatic and other forms of vulnerability; attention to issues of climate justice.
- Agriculture especially vulnerable to changing climatic conditions.
- Current and ongoing efforts to support resiliency:
 - Completing vulnerability assessment for Town and Village.
 - Bridge and culvert upgrades to reduce waterway bottlenecks.
 - Climate Smart Farming initiatives through Cornell Coop Extension.
 - Whitetail deer and tick studies to assess increased risks from disease.

Next Steps --- Getting Involved

- HCPWG will complete GHG inventories, vulnerability assessments, climate action plans, and submit documentation for Climate Smart Communities certification.
 - Community engagement is a key part of this effort!
 - Please sign up for our mailing list to stay informed and engaged.
 - Upcoming series of workshops to seek stakeholder input.
- Key questions:
 - Climate “vision” for Hamilton in coming decades?
 - Timeline for mitigation: how much do we plan to reduce, and in what timeframe?
 - How much can we spend on these efforts, and how can we take best advantage of state resources to support this work?
- Resources for homeowners:
 - Free home energy audit.
 - Solarize CNY supports area residents seeking to install solar.

Colgate Student Research Support

The Town of Hamilton, NY 2018 Community Greenhouse Gas Inventory

Completed by Miranda Gilgore

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Town of Hamilton, NY

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Town Office Hours: Monday – Friday | 9 am – 1 pm | 2 pm – 4 pm | and by appointment

1795

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Understanding Climate Change

Gases in our atmosphere, including water vapor, nitrous oxide, carbon dioxide, and methane, block heat radiation from escaping from the Earth to space, affecting the temperature of our planet. Recently, there have been unprecedented increases in the concentration of some of these atmospheric gases caused by the burning of fossil fuels, land clearing for agriculture, and other industrial activities.

Since the start of the industrial revolution, atmospheric carbon dioxide concentrations have increased by more than a third due to human activity.

How to be more Green

Town's Commitments & Efforts

Buy Local, Buy Green

Understanding Climate Change

Reduce Waste

Upstate Institute News

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NEWS

Miller Downer '21 helps Hamilton achieve Climate Smart Community certification

BY [UPSTATE INSTITUTE](#) ON JUNE 29, 2018

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Written by Miller Downer '21



Miller Downer '21 in front of the Village of Hamilton office.

This summer, I am working alongside the Town and Village of Hamilton to achieve Climate Smart Community Certification for both municipalities. Along with their usual governmental operations, the Town and Village aim to operate in a sustainable manner that can dissipate throughout the community, adopting green practices that ultimately aid the population at large. CSC Certification would only prove the lengths that the Town and Village are willing to go to create a sustainable community in cooperation with Colgate University, and by completing tasks that would aid Hamilton at large (and to an extent, its neighboring villages), the municipalities would become recognized in New York for their actions and endeavors to work towards a greener future as well as to become eligible for competitive funding to further their sustainability goals. Overall, the municipalities serve the people of Hamilton and neighboring communities, improving quality of life through eco-friendly practices.

My experiences with the Town and Village offices have been nothing short of eye-opening and extremely enjoyable; my co-workers have been extraordinary in welcoming me and

Thank you!

Questions?

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Q&A

How has climate change personally affected you?

What aspects of climate change are you most concerned about?

In preparation for a changing climate,

in  **2030** Hamilton will be _____

Hamilton's energy system will be _____

Hamilton's infrastructure will be _____

Hamilton's food system will be _____