



## Introduction

The Climate Smart Communities (CSC) program is a New York State initiative to help local communities reduce greenhouse gas (GHG) emissions, prepare for effects of climate change and save taxpayers money. The program is designed to address 10 focus areas, or “pledge elements,” outlined in the CSC Pledge. The City of Watervliet adopted the CSC Pledge in 2010. In 2012, the CSC Regional Coordinator Pilot program was created by the New York State Energy Research and Development Authority (NYSERDA) to offer technical assistance to communities like Watervliet that have adopted the CSC Pledge. In the Capital District, NYSERDA chose the Capital District Regional Planning Commission (CDRPC) to provide this support. On November 21, 2013 an In-Person Consultation was held with CDRPC and its consultant, VHB Engineering Surveying and Landscape Architecture, P.C. (VHB) to discuss the City’s needs and identify where technical assistance can be provided to assist them in achieving the pledge elements. As a result of this consultation, it was determined that a strong area for potential climate action is to develop an outline for a community-wide climate action plan (CAP) using the greenhouse gas emissions results for Watervliet from the [Capital District Regional Greenhouse Gas Emissions Inventory](#) as a foundation. This support will also help to address *CSC Pledge Element #2: Set Goals, Inventory Emissions, Move to Action.*



## Watervliet CAP Resources



The City of Watervliet completed a local government operations CAP in 2008. The next step is for Watervliet to develop a community-wide CAP to set goals and develop strategies for reducing overall GHG emissions. Building off of the city and region’s existing studies and plans, this document provides the City with a community-wide CAP outline and sample strategies to reduce GHG emissions that are consistent with local, regional and state-wide climate protection efforts. This document is structured as an annotated Table of Contents providing general instructions and recommendations for each section of the community CAP outline. *Chapter 5: Community GHG Emissions Inventory* summarizes Watervliet’s GHG emissions by sector from the [Capital District Regional Greenhouse Gas Emissions Inventory](#). Tables and figures of Watervliet’s emissions inventory data are provided in [Appendix A](#). Local and regional plans are compiled into [Appendix B](#) to



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inform climate action planning in Watervliet. This document is further accompanied by 4 external documents:



The ***Watervliet Implementation Matrix*** is a template to help the City organize goals and actions for each focus area of the community-wide CAP. Sample strategies, descriptions, and resources are included to help inspire action and ideas for climate action planning in Watervliet. After Watervliet has collaborated with community stakeholders to develop goals and actions for the CAP, the City can begin to strategize how to implement each action by completing the implementation matrix. Once completed, the City can include the implementation matrix in an appendix of the CAP to guide energy and GHG reduction efforts in the City. Instructions are included within the matrix.




The ***Climate Action Plan Template*** was developed for Climate Smart Communities in the Capital District to assist local governments in taking action to reduce greenhouse gas emissions for government operations and the community. Since Watervliet has already completed a climate action plan for local government operations, sections of the template can be modified or removed to focus specifically on community-wide emissions. Alternatively, Watervliet can choose to update their local government CAP within the community CAP using the provided Climate Action Plan Template. Appendix B provides examples of Climate Smart Communities that have completed a CAP for local government operations and the community.



The ***Charts for Climate Action Plan Template*** includes an additional means by which to illustrate your local government's baseline emissions, forecast and reduction targets in the form of a "Focus Area Impacts" chart. Even if you have already completed your emissions inventory and forecast, you may not have created such an illustration. If you find it useful to include this chart in your plan, you may utilize the Excel file that accompanies this template. Instructions for utilizing the file to create the chart are included within the file itself.



The ***CSC Guide for Climate Action Planning*** was developed under the CSC program in 2014. This guide outlines a step-by-step process for climate action planning and provides resources and examples throughout each section. This guide can serve as a reference point throughout the climate action planning process.

With the community-wide CAP outline as a guide and a combination of supporting CAP templates, Watervliet is well equipped to begin developing a climate action plan for the community. The following Table of Contents below provides a one page snap-shot of what Watervliet's community CAP outline could include. This table of contents is followed by a more detailed CAP outline with instructions and recommendations for each section. Appendices include additional resources that will be useful to Watervliet throughout the climate action planning process.  *Good luck!*



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# Watervliet Community Climate Action Plan

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## 1. Executive Summary

The executive summary should highlight the results of the greenhouse gas inventory and the need for the community-wide climate action plan to achieve the stated greenhouse gas emissions reduction target. This section should provide high-level summary of goals and actions within the plan and should be endorsed by the Mayor or City Council to demonstrate leadership and commitment at the highest level of the local government.

## 2. Introduction

The introduction should provide a brief overview of the reason for developing a climate action plan, the process that was used and a brief discussion about the science behind climate change and the local impacts in Watervliet. The following will guide your writing for the introduction:

- a. Purpose and benefits of developing a Community CAP in Watervliet.
  - Purpose: to mitigate climate change/reduce GHG emissions.
  - Climate change science and impacts on Watervliet
  - Benefits: save tax payer dollars, increase energy security, conserve natural resources and more.
- b. Brief summary of how the plan was developed: public planning process and community engagement.
- c. How is the plan to be used, how it is organized (by sector or focus area), and who should use it.

## 3. CAP Goals and GHG Emissions Reduction Target

This section will lay out the goals for the climate action plan and outline the GHG emissions reduction target(s) that the City has established. A community can identify one goal for each sector or multiple goals per sector. For the GHG reduction target, Watervliet should include whatever targets are set in the planning process, whether that be a long- and short-term target or just a long-term target. For more guidance on goal and target setting, please see the ***Guide for Climate Action Planning*** developed by the Climate Smart Communities Program in 2014.

## 4. Current Climate Protection Efforts

In this section, the City will provide a brief overview of its climate protection efforts including the following resources:

- a. Watervliet's participation in the [Climate Smart Communities Program](#).
  - [Climate Smart Watervliet – Community Profile](#)
- b. Climate champions in the community:



- [Watervliet Sustainability Working Group \(WSWG\)](#)
- Mayoral support and collaboration to develop the LGO CAP.
- c. Brief Summary of [2008 Local Government Operations CAP](#)
  - LGO CAP target: *Reduce GHG emissions by 10% below 2008 levels by 2014.*
  - LGO climate-related achievements to date (See M/V section of CAP p.12)
- d. Summarize [2013 Watervliet Bicycle Master Plan](#)
  - Brief description of purpose and community benefits (public health, quality of life, reduced fuel consumption and vehicle miles traveled)
- e. Summarize [2011 Comprehensive Plan](#)
  - Brief description of community vision and how community CAP aligns with goals outlined in the plan.

### 5. Community GHG Emissions Inventory

In order to introduce the initiatives the City is proposing to reduce GHGs, the City should introduce a baseline, or starting point, from where reductions will be measured from. Using the [2010 Capital District Regional GHG Inventory](#), the City can pull out the results specifically related to Watervliet (Table 1 and Figure 1).

The Capital District Regional GHG inventory was developed to serve as a baseline for local governments for the year 2010. The regional inventory includes community level data for the cities, towns and villages in the Capital District, including the City of Watervliet.

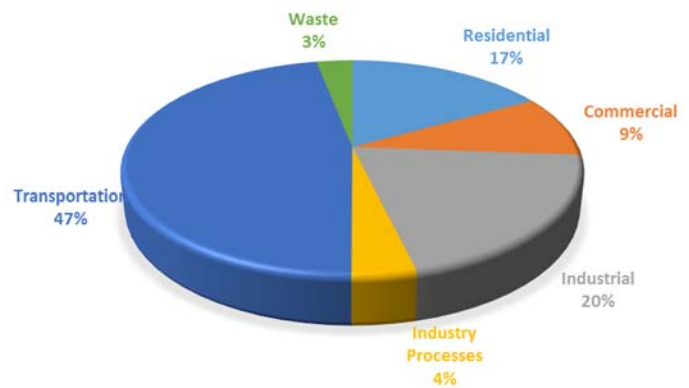
#### a. Results

Table 1 and Figure 1 present the results, by sector, for the City of Watervliet and can be used as a starting point to begin discussing what types of actions can be implemented to reduce emissions.

Table 1: Watervliet's GHG Emissions by Sector 2010<sup>1</sup>

| Sector         | GHG Emissions (MTCDE) |
|----------------|-----------------------|
| Residential    | 17,824                |
| Commercial     | 9,905                 |
| Industrial     | 21,256                |
| Process        | 4,025                 |
| Transportation | 49,672                |
| Waste          | 3,218                 |
| Agriculture    | 0                     |
| <b>Total</b>   | <b>105,900</b>        |

Figure 1: Watervliet's GHG Emissions by Sector 2010 (MTCDE)



<sup>1</sup> Note: All GHG emissions in this report are reported in units of Metric Tons Carbon Dioxide Equivalent (MTCDE) which is the convention for reporting regional GHG inventories. One MTCDE is equal to 1000 Kilograms of CO<sub>2</sub>.



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Although emissions are reported for specific sectors, CAPs often combine emissions reported and create high-level focus areas. For example, commercial, industrial, and industrial process emissions can be combined under one focus area, such as Commercial and Industrial. An important component of assessing community scale GHG emissions is communicating that information to your community in a way that is easy to digest and will motivate community members to take action. The following focus areas are recommended for Watervliet:

- Built Environment
  - Residential
  - Commercial and Industrial
- Transportation
- Waste and Recycling
- Renewable Energy

Refer to the **Watervliet Implementation Matrix** (Excel file) that accompanies this CAP outline. The implementation matrix is a template to help the City organize goals and actions for each focus area of the community-wide CAP. Sample strategies, descriptions, and resources are included to help inspire action and ideas for climate action planning in Watervliet. After Watervliet has collaborated with community stakeholders to develop goals and actions for the CAP, the City can begin to strategize how to implement each action by completing the implementation matrix. Once completed, the City can include the implementation matrix in an appendix of the CAP to guide energy and GHG reduction efforts in the City. Instructions are included within the matrix.

Figure 2: Example of Watervliet Implementation Matrix (Excel file)

| Built Environment  |  |   |  |
|--|--|---|--|
| Goal   | Action                                   | Action Description  | Best Practices or Resources  |
| <p style="text-align: center;">&gt;&gt; READ ME TO GET STARTED &lt;&lt;</p> <p>The Watervliet Implementation Matrix is a template to help the City organize goals and actions for each focus area of the community-wide climate action plan. Sample strategies, descriptions, and resources are included to help inspire action and ideas for climate action planning in Watervliet. Each sheet represents a different focus area included in the CAP. Sheets can be copied or modified to reflect the focus areas designated by Watervliet. This document accompanies</p> |  |   |  |
| GOAL 1: (To be developed during the climate action planning process.)<br><br>Example: Reduce energy use in the Residential sector.   | Adopt energy efficient design standards. | This action considers the water's comprehensive plan to adopt design standards for buildings, landscaping, screening and lighting, new construction in New York State operates under the Energy Conservation Construction Code of New York State-2010 (ECCCNYS). Local governments can adopt their own energy conservation requirements, as long as they are no less restrictive than the current ECCCNYS. The City can expedite permitting for projects that meet energy efficient standards, joined the Dark-Sky Association and/or adopted model lighting ordinances to reduce light | <a href="#">Watervliet Multifamily Energy Efficiency Campaign</a><br><br><a href="#">National Grid EnergyWise Program</a><br><br><a href="#">Watervliet Comp Plan 2011</a> |



Figure 2 reveals that 47 percent of the community’s emissions come from the transportation sector. The community GHG emissions inventory also provides fuel consumption data (see Figure 3), which reveals that 81 percent of fuel consumption is from gas-powered vehicles. To address this, Watervliet could focus its climate action efforts on reducing single-occupancy vehicle travel by promoting bicycle/pedestrian safety and/or car-sharing programs (see [Appendix C](#)). Watervliet’s community GHG emissions inventory also reveals that 24 percent of the community’s emissions come from the industrial sector. The data included in the community GHG emissions inventory provides a closer look at energy sources by sector. As shown in Figure 4, the residential sector uses more natural gas than the industrial sector. Based on this information, Watervliet could begin to develop initiatives that target these sectors by focusing on commercial/industrial and/or residential energy efficiency programs. A complete list of community data for Watervliet is provided in [Appendix A](#).

Figure 2: Watervliet Community GHG Emissions by Sector 2010

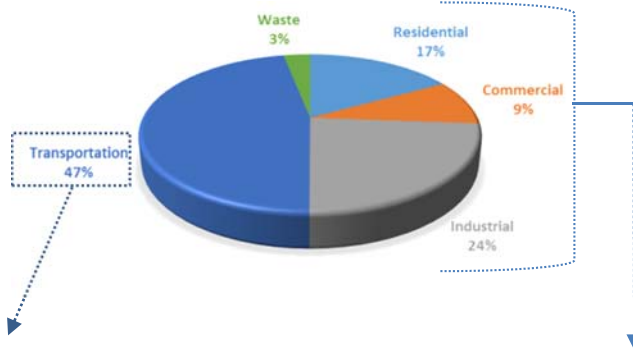


Figure 3: Watervliet Percent of Fuel Consumption by Type (2010)

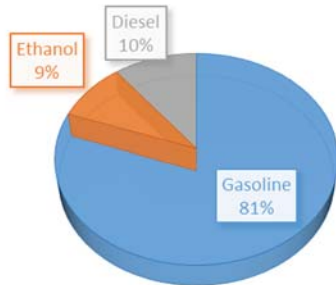
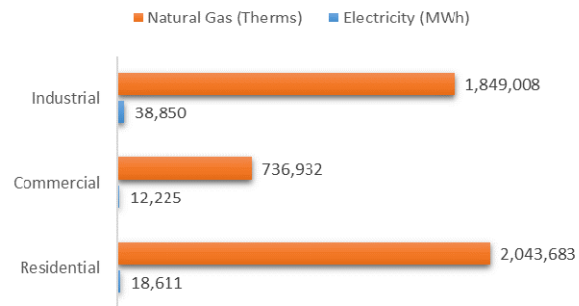


Figure 4: Electric & Natural Gas Consumption by Sector (2010)



## 6. Climate Action Plan Initiatives

This section includes the goals and initiatives that will help Watervliet achieve GHG reductions. This section should be structured by focus area (as mentioned in [section 5](#)) and will identify initiatives that will guide the community reach the goals. In addition to creating goals and initiatives through a public input process, it is also helpful to review existing regional plans to determine what types of programs are already in place and to research similar implementation measures that can be adopted at the local level. The outline below includes some sample goals and initiatives for each



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focus area. These can also be found in the *Watervliet Implementation Matrix* (see [section 7](#)). See [Appendices B](#) and [C](#) for more resources.

**a. Built Environment (Resident, Commercial and Industrial)**

**i. Goal: Reduce energy use in the residential sector**

1. Initiative # 1: Create an energy campaign for multi-family housing
2. Initiative # 2: Promote existing energy-related incentives for residents and landlords
3. Initiative # 3: Adopt energy efficient design standards

**b. Transportation**

**ii. Goal: Increase bicycle use throughout Watervliet**

1. Initiative # 1: Implement actions from the Watervliet Bicycle Master Plan
2. Initiative # 2: Promote Green Transit and/or Bike-to-Work Days

**c. Waste and Recycling**

**iii. Goal: Reduce the amount of materials that enter the waste-stream**

1. Initiative # 1: Join the Capital Region Recycling Partnership
2. Initiative # 2: Promote education events or workshops about community recycling
3. Initiative # 3: Implement anaerobic digestion pilot City-wide

**d. Renewable Energy**

**iv. Goal: Increase renewable energy installations in Watervliet**

1. Initiative # 1: Develop a City-wide renewable energy map
2. Initiative # 2: Update local zoning code and/or expedite permitting processes for solar installations
3. Initiative # 3: Partner with local stakeholders, local chambers of commerce to develop loan and grant programs for renewable energy projects or training programs

## **7. Implementing the Climate Action Plan**

This section will serve as the roadmap for activating this plan. It will include:

- Estimated timeframe for when each initiative will be implemented
- Cost estimates
- Funding sources (if known)
- What department or entity will be responsible for implementation
- Metrics for measuring progress

Using the *Watervliet Implementation Matrix*, the City can begin to lay out a framework for action. Sample actions have been identified based on existing plans in the City and the region and after analyzing Watervliet's GHG emissions inventory results. Each sample initiative has a "Resource" where that initiative was drawn from. It is recommended that this spreadsheet stay updated and is used as the "go-to resource" to keep track of the City's progress (see [Figure 2](#)).





## 8. Keeping the Momentum Going

- a. Explain how progress towards achieving GHG reduction targets and other goals will be measured.
- b. Explain the process for reporting progress in implementing initiatives.
  - i. Explain the process for updating the climate action plan.
- c. Determine the year to update the community GHG emissions inventory.
  - i. Explain the frequency that GHG inventory progress reports will be published.
- d. CSC Pledge Element 9: Inform & Inspire the Public:
  - i. Maintain a website on local climate protection efforts.
  - ii. Create climate change education, outreach and engagement programs.
  - iii.





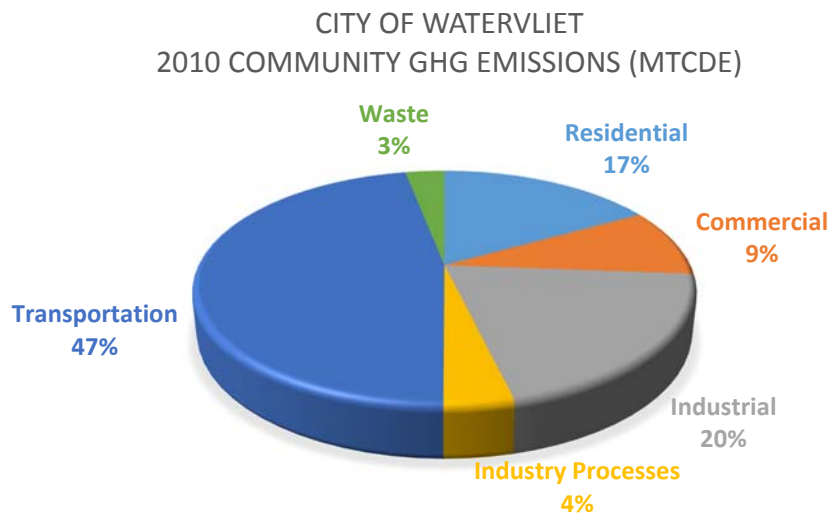
## Appendix A: Watervliet Community GHG Emissions Inventory Data

The tables and figures in Appendix A are based on the City of Watervliet’s GHG emissions data from the [Capital District 2010 Regional GHG Inventory](#). Some of these figures were previously explained in [section 5: Community GHG Emissions Inventory](#). Watervliet can use the data and charts provided as a foundation for developing strategies to reduce GHG emissions. Refer to the [Capital District 2010 Regional GHG Inventory](#) for more information about Watervliet GHG emissions data.

Table 1: Watervliet’s GHG Emissions by Sector 2010

| Sector         | GHG Emissions (MTCDE) |
|----------------|-----------------------|
| Residential    | 17,824                |
| Commercial     | 9,905                 |
| Industrial     | 21,256                |
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| Transportation | 49,672                |
| Waste          | 3,218                 |
| Agriculture    | 0                     |
| <b>Total</b>   | <b>105,900</b>        |

Figure 1: Watervliet’s GHG Emissions by Sector 2010 (MTCDE):





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**Appendix A: Watervliet Community GHG Emissions Inventory Data (continued)**

Table 2: Watervliet Total Fuel Consumption by Type (2010)

| Fuel Type       | Fuel Consumption (gallons) |
|-----------------|----------------------------|
| <b>Gasoline</b> | 4,324,953                  |
| <b>Ethanol</b>  | 480,550                    |
| <b>Diesel</b>   | 563,806                    |
| <b>Total</b>    | <b>5,369,309 gallons</b>   |

Figure 3: Watervliet Percent of Fuel Consumption by Type (2010)

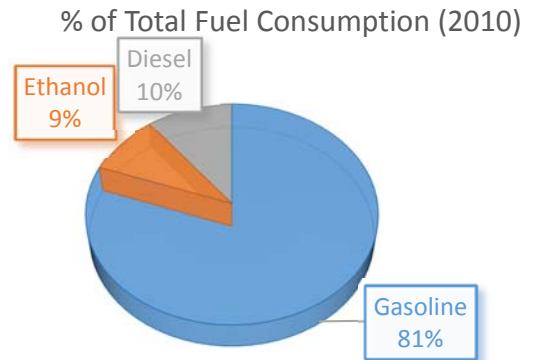
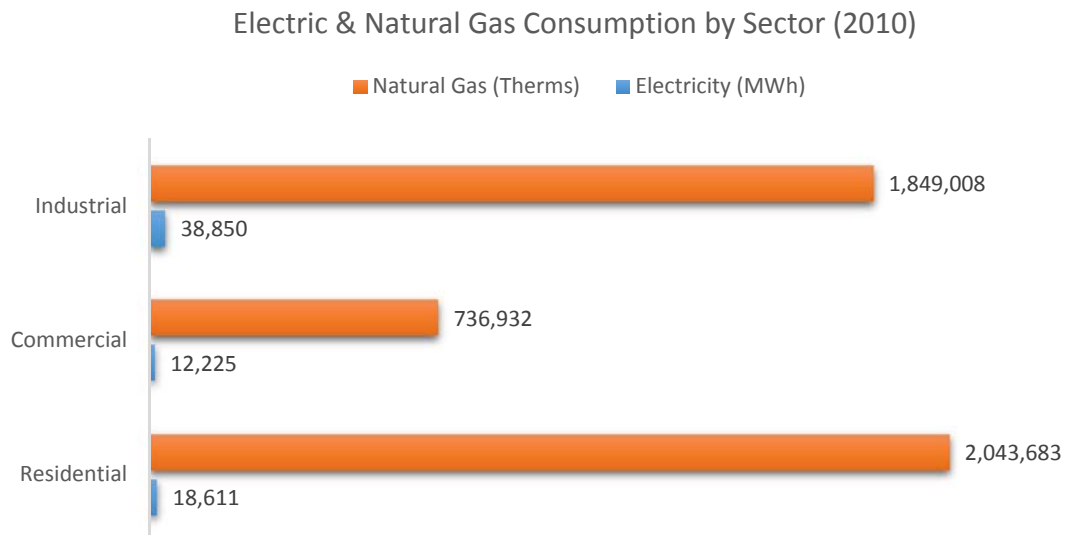


Table 3: Electric & Natural Gas Consumption by Sector (2010)

| Sector       | Electricity (MWh)  | Natural Gas (Therms)    |
|--------------|--------------------|-------------------------|
| Residential  | 69,686             | 2,043,683               |
| Commercial   | 12,225             | 736,932                 |
| Industrial   | 38,850             | 1,849,008               |
| <b>Total</b> | <b>120,761 MWh</b> | <b>4,629,623 Therms</b> |

Figure 4: Electric & Natural Gas Consumption by Sector (2010)





## Appendix A: Watervliet Community GHG Emissions Inventory Data *(continued)*

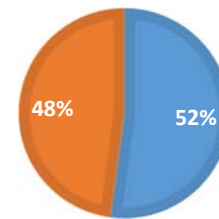
Table 4: GHG Footprint per Household by Sector (2010)

| Sector          | GHG Footprint Per-Household |
|-----------------|-----------------------------|
| Energy          | 3.7                         |
| Transportation  | 3.4                         |
| Household Total | 7.1                         |

Figure 4: GHG Footprint per Household by Sector (2010)

GHG Footprint per Household (2010)

■ Energy ■ Transportation





## **Appendix B: Existing Plans and Programs**

### **Watervliet Plans and Programs:**

[Watervliet Climate Smart Community Profile](#)

[Watervliet Multifamily Energy Efficiency Campaign](#)

[Watervliet Local Government Operations Climate Action Plan 2011](#)

[Watervliet Bicycle Master Plan 2013](#)

[Watervliet Comprehensive Plan 2011](#)

[Watervliet Local Waterfront Revitalization Plan 2004](#)

[Watervliet City School District](#)

[Center for Economic Growth: Watervliet Innovation Center](#)

[Watervliet Local Development Corporation](#)

[Watervliet Business Resource Guide](#)

[Watervliet Housing Authority](#)

### **Regional Plans and Programs:**

[Capital Region Sustainability Plan](#)

[Capital District 2010 Regional GHG Inventory](#)

[CDTC Regional Transportation Plan 2011](#)

[Capital District Clean Communities Coalition](#)

[Capital Coexist](#) (Resource for cyclists and motorists)

### **State Plans and Programs:**

[New York State Climate Smart Communities Program](#)

[NYS Climate Smart Communities: Climate Action Planning Webinar](#)

[New York State Climate Action Plan Interim Report](#)

[New York State Energy Plan](#)



## Appendix C: Sample Climate Action Plans and Other Resources

### Climate Smart Community Climate Action Plans

- Town of Kingston, [2012 Kingston Community & Local Government Operations](#)
- Village and Town of Ossining, [Ossining Community Climate Action Plan](#)
- Town and Villages of Red Hook and Tivoli, [Energy & Climate Action Plan 2012](#)
- NWEAC [2012 Climate Action Plans: Community & Local Government Operations](#)

### Environmental Protection Agency: GHG Equivalency Calculator

The [Environment Protection Agency: GHG Equivalency Calculator](#) may be useful in communicating your greenhouse gas reduction strategy, reduction targets, or other initiatives aimed at reducing greenhouse gas emissions.

### ENERGY STAR Community Resources:

- [Sector-specific Resources \(i.e., auto-dealer, commercial, restaurants, data-centers, etc.\)](#)
- [Energy Efficiency Campaign Resources](#)
- [Energy Efficiency Communication Resources](#)
- [Target Finder Tools, Demo & Guide](#)

### Car-Sharing Resources

[Goloco](#), a private online transportation network.

[Nuride](#), an online community where people earn rewards when they carpool, vanpool, bike, and walk, telecommute or take public transit.

[MetroPool](#), which provides free commuter planning services to employers and commuters.

[IPool2](#), online source for up-to-date commuter and carpool information-plus a free ride-matching service-for anyone who lives or works in the Capital Region.



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For further information on the Climate Smart Communities, please contact:

New York State Department of Environmental Conservation

Office of Climate Change:

[climatechange@gw.dec.state.ny.us](mailto:climatechange@gw.dec.state.ny.us)

Or visit the website:

<http://www.dec.ny.gov/energy/50845.html>



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