

Ossining Community Climate Action Plan

Prepared by the Green Ossining Committee

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Ossining Community Climate Action Plan

Section I: Introduction

In early 2010, the joint Village and Town Green Ossining Committee began work with Village of Ossining Department of Planning staff on the creation of the Ossining Community Climate Action Plan – a local response to climate change designed to outline initiatives to reduce community greenhouse gas emissions. This project consists of two main components: a greenhouse gas emission inventory for the Village, Town, and community at large and a set of emission reduction measures designed to reduce our greenhouse gas emissions.

The calculation of emissions data and early guidance on the overall framework of the effort were done with the help of ICLEI, Local Governments for Sustainability. By combining an analysis of community greenhouse gas emissions with a set of measures designed to reduce these emissions through community action, the Plan provides a template for locally-based initiatives to fight climate change.



The document is formatted into a ‘frequently asked questions’ (FAQ) style in order to convey the information in a concise, user friendly way.

The Plan includes the following:

- Background information on the science of climate change (See page 5)
- Baseline emissions inventory for the Village and Town of Ossining (See page 9)
- Community Emissions Reduction Measures (See page 13)

For more information on the Green Ossining Committee, please visit www.greenossining.org.

A. How to use this document

The measures contained within this Plan are designed to target initiatives that can be implemented by a grassroots community effort to make a positive impact on our individual and community environmental footprint. The measures constitute a menu of items that can be undertaken by the Green Ossining Committee and other groups of residents interested in taking steps toward making a difference on a local level.

The measures contained within the Plan utilize community-based initiatives to accomplish the following:

Encourage & Guide Environmentally-Friendly Practices

Many of the measures contained within this document have what is known as a *dual bottom line*: a positive impact on both an environmental and financial level. For example, reducing home energy consumption will result in a lower utility bill each month and also helps reduce the home's carbon footprint, while facilitating the exchange of household items that still have a useful life keeps them out of the waste stream while allowing them to be purchased at a lower cost than if bought new.

Raise Awareness of Best Practices

Many easy to implement practices exist in the routine and daily behavior that we all undertake without thinking. Even shutting off the light upon leaving a room or setting the thermostat a few degrees lower can make a real difference over time.

Provide Information on Green programs Available

Organizations such as Con Edison, NYSERDA, MetroPool, and many others have Green programs and incentives available to interested customers. These can range from free energy audits to incentives for reducing electricity usage during peak demand and programs to facilitate ride-sharing for commuting purposes.

B. Plan Overview

Who is the Climate Action Plan intended for?

The Plan's measures are designed to target both **residential households** and **commercial businesses**. Within each of the Plan's sectors, the measures are divided up into commercial and residential measures to reflect the unique demands of each. Please see *Section IV: Community Reduction Measures & Implementation Steps* for information on each of the sectors.

How was it developed?

The measures were created via a collaborative process between the Green Ossining Committee and the Village Department of Planning. First, the Department of Planning conducted a survey of mitigation measures from Climate Action Plans in the region and in the United States at large. These were used to create a 'menu' of options which were then analyzed and refined by the Green Ossining Committee to develop the measures contained in this document. The Plan was then drafted and revised by the Village Department of Planning and Green Ossining Committee.

The emissions inventory was developed utilizing the standardized set of greenhouse gas emission indicators utilized within ICLEI's Clean Air Climate Protection (CACP) software, a comprehensive emissions management tool designed to calculate and track emissions and reductions of greenhouse

gases (carbon dioxide, methane, nitrous oxide) and criteria air pollutants that are associated with electricity, fuel use, and waste disposal.

How is the Plan consistent with actions taking place at the county, state, and Federal level?

The Ossining Community Climate Action Plan was created via a process very similar to that used to create climate action plans elsewhere and is intended to be consistent with climate change initiatives at all levels of government. The Westchester County Global Warming Action Plan, drafted in 2008, contains a greenhouse gas emissions inventory and emissions reduction measures much like those featured within this document. New York State is currently in the process of drafting a statewide climate action plan and is also a member of the Regional Greenhouse Gas Initiative, a ten-state collaborative effort to reduce greenhouse gases via a cap-and-trade system. While the Federal government has not sought to create a national-level climate action plan as of this writing, efforts are underway within the US Environmental Protection Agency to regulate greenhouse gases as an air pollutant under the Clean Air Act. Please see Appendix D: Additional Resources for links to websites for these and other initiatives.

What have Village and Town of Ossining done to support Green efforts so far?

Over the past five years, a number of incremental steps have taken place within both the Village and Town with the goal of reducing Ossining's contribution to climate change. These include:

- Membership in ICLEI, Local Governments for Sustainability
- Membership in the New York State Department of Environmental Conservation (NYSDEC) Climate Smart Communities Program
- US Conference of Mayors' Climate Protection Agreement
- Formation of joint Village-Town Green Ossining Committee in 2009

In 2010, the Village of Ossining also obtained a grant from the New York State Energy Research and Development Authority to fund energy audits of municipal buildings, with the goal being to identify upgrades to municipal structures and reduce Village government emissions. Please see Appendix D: Additional Resources for links to additional information about NYSERDA's programs.

C. Additional Benefits of the Measures

Cleaner Air & Water

- Increasing energy efficiency for households and businesses can help to reduce electricity usage, which decreases the demands placed on our electrical grid. As much of our electricity comes from fossil fuel-based sources that create air pollution as a byproduct of producing power, this can also help to increase our air quality. For more information on this, see the **Energy Sector** measures.



- In addition to reducing carbon dioxide emissions, measures that reduce the need for single occupancy vehicle usage for daily transportation needs can help to improve our air quality by reducing the amount of air pollution – one less vehicle on the roads is one less tailpipe to create emissions. See the **Transportation Sector** measures for further information on this topic.
- Mitigation of stormwater runoff via best practices in stormwater management can help to reduce pollutants entering the Hudson River and other water bodies. See the **Water Resources Sector** for additional information.

Saving Money

- One of the nice side effects of reducing your environmental footprint can be a little extra money in your pocket. This can be achieved by via energy efficiency measures that lead to lower utility bills, reuse of household items that still have a useful life, and using shared resources that we would otherwise purchase and use on our own, such as ridesharing and public transportation for commuting purposes if and when possible.

Health & Well Being

- Alternative transportation such as bicycling and walking can provide us with a ways to accomplish daily tasks while still getting the benefit of exercise. When the opportunities exist, you can use these as ways to run errand or even to commute. This is known as “*active transportation*”. Please see the Transportation Measures (page 41) for further information.
- Working together to help stop climate change can help to build and strengthen relationships between members of our community. The Green Ossining Committee welcomes residents interested in joining the Committee as well those interested in volunteering to help out on a particular initiative.

Ossining Community Climate Action Plan

Section II: Climate Change – A Primer

Climate Change, also known by the term Global Warming, is defined by the US Environmental Protection Agency (US EPA) as

“An average increase in the temperature of the atmosphere near the Earth's surface and in the troposphere, which can contribute to changes in global climate patterns. Global warming can occur from a variety of causes, both natural and human induced. In common usage, "global warming" often refers to the warming that can occur as a result of increased emissions of greenhouse gases from human activities.”

What do we know about climate change?

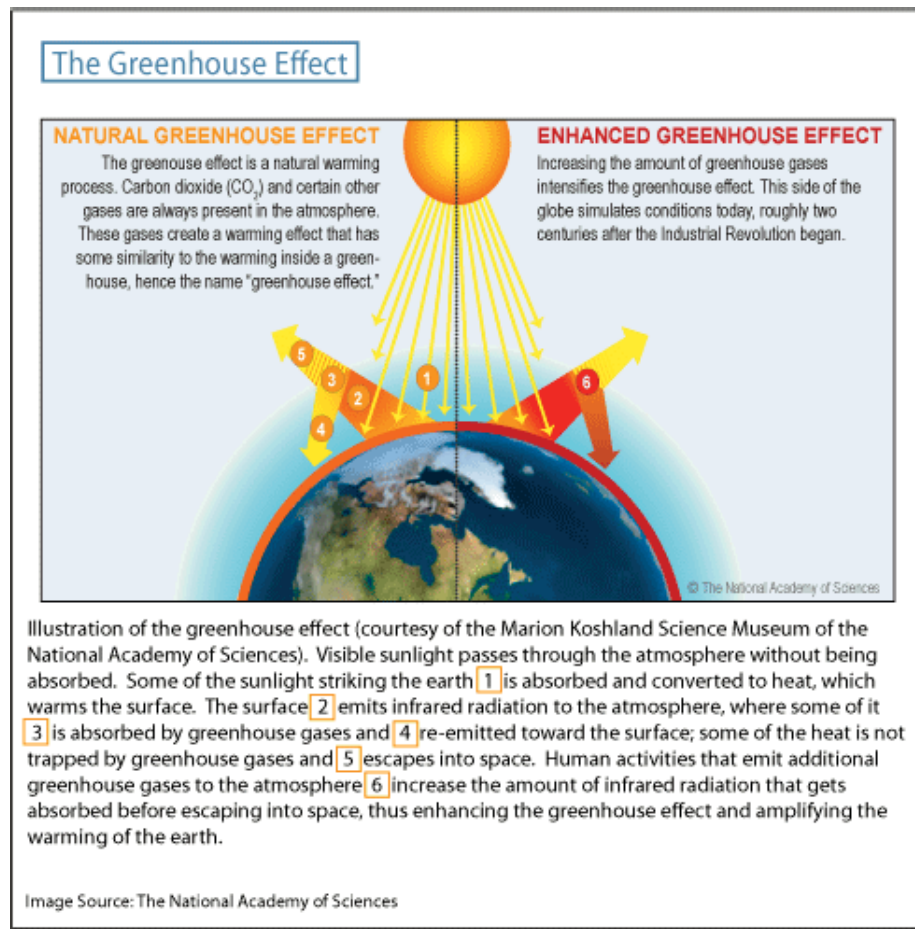
While climate change is a complex phenomenon in many ways, the overall concept is relatively simple to grasp: an increase in atmospheric temperature is causing changes to the planet's climate, altering the equilibrium in Earth's climate that existed between the last Ice Age and the Industrial Revolution. The mechanism through which this warming takes place is known as the *greenhouse effect*.

The Greenhouse Effect

Solar radiation impacts at least a portion of the Earth's surface constantly. As this sunlight penetrates the atmosphere and reaches the surface, most of its heat is absorbed, warming the planet's surface. However, some of this radiation is reflected back upward, reacting with gases known as *greenhouse gases* naturally present in our atmosphere. These gases trap much of the heat, preventing it from leaving our atmosphere and scattering much of it in all directions, including downward toward the lower atmosphere - causing it to warm. This is known as the *greenhouse effect*. The greenhouse effect occurs naturally, but findings in climate science over the last several decades have indicated that the emission of greenhouse gases by human activity since the Industrial Revolution has increased the greenhouse effect beyond natural occurring levels.

In the United States, greenhouse gas emissions from human activity increased 14% from 1990 to 2008, with electricity generation and transportation comprising the majority of the emissions. Worldwide emissions increased by more than 26% during this period, with much of the increase the result of a rising standard of living in the developing world.

Source of Data: US EPA Climate Change Indicators Report



Which gases are considered greenhouse gases?

Greenhouse gases include:

- *Carbon Dioxide (CO₂)* – Responsible for approximately 85% of all greenhouse gases released in the United States, primarily by the burning of fossil fuels. The increases in human-caused greenhouse gas emissions from 1990 to 2008 primarily consisted of CO₂ both in the United States and worldwide.
- *Methane (CH₄)* – These emissions make up the second most common type of greenhouse gas released within the United States, at between roughly 4% and 9% percent of emissions. The production and transmission of coal, natural gas, and oil account for the majority of methane emissions, along with agricultural activities and landfills. Methane has approximately 25 times more warming effect than the equivalent amount of CO₂ over a 100 year timeframe.

- *Nitrous Oxide (N₂O)* – Also a byproduct of the burning of fossil fuels, this greenhouse gas is believed to have approximately 298 times more warming effect than the equivalent amount of CO₂ over a 100 year timeframe. Nitrous Oxide is also considered an air pollutant and is responsible for ozone depletion.
- *Fluorinated Gases* – These are compounds emitted as a result of a various industrial processes as well as commercial and household uses. These include refrigerants such as CFCs and HFCs.
- *Water Vapor* – The gas form of water that is naturally present in our atmosphere. Water vapor is the atmosphere’s primary greenhouse gas.

Source of Data: US EPA Climate Change Indicators Report

Okay, but why is all of this such a bad thing? I hate cold weather.

Remember, *weather* and *climate* are two different things. What we call weather represents a snapshot of atmospheric patterns such as temperature, precipitation, humidity, and wind, while the term climate is used to describe long-term trends in weather, including weather events such as heat waves, major storms, floods, and droughts. The decade of 2000-2009 was the warmest ten-year span recorded within the last 100 years. EPA data has shown that the Northeastern US is among the regions of the country that has experienced the greatest amount of warming in recent decades.

Current thinking in climate science indicates that the presence of so much additional heat in the lower atmosphere has a destabilizing effect on our climate and can be correlated with an increase in the severity of the following:

Heat

Climate change is projected to have an impact on both average temperature and specific heat-related events; recent worldwide temperature data has shown that the decade between 2000 and 2009 was the warmest on record. A *heat wave* is generally defined as several days of temperatures greater than 90° F; warm, stagnant air masses; and consecutive nights with higher-than-usual minimum temperatures. US EPA data has shown that the percentage of the US experiencing heat waves has increased in recent years. Statistics from the Centers for Disease Control show that heat waves account for more annual deaths than hurricanes, tornadoes, floods, and earthquakes combined. Vulnerable populations such as the elderly and those suffering from respiratory ailments are particular vulnerable to the effects of increased heat. In addition to their health effects, heat waves place an additional burden on our electrical grid due to increased usage of air conditioning, raising the possibility for periodic brownouts and blackouts during summer months.



Precipitation

EPA data has shown that the total amount of precipitation within the lower 48 states has increased by 6.9% in the last century, while parts of the Southwest and Hawaii have seen a decrease in precipitation. Eight of the top ten years for extreme one-day precipitation events have been in years since 1990. Climate change projections have indicated that changes in precipitation will cause increased flooding, including a greater prevalence of 100-year storms, as well as droughts in other areas.

Sea Level Rise

Melting ice sheets and glaciers increases the amount of water present in the world's oceans. Additionally, warmer water takes up a slightly greater volume than cooler water. The combined effect of these two phenomena are rising sea levels in coastal areas. Between 1870 and 2008, average sea level worldwide has increased at a rate of 0.06 inches per decade. Recent data since 1993 has shown that rate this has accelerated to more than an inch per decade. As our own Hudson River feeds into the Atlantic Ocean, sea level rise is an issue that has the potential to impact riverfront communities as well. Sea level rise affecting the Lower Hudson Valley and Long Island is projected to be 2 to 5 inches by the 2020s and 12 to 23 inches by the end of this century. The long-term consequences of sea level rise can include increased flooding and erosion, damage to coastal ecosystems, and damage to waterfront property.



Current Intergovernmental Panel on Climate change (IPCC) data projections for atmospheric carbon dioxide levels are indicating that if worldwide emissions remain on their current trajectory, average temperature increases of between 3.1 to 7.2 degrees Fahrenheit are expected, exacerbating the aforementioned climate change impacts and resulting in a climate much warmer than has been the norm throughout human history.

How can we make a difference when the problem sounds so vast?

On first glance, the projected climate change impacts listed above can seem too overwhelming to confront through locally-implemented measures. Nonetheless, community efforts can make a concrete difference when implemented across a variety of sectors in a timely fashion. When combined with local actions undertaken in other communities, the threat posed by climate change can be confronted and reduced. Other Westchester communities with climate action plans include New Rochelle (2010), Bedford (2010) and Greenburgh (2009). Additionally, a climate action plan for Westchester County as a whole was created in 2008. With the completion of the community greenhouse gas emissions inventory and creation of this document, Ossining has taken important steps toward addressing climate change on a local level. Ossining can serve as a model for similar communities seeking to confront climate change through action on a local level.

Ossining Community Climate Action Plan

Section III: Ossining's Greenhouse Gas Footprint

A. Introduction

The measurement and analysis of greenhouse gas emissions represents a benchmark by which a community's overall contribution to climate change can be measured. Creating a community greenhouse gas emissions inventory was a multi-step process undertaken with help from ICLEI, Local Governments for Sustainability, the Village Planning Department, and Melissa Prew. The creation of the greenhouse gas inventory provides a quantitative baseline upon which to base the community greenhouse gas emissions reduction measures and allows one to see where the Town and Village of Ossining stand relative to other communities in regard to greenhouse gas emissions.

B. Community Greenhouse Gas Emissions Summary

The emissions data is broken down into residential, commercial, transportation, and waste sectors. For the purposes of the Community Climate Action Plan, the results were also broken down into separate Town of Ossining and Village of Ossining emissions as well as combined emissions for both municipalities. The emissions inventory was calculated using data from the year 2005.



Residential sector emissions, which include housing of all types, are a combination of emissions resulting from the use of electricity to power homes as well as fuel oil and natural gas burned to provide household heat.

Commercial sector emissions include both business and industrial emissions within Ossining during the year 2005 and also include electricity as well as fuel oil and natural gas-related emissions.

Transportation emissions are comprised of vehicles used by community residents as well as vehicles from outside of the community that travelled through Ossining during 2005.

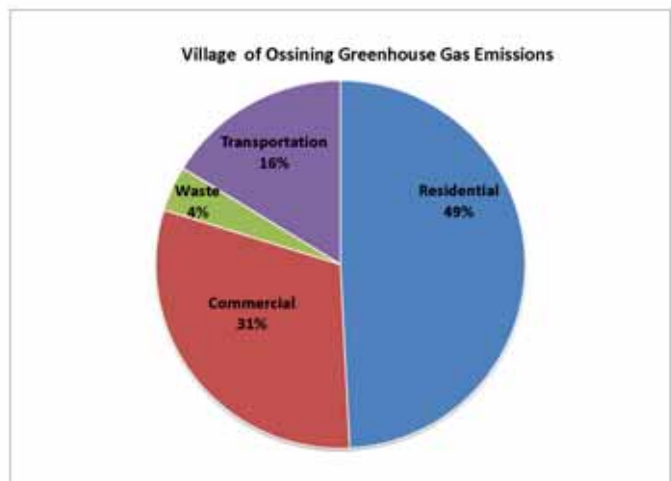
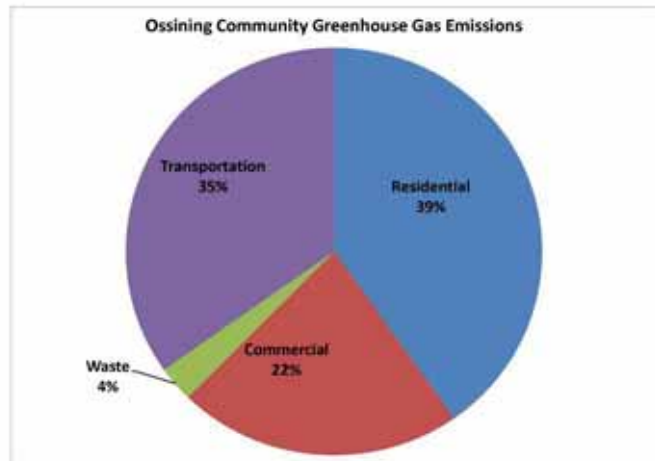
Waste emissions include all discarded items that are disposed of via controlled incineration. On the next page is a chart illustrating greenhouse gas emissions for the Town and Village of Ossining in 2005.

Community-Wide CO₂ Emissions in 2005

- **Residential:** 95,464 tons (39%)
- **Commercial:** 52,322 tons (22%)
- **Transportation:** 82,514 tons (35%)
- **Waste:** 6,726 tons (4%)
- **Total:** 237,026 Tons

The percentages contained within the chart to the right are based upon *Equivalent CO₂ Emissions*, a form of emissions indicator that is the generally accepted measurement of greenhouse gas emissions within current climate science. By converting all emissions to their CO₂ equivalent, the various greenhouse gases emitted within each sector can be considered in comparable terms.

To the right are two pie charts illustrating the baseline greenhouse gas emissions for both the Village and Town of Ossining:

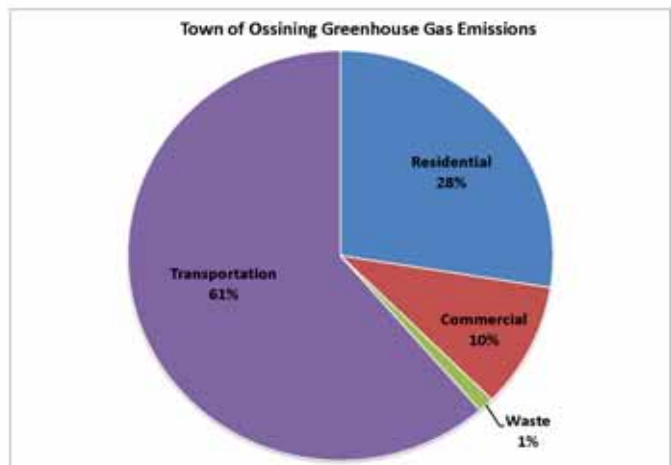


Village CO₂ Emissions in 2005

- **Residential:** 68,664 tons (49%)
- **Commercial:** 42,669 tons (31%)
- **Transportation:** 22,666 tons (16%)
- **Waste:** 5,557 tons (4%)
- **Total:** 139,556 tons

Town CO₂ Emissions in 2005

- **Residential:** 26,800 tons (28%)
- **Commercial:** 9,654 tons (10%)
- **Transportation:** 59,848 tons (61%)
- **Waste:** 1,170 tons (1%)
- **Total:** 97,472 tons



Why are the greenhouse gas emissions for the Village and Town different?

There are several reasons why this is the case. For one, the Village of Ossining is more densely populated than the Town of Ossining, and the Village also has a greater number of households, with 8,227 in the Village versus 1,693 in the Town (per 2000 US census) resulting in greater residential sector emissions. The Village also has more businesses than the Town, increasing the overall commercial-sector emissions. The increase in waste-associated CO₂ equivalent emissions is also proportional relative to the differences in residential and commercial emissions. Finally, the disparity in transportation sector emissions is due to two factors: first, the number of total miles is substantially higher in the Town.

How do Ossining's emissions compare to Westchester County's overall greenhouse gas emissions?

As part of the process for creating the 2008 Westchester County Global Warming Action Plan, the County conducted greenhouse gas emissions calculations for residential, commercial, transportation, and waste sectors using 2005 as a baseline year. The results of the calculations were as follows:

- **Residential Energy:** 30% of emissions
- **Non-Residential Energy:** 29% of emissions
- **Transportation:** 38% of emissions
- **Waste:** 3% of emissions

As the above data shows, Westchester County's emissions are roughly comparable to that of Ossining, with several minor differences. Transportation emissions make up a larger share of overall Westchester emissions, at 38% versus 35% for the combined Village and Town of Ossining. The percentage of Commercial/Non Residential emissions is slightly higher in the County, while the percentage of waste emissions is very similar. For further information, please see Appendix C: References & Additional Resources for a link to download the Westchester County Global Warming Action Plan.

C. Model & Methodology

How were the community's greenhouse gas emissions calculated?

The calculations were performed via ICLEI's Clean Air Climate Protection (CACP) software, a program designed to calculate emissions resulting from electricity usage, fuel usage, and waste disposal. CACP uses a set of internal coefficients developed by ICLEI and the National Association of Clean Air Agencies (NACAA) to estimate greenhouse gas emissions and criteria air pollutants based on the types of energy usage inputted into the program. The calculation process took place over late 2009 and early 2010 and was undertaken by the Village Department of Planning in collaboration with other Village and Town departments and in coordination with Melissa Prew, a volunteer for the Town of Ossining.

To create the community greenhouse gas emissions inventory, the year 2005 was chosen as the baseline for the calculations as this was the most recent year for which all required data was available. Next, the necessary data for each of the four emissions sectors was gathered and then entered into the CACP program. Once calculations were completed within CACP, the data was presented in the form of *Equivalent Tons of CO₂*. CACP also presents the emission data in other forms, including MMBTU and a breakdown in tons of N₂O (Nitrous Oxide) and CH₄ (Methane). Please see Appendix B for the Detailed Report for Community Greenhouse Gas Emissions in 2005.

Where did the baseline data come from?

The data were obtained from several sources:

- Electricity usage data: Con Edison
- Fuel oils usage data: US Census Bureau ICLEI, US Department of Energy
- Natural gas usage data: Con Edison
- Transportation data: New York Metropolitan Transportation Council (NYMTC)
- Waste data: Village of Ossining Department of Public Works and Town of Ossining.

Please see Appendix B: Detailed Report 2005 Community Greenhouse Gas Emissions Data & Criteria Air Pollutants for additional information.

How accurate are the calculations produced by the CACP software?

The algorithms used by CACP depend upon a number of assumptions, with accuracy limited by the quantity and quality of available data. Given these constraints, the emission data should be considered an estimate, rather than a 100% accurate model of reality. The emissions coefficients and methodology

employed by the CACP software are consistent with national and international inventory standards established by the Intergovernmental Panel on Climate Change (1996 Revised IPCC Guidelines for the Preparation of National Inventories) and the U.S. Voluntary Greenhouse Gas Reporting Guidelines (EIA form 1605).

How does the emissions data relate to the measures contained within this document?

The emissions reduction measures within this document are intended to contribute toward reducing Ossining's greenhouse gas footprint. As the measures are primarily based around community outreach, it is not possible to directly quantify the level of greenhouse gas reduction for each of the measures. The measures are intended to provide a starting point from which larger-scale measures can be implemented in the future and to raise awareness of the steps that all of us can take to fight climate change on a local level.

Ossining Community Climate Action Plan

Section IV: Community Reduction Measures & Implementation Steps

A. Introduction

Community Reduction Measures are locally-based initiatives designed to help reduce the carbon and environmental footprint of Ossining residents. The measures contained within the document take a variety of forms, as confronting climate change on a local level requires a multi-pronged approach. Lowering our carbon footprint as a community will require a joint effort involving residents, businesses, schools, institutions, civic and religious organizations, and government.

B. How to read the measures

The measures are divided into each of the five sectors: Waste, Transportation, Water Resources, Energy, and Other Measures.

Waste Sector

- Measures designed to reduce the overall waste output of households and businesses by reducing the amount of items entering the waste stream, promoting reuse of items that still have a useful service life, and by promoting the recycling of discarded items into goods for later purchase and use. These measures are color coded in yellow.

Energy Sector

- Measures designed to reduce electricity and heating fuels usage by households and businesses. These measures are color coded in orange.

Water Resources Sector

- Measures focusing on reducing the water usage of households and small businesses as well as promoting best practices in stormwater management and illicit discharge detection and elimination (IDDE). These measures are color coded in blue.

Transportation Sector

- Measures designed to reduce single-occupancy vehicle trips and promote public transportation usage as well as alternative forms of transportation such as walking and bicycling. These measures are color coded in red.

Other Measures

- Measures that do not fit into the categories above. These measures are color coded in purple.

Within each sector, the measures are further subdivided among subcategories targeting commercial businesses or residential households, as well as among other subcategories that vary depending on the individual sector. For example, ‘Commercial Transportation Practices’ is a subcategory within the Plan’s Transportation Sector and contains measures focusing on greening local businesses.

Each subcategory within a given sector contains a short definition describing the overall purpose and aim that tie the set of measures within the subcategory together, followed by a description of the measure and implementation steps, which are a set of concrete set of actions that can be undertaken to help bring each of the measures to fruition. They are divided up into **Short Term** and **Long Term** recommendations.

Short Term Recommendations – steps that could conceivably be undertaken within a 1 to 3 year timeframe.

Long Term Recommendations – steps which, due to either the prerequisite steps that must first take place as short term steps or due to various conditions which do not exist at the present, will likely require a lead time of at least 3 to 5 years prior to taking place.

The timetables for the recommendations should be regarded as estimates. The feasibility of each measure depends on factors that can change over time, and some steps contained within each measure could prove feasible sooner than stated within the document, or may require additional time before they can be implemented.

C. List of Sector Subcategories

Waste Sector

- Commercial Waste Management
- Household Waste Management
- Public Events
- Construction Practices

Energy Sector

- Commercial Energy Efficiency
- Household Energy Efficiency

Water Resources Sector

- Commercial Water Conservation
- Household Water Conservation
- Stormwater Management

Transportation Sector

- Commercial Transportation Practices
- Household Transportation Practices
- Alternative Transportation
- Motor Vehicle Best Practices
- Public Transportation

D. Additional Specifics on the Measures

What kinds of actions are included within each of those subcategories?

The types of initiatives within each sector include:

Public Outreach Campaigns

These are initiatives focused on raising public awareness of a particular environmental issue with the objective of changing behavior in a particular manner. These campaigns can include some of the elements listed below as components of the overall initiative, including informational workshops and 'best practices' materials. Examples within this document include:

- *'Did You Know?' Campaign on Household Environmental Practices* (all sectors)
- *Plastic Bags and Bottles Awareness Initiative* (see 'Waste' sector, Page 22)

Informational Workshops

These are collaborative sessions designed to provide members of the public with information on various programs and/or on the most 'Green' practices for a particular issue. Some of these workshops present an opportunity to work in partnership with other organizations that have particular expertise that relates to the topic of discussion. (see 'Waste' sector measures, Page 17)



- *Native Plants & Sustainable Gardening workshop* (see 'Water Resources' sector, Page 39)
- *Informational workshops on Energy-Efficiency* (see 'Energy' sector, Page 32)
- *Informational workshop on car-sharing in partnership with MetroPool* (see 'Transportation' sector, Page 50)

'Best Practices' Documents

These include brochures, public service announcements (PSAs) and other documentation on a particular Green-related subject that will be made available online via the Town of Ossining's website, the Village of Ossining's website, the Green Ossining Committee's website, and the Ossining Web Blast, a community-wide email list that you can sign up for online. Please see the appendix for a link to a webpage where you can sign up for the Ossining Web Blast. Examples within this document include:

- *Ossining Green Business Guide* (all sectors)
- *Best Practices Brochures for Homeowners and Landscaping Contractors* (see 'Water Resources' sector, Page 25)

Special-Purpose Plans

These are detailed documents designed to analyze a particular set of circumstances and then use this data to provide a series of concrete steps to help accomplish a specific goal. Examples within this document include:

- *Town-Village Bicycle & Pedestrian Plan* (see 'Transportation' sector, Page 47)
- *Green Operations Plans for local businesses* (all sectors)

Green Programs

Included in this category are initiatives designed to educate the participants about a set of environmental issues through a multi-step program that interested parties can join and participate in for a set period of time. Examples within this document include:

- *Ossining Green Business Program* (all sectors)
- *Home Composting Training Program* (see 'Waste' sector, Page 22)
- *'Greenest Home in Ossining' Contest* (all sectors)

Are all of the measures intended to reduce Ossining's greenhouse gas emissions?

While the majority of the measures are intended to help reduce the community's greenhouse gas emissions, some of the measures are dedicated to improving our environmental friendliness in other ways. For example, the Water Resources sector focuses on ways to conserve water and to mitigate the effects of stormwater runoff and illicit discharges.

How much will it cost to implement the measures?

The measures contained within this document are designed to be able to be implemented or start being implemented at low or no-cost. For those measures requiring funding, the actual costs to the Village and Town will vary depending on when it is implemented, how it is implemented, and any possible available grant and other funding resources available at the time of implementation. Consequently, cost estimates are not included within the Community Emissions Reduction Measures.

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Section IV: Community Emissions Reduction Measures

Subsection E - Waste Sector Measures

Commercial Waste Management

These are:

Best practices in the reduction of the greenhouse gas footprint and overall environmental impact of products purchased, used, and disposed of by a business during its daily operations. This includes the processes involved in the selection of products by the business in order to fulfill the needs of its daily operations as well as the techniques and practices surrounding the disposal of these goods following their use. The objective is to find ways to reduce, reuse, and recycle materials to the greatest extent possible.

A. Green Operations Plans – Waste Component

- Partner with local businesses for training sessions on best practices in waste management, including green purchasing options and options for reducing the amount of items entering the waste stream. These training sessions could be done in partnership with the Ossining Chamber of Commerce and other local groups and could serve as a precursor to a Green business program for local businesses. The waste component would likely be one of several components focused upon at the training sessions, which would be done under the umbrella of promoting Green practices for local businesses. The goal of these sessions would be to work with each of the businesses to produce a short, easy-to-follow waste management plan tailored to their particular needs and detailing steps to take to Green their operations. Business could sign a pledge sheet within the plan that would demonstrate their commitment to making their business more environmentally friendly.

Short Term Recommendations:

- Establish a Green Ossining subcommittee and gather information about potential local entities that have the necessary knowledge base and ability to

partner with the Green Committee to conduct local waste management training workshops

- Reach out to the previously identified local groups to open an initial dialogue
- Establish a pilot program with one local business via Chamber outreach with goal of refining program and creating model operations plans
- Finalize program details and hold kickoff event

Long Term Recommendations:

- Conduct training sessions on an annual or biennial basis to ensure that local businesses are kept up to date on the best practices in waste management; revisit operations with local businesses at regular intervals to update them as needed

B. Green Business Guide – Waste Component

- Draft a document consisting of best practices in environmentally-friendly operations for small businesses. The waste sector would be one of several areas of practice addressed within the document, which would be written in user-friendly language and would target measures that will boost the businesses' bottom line as well as lessen the environmental impact of their operations. The Guide would also contain information on how to create a Green Operations Plan for businesses not interested in undertaking the formal process of creating one through the training sessions outlined in (a), and it would include a checklist of Green measures that a business could undertake within the document.

Short Term Recommendations:

- Gather materials on best practices in waste management for small businesses; provide information on best practices being currently undertaken by local businesses to provide examples and show how these can be done.
- Assemble document and release via Web Blast, Village & Town websites, press releases to local newspapers, and other identified conduits

Long Term Recommendations:

- Release updated versions of the document as best practices evolve over time

C. Establish an Ossining Green Business Program

- This would consist of a program in which participating local businesses are provided with a set of Green waste-related measures. The program could be modeled on the Westchester Green Business Challenge and the Green business initiatives currently under development in Sleepy Hollow and Tarrytown. Businesses would be graded using a set of criteria developed by the Green Committee, with waste management as one of several categories on which the businesses would be judged. Businesses that meet a certain threshold of points would be eligible to display a “Green Ossining” emblem in their window and could be recognized via the Ossining Web Blast, GOTV, the Green Ossining website, and at a Green Ossining event. The program would utilize the Green Ossining website as a clearinghouse for Green business activities and as a venue to make it known which businesses are making an extra effort to Green their waste practices.

Short Term Recommendations:

- Establish Green Ossining subcommittee and reach out to Chamber of Commerce; gather information on operations of Westchester Green Business Challenge Program and programs in nearby communities such as Sleepy Hollow and Tarrytown
- Design and develop program, determining evaluation criteria and program details. Various sets of criteria would be developed that are tailored to the differences that exist between types of businesses, such as restaurants, retail establishments, offices, and other small business types.
- Work with Chamber of Commerce to reach out to local businesses and determine initial pool of participating businesses
- Conduct an Ossining Green Business Program kickoff event and begin program

Long Term Recommendations:

- Maintain program operations over the long term, expanding it to include additional businesses over time

Household Waste Management

These are:

Best practices in the reduction of the greenhouse gas footprint and overall environmental impact of products purchased, used, and disposed of by a residential household during its daily operations. This includes the processes involved in the selection of products by the household to fulfill its daily needs as well as the techniques and practices surrounding the disposal of these products following their use. The objective is to find ways to reduce, reuse, and recycle materials to the greatest extent possible.

A. Create a “Did You Know?” Campaign targeting Household Environmental Practices

- The campaign would consist of two components: an initial focus group and an outreach initiative. The focus group would consist of residents solicited via the Ossining Web Blast and notices placed on the Town and Village websites. The purpose of the focus group would be to obtain a sense of residents’ current practices, information on the types of products that they purchase, knowledge of best environmental practices, and gaps in their knowledge.
- The results of the group would be used to generate PSAs and other outreach materials. For the waste sector, the materials would also contain information on Green substitutes for common, everyday products that they use, facts and figures on solid waste generated by Ossining residents obtained from DPW, information on what happens to solid waste and recyclables once they are taken from the curbside, and information on the consequences that can take place when procedures aren’t correctly followed, such as potential fines to the Village and Town and recyclables that end up thrown in the trash at the recovery facility.

Short Term Recommendations:

- Create Green Ossining subcommittee; Develop focus group discussion materials based upon questions designed to elicit responses from participants that yield the most accurate picture possible of their day-to-day waste practices.
- Solicit participants via Web Blast, Village and Town websites, and other identified conduits. Conduct focus group.

- Results are analyzed to determine gaps in residents’ knowledge, with PSAs designed to target these knowledge gaps. PSAs should be made available in Spanish as well as English.
- Conduct program evaluation one year later to determine effectiveness of focus groups and PSA outreach.

Long Term Recommendations:

- Conduct additional focus groups in the future and create PSAs at designated intervals to work toward increasing overall knowledge of Green waste practices among Ossining residents.

B. Create a “Greenest House in Ossining” Contest

- Establish a “Greenest House in Ossining” contest consisting of a competition to reduce the household’s environmental footprint to the greatest extent possible. Waste practices would be one of several categories on which the household would be judged. Participating households would be graded on a set of criteria developed by the Green Committee, and all participating households would receive a passbook containing the various Green criteria. Participants would be required to submit evidence such as photographs, energy bills, and other documentation to show how they meet the criteria set forth within the passbook. The pages of the passbook would be stamped with a ‘Green Ossining’ logo under each category in which the household met the criteria. The finalists and winner of the competition would have a mini-documentary or case study created on their household’s practices that would be available online via the Green Ossining website and YouTube.

Short Term Recommendations:

- Establish Green Ossining subcommittee; Design and develop program, determining evaluation criteria and program details
- Conduct outreach via Ossining Web Blast, Village & Town websites, and send press releases to local newspapers to generate interest in the contest
- Conduct a Greenest House in Ossining kickoff event and begin program by releasing online household survey containing indicators developed by Committee; participating household would also submit energy bills and other evidence via email to Green Committee
- Evaluate survey results using Committee’s criteria and select finalists; finalists will be asked to provide photos & other documentation of Green household practices and Green home elements

- Hold Green Ossining event to select winner and stamp passbooks; publicize winner via press releases, Village and Town websites, and Green Ossining website; work with winner to obtain information on household for the creation of a case study and/or a short documentary describing the household and its practices

Long Term Recommendations:

- Evaluate program's strengths/weaknesses; maintain contact with finalists to produce a "where are they now?" follow-up after a designated interval to see if the household has taken additional steps

C. Create a Home Composting Training Program

- Create a home composting training program in partnership with Westchester County Parks, working with homeowners as well as landlords and tenants at multifamily buildings. "Earth Machine" composting bins would be made available for purchase by the County at the event and a brochure on best practices in composting would be made available online and at Village and Town offices.

Short Term Recommendations:

- Reach out to Westchester County Parks to determine ability of County to work with Green Committee on project; seek alternate partner if County is unable
- Work with partner to develop program
- Conduct series of training workshops

Long Term Recommendations:

- Conduct trainings on an annual or biennial basis

D. Conduct a Plastic Bags & Bottles Awareness Initiative

- Conduct public awareness outreach on the effects of plastic bags and plastic bottles on the environment. PSAs would be created and sent out via the Ossining Web Blast and via GOTV. The PSAs would detail the effect of plastic bags and bottles on wildlife and notify the viewer of locations where they can be recycled. It will also promote the high quality of Ossining's tap water so that residents are aware that their water is safe and healthy for drinking.

Short Term Recommendations:

- Create PSAs and brochures focusing on the harmful environmental impacts that plastic bags and bottles can have on the environment, suggesting alternatives to the use of these items. Other PSAs can focus on the quality of Ossining's drinking water. PSAs should be available in both English and Spanish.
- Work with local grocery stores and other businesses to place PSAs in visible locations at businesses and to encourage customers to make use of reusable bags, to recycle plastic bags in the store, and to recycle plastic bottles.

Long Term Recommendations:

- Continue to make PSAs and brochures available through as many venues as possible.

E. Conduct Community Swap Event & Encourage Reuse of Household Items

- Plan, develop, organize, and execute community swap-meet style events to facilitate the exchange of used goods by Ossining residents. Events of this type could take place annually or multiple times per year and would help to divert materials from the waste stream and promote reuse of items that still have a useful service life. Several smaller events could be conducted that focus on particular types of items, such as bicycles, used sporting goods, and building materials, among others. These swaps could be done in partnership with the Ossining School District's Green Committee for events that involve items that could be of interest for students, such as sporting goods.
- Promote use of existing online-based community exchanges, such as Freecycle, Westchester FreeShare, and similar services via promotion on Green Ossining website and Ossining Web Blast.
- Reach out to Habitat for Humanity to investigate possibility of establishing a Habitat ReStore materials recycling center in Ossining.

Short Term Recommendations:

- Establish Green Committee subcommittee; add information on Freecycle and Westchester FreeShare to Green Ossining website and to Ossining Web Blast; Establish contact with Habitat for Humanity to look into process for establishing ReStore
- Identify potential locations to hold swap meets and investigate; Work out logistical issues
- Schedule initial event and promote via Green Ossining website, Ossining Web Blast, Village and Town websites, flyers at Village and Town buildings and at Ossining schools and; Hold initial event

- Identify strengths & weaknesses of initial event and make adjustments as needed for future events

Long Term Recommendations:

- Continue conducting swap meets

Public Events

These are:

Activities that serve as outdoor gathering points for members of the public, such as street fairs, open-air markets, and similar events. In this context, the objective is to find ways to minimize the amount of non-recyclable waste generated by these events and maximize the rate of recycling by event participants.

A. Create a Green Public Events Guide

- Prepare a best practices guide for event organizers that they would be given when obtaining an event permit. The guide would encourage event organizers to integrate zero-waste practices into their operations of events.

Short Term Recommendations:

- Compile a list of best practices in Green waste management and purchasing for public events
- Create document and make available at Village and Town departments; make available online and release via Ossining Web Blast

Long Term Recommendations:

- Update document in the future to reflect changes in best practices

Construction Practices

These are:

The processes involved in the construction, rehabilitation, renovation, and demolition of buildings within the Village of Ossining. In this context, the objective is to encourage developers and contractors to use the most environmentally-friendly practices possible during all phases of building construction.

A. **Create a Green Practices Guide for Local Contractors**

- Create brochures for contractors on best practices in construction, rehabilitation, renovation, and demolition. Brochures should be available in both English and Spanish. The document will be written in a user-friendly format, with an emphasis on the smaller-scale projects that make up the bulk of the work performed by local contractors rather than practices targeted toward large-scale developments. It will include measures such as recommendations for Green materials to purchase, information on local suppliers of green products, information on techniques such as deconstruction and recycling of materials instead of demolition when applicable, will direct contractors toward resources where they can learn more about LEED certification, and will also recommend Green business practices that contractors can follow that are based on the Associated Builders and Contractors' Green Contractor Certification.

Short Term Recommendations:

- Conduct research on best practices most applicable to Ossining-based contractors; Create list of best practices
- Create documents and make available and Village and Town Building and Planning Departments and on Village and Town websites

Long Term Recommendations:

- Update documents in the future to reflect changes in best practices

B. *Create a Green Practices Guide for Local Architects*

- Create brochures for locally-based architects outlining environmentally-friendly design practices and materials selection. The document will be geared toward the smaller-scale renovation and rehabilitation projects that local architects typically perform within Ossining rather than large scale new development. It will direct architects toward resources where they can learn more about the US Green Building Council's LEED certification and Energy Star measures as well as contain information on materials selection, green purchasing options, and information on local suppliers of green materials and other products.

Short Term Recommendations:

- Conduct research on best practices most applicable to local architects; Create list of best practices
- Create document and make available and Village and Town Building and Planning Departments and on Village and Town websites

Long Term Recommendations:

- Update document in the future to reflect changes in best practices

Ossining Community Climate Action Plan

Section IV: Community Emissions Reduction Measures

Subsection F: Energy Sector Measures

Commercial Energy Efficiency

These are:

Techniques and best practices designed to decrease electricity demand and heating fuels usage by commercial structures with the objective of reducing the business's greenhouse gas footprint. This includes usage of energy-efficient appliances, fixtures, and electronic devices as well as measures to reduce heating energy losses to the outdoors.

A. Green Operations Plans – Energy Efficiency Component

Partner with local businesses for training sessions on best practices in energy efficiency. These training sessions could be done in partnership with the Greater Ossining Chamber of Commerce and other local groups and could serve as a precursor to a Green business program for local businesses. The energy efficiency component would be one of several components focused upon at the training sessions, which would be done under the umbrella of promoting Green practices for local businesses. The goal of these sessions would be to work with each of the businesses to produce a short, easy-to-follow operations plan tailored to their particular needs and detailing steps to take to Green their operations. Business could sign a pledge sheet within the plan that would demonstrate their commitment to making their business more environmentally friendly.

Short Term Recommendations:

- Establish a Green Ossining subcommittee and gather information about potential local entities that have the necessary knowledge base and ability to partner with the Green Committee to conduct local energy efficiency training workshops
- Reach out to the previously identified local groups to open an initial dialogue

- Establish a pilot program with one local business via Chamber outreach with goal of refining program and creating model operations plans
- Finalize program details and hold kickoff event

Long Term Recommendations:

- Conduct training sessions on an annual or biennial basis to ensure that local businesses are kept up to date on the best practices in energy efficiency; revisit operations plans with local businesses at regular intervals to update them as needed

B. Ossining Green Business Guide – Commercial Energy Efficiency Component

- Draft a document consisting of best practices in environmentally-friendly operations for small businesses. The energy sector would be one of several areas of practice addressed within the document, which would be written in user-friendly language and would target measures that will boost the businesses' bottom line as well as lessen the environmental impact of their operations. The Guide would also contain information on how to create a Green Operations Plan for businesses not interested in undertaking the formal process of creating one through the training sessions outlined in (a) above, and it would include a checklist of Green measures that a business could undertake within the document.

Short Term Recommendations:

- Gather materials on best practices in energy efficiency small businesses; provide information on best practices being currently undertaken by local businesses to provide examples and show how these can be done
- Assemble document and release via Web Blast, Village & Town websites, press releases to local newspapers, and other identified conduits

Long Term Recommendations:

- Release updated versions of the document as best practices evolve over time

C. Ossining Green Business Program – Energy Efficiency Component

- This would consist of a program in which participating local businesses are provided with a set of Green energy efficiency-related measures. The program could be modeled on the Westchester Green Business Challenge and the Green business initiatives currently under development in other Westchester communities. Businesses would be graded using a set of criteria developed by the Green Committee, with energy efficiency as one of several categories on which the

businesses would be judged. Businesses that meet a certain threshold of points would be eligible to display a “Green Ossining” emblem in their window and could be recognized via the Ossining Web Blast, GOTV, the Green Ossining website, and at a Green Ossining event. The program would utilize the Green Ossining website as a clearinghouse for Green business activities and as a venue to make it known which businesses are making an extra effort to Green their energy usage practices.

Short Term Recommendations:

- Establish Green Ossining subcommittee and reach out to Chamber of Commerce; gather information on operations of Westchester Green Business Challenge Program and similar programs in other Westchester communities
- Design and develop program, determining evaluation criteria and program details.
- Work with Chamber of Commerce to reach out to local businesses and determine initial pool of participating businesses
- Conduct an Ossining Green Business Program kickoff event and begin program

Long Term Recommendations:

- Maintain program operations over the long term, expanding it to include additional businesses over time.

Household Energy Efficiency

These are:

Techniques and best practices designed to decrease electricity demand and heating fuel usage by residential properties with the objective of reducing the home's greenhouse gas footprint. This includes usage of energy-efficient appliances, fixtures, and other electricity-using devices as well as measures to reduce heating energy losses to the outdoors.

A. Create a "Did You Know" Campaign targeting Household Environmental Practices

- The campaign would consist of two components: an initial focus group and an outreach initiative. The focus group would consist of residents solicited via the Ossining Web Blast and notices placed on the Town and Village websites. The purpose of the focus group would be to obtain a sense of residents' current energy usage practices, information on the types of products that they purchase, knowledge of best environmental practices, and gaps in their knowledge.
- The results of the group would be used to generate PSAs and other outreach materials. For the energy sector, the materials would also contain information on Energy Star appliances, high efficiency lighting, programmable thermostats, and tips and techniques to conserve energy.

Short Term Recommendations:

- Create Green Ossining subcommittee; Develop focus group discussion materials based upon questions designed to elicit responses from participants that yield the most accurate picture possible of their day-to-day energy usage practices.
- Solicit participants via Web Blast, Village and Town websites, and other identified conduits. Conduct focus group.
- Results are analyzed to determine gaps in residents' knowledge, with PSAs designed to target these knowledge gaps. PSAs should be made available in Spanish as well as English.
- Conduct program evaluation one year later to determine effectiveness of focus groups and PSA outreach.

Long Term Recommendations:

- Conduct additional focus groups in the future and create PSAs at designated intervals to work toward increasing overall knowledge of Green energy usage practices among Ossining residents.

B. Create a “Greenest Home in Ossining” Contest

- Establish a “Greenest Home in Ossining” contest consisting of a competition to reduce the household’s environmental footprint to the greatest extent possible. Waste practices would be one of several categories on which the household would be judged. Participating households would be graded on a set of criteria developed by the Green Committee, and all participating households would receive a passbook containing the various Green criteria. Participants would be required to submit evidence such as photographs, energy bills, and other documentation to show how they meet the criteria set forth within the passbook. The pages of the passbook would be stamped with a ‘Green Ossining’ logo under each category in which the household met the criteria. The finalists and winner of the competition would have a mini-documentary or case study created on their household’s practices that would be available online via the Green Ossining website and YouTube.

Short Term Recommendations:

- Establish Green Ossining subcommittee; Design and develop program, determining evaluation criteria and program details
- Conduct outreach via Ossining Web Blast, Village & Town websites, and send press releases to local newspapers to generate interest in the contest
- Conduct a Greenest House in Ossining kickoff event and begin program by releasing online household survey containing indicators developed by Committee; participating household would also submit energy bills and other evidence via email to Green Committee
- Evaluate survey results using Committee’s criteria and select finalists; finalists will be asked to provide photos & other documentation of Green household practices and Green home elements
- Hold Green Ossining event to select winner and stamp passbooks; publicize winner via press releases, Village and Town websites, and Green Ossining website; work with winner to obtain information on household for the creation of a case study and/or a short documentary describing the household and its practices

Long Term Recommendations:

- Evaluate program’s strengths/weaknesses; maintain contact with finalists to produce a “where are they now?” follow-up after a designated interval to see if the household has taken additional steps

C. Conduct informational workshops on energy efficiency

- These informational workshops could be done in partnership with Con Edison, Westchester County, NYPA, or another organization with the required expertise. The workshops would take place in the evening and would present information on various energy efficiency programs and incentives that are available, including free and low cost energy audits, tax incentives, energy usage reduction incentives, and other initiatives, as well as best practices in conserving energy. Workshops could be targeted toward small businesses, homeowners, and/or multi-family dwellings, with each session’s programming tailored for that specific audience.

Short Term Recommendations:

- Establish Green Ossining subcommittee; Reach out to Westchester County, Con Edison, NYPA, and other organizations and discuss potential for partnership; identify potential sites to hold initial event
- Confirm event location; set date for workshop and create press release; create a short feedback form for participants to fill out following event; Put information on workshop on Town, Village, and Green Committee websites and Web Blast
- Conduct workshop or series of workshops

Long Term Recommendations:

- Evaluate success of workshop; revise programming for future workshops based on evaluation from participants

D. Create home energy efficiency materials for multi-family landlords and tenants

- Create informational materials focusing on best practices in energy usage for both apartment dwellers and building landlords. The materials for tenants would be designed to take into account the constraints faced by apartment dwellers in controlling energy usage, many of whom do not directly control their unit’s thermostat or directly pay utility bills each month. The materials for landlords would focus on ways to optimize the district heating systems that multi-family

buildings utilize and would contain information on energy-efficient upgrades that could be performed to units as circumstances allow.

Short Term Recommendations:

- Establish Green Ossining subcommittee; Conduct research on best practices in energy efficiency for apartment buildings and reach out to local landlords to determine awareness of best practices
- Draft brochures and make available in Village and Town offices, on Village, Town, and Green Committee websites, and distribute to local realty offices for dissemination to landlords and tenants

Long Term Recommendations:

- Update brochures over time as best practices evolve

Ossining Community Climate Action Plan

Section IV: Community Emissions Reduction Measures

Subsection G: Water Resources Sector Measures

Commercial Water Conservation

These are:

Measures focused upon reducing the water usage of small businesses. This reduction can be achieved via reducing the demand placed on municipal water resources, maximizing the efficiency of the business's plumbing and water fixtures, and through landscaping practices emphasizing conservation.

A. Green Business Operations Plans – Water Conservation Component

Partner with local business for training sessions on best practices in commercial water conservation. These training sessions could be done in partnership with the Ossining Chamber of Commerce and other local groups and could serve as a precursor to a Green business program for local businesses. The water resources component would be one of several components focused upon at the training sessions, which would be done under the umbrella of promoting Green practices for local businesses. The goal of these sessions would be to work with each of the businesses to produce a short, easy-to-follow operations plan tailored to their particular needs and detailing steps to take to Green their operations. Business could sign a pledge sheet within the plan that would demonstrate their commitment to making their business more environmentally friendly.

Short Term Recommendations:

- Establish a Green Ossining subcommittee and gather information about potential local entities that have the necessary knowledge base and ability to partner with the Green Committee to conduct local water conservation training workshops
- Reach out to the previously identified local groups to open an initial dialogue
- Establish a pilot program with one local business via Chamber outreach with goal of refining program and creating model operations plans

- Finalize program details and hold kickoff event

Long Term Recommendations:

- Conduct training sessions on an annual or biennial basis to ensure that local businesses are kept up to date on the best practices in water conservation; revisit operations plans with local businesses at regular intervals to update them as needed

B. Green Business Guide – Water Conservation Component

- Draft a document consisting of best practices in environmentally-friendly operations for small businesses. The water resources sector would be one of several areas of practice addressed within the document, which would be written in user-friendly language and would target measures that will boost the businesses’ bottom line as well as lessen the environmental impact of their operations. The Guide would also contain information on how to create a Green Operations Plan for businesses not interested in undertaking the formal process of creating one through the training sessions outlined in (a), and it would include a checklist of Green measures that a business could undertake within the document.

Short Term Recommendations:

- Gather materials on best practices in water conservation for small businesses; provide information on best practices being currently undertaken by local businesses to provide examples and show how these can be done
- Assemble document and release via Web Blast, Village & Town websites, press releases to local newspapers, and other identified conduits

Long Term Recommendations:

- Release updated versions of the document as best practices evolve over time

C. Ossining Green Business Program – Water Conservation Component

- This would consist of a program in which participating local businesses are provided with a set of Green water conservation-related measures. The program could be modeled on the Westchester Green Business Challenge and the Green business initiatives currently under development in other Westchester communities. Businesses would be graded using a set of criteria developed by the Green Committee, with water conservation as one of several categories on which the businesses would be judged. Businesses that meet a certain threshold of points would be eligible to display a “Green Ossining” emblem in their window and could

be recognized via the Ossining Web Blast, GOTV, the Green Ossining website, and at a Green Ossining event. The program would utilize the Green Ossining website as a clearinghouse for Green business activities and as a venue to make it known which businesses are making an extra effort to Green their water usage practices.

Short Term Recommendations:

- Establish Green Ossining subcommittee and reach out to Chamber of Commerce; gather information on operations of Westchester Green Business Challenge Program and similar programs in other Westchester communities
- Design and develop program, determining evaluation criteria and program details.
- Work with Chamber of Commerce to reach out to local businesses and determine initial pool of participating businesses
- Conduct an Ossining Green Business Program kickoff event and begin program

Long Term Recommendations:

- Maintain program operations over the long term, expanding it to include additional businesses over time.

Household Water Conservation

These are:

Measures focused upon reducing household water usage. These reductions can be achieved via reducing the demand placed on municipal water resources, maximizing the efficiency of household plumbing and fixtures, through landscaping practices emphasizing conservation, and through the recycling of water for household uses that do not require potable water.

A. Create a “Did You Know?” Campaign targeting Household Environmental Practices

- The campaign would consist of two components: an initial focus group and an outreach initiative. The focus group would consist of residents solicited via the Ossining Web Blast and notices placed on the Town and Village websites. The purpose of the focus group would be to obtain a sense of residents' current water usage practices, information on the types of products that they purchase, knowledge of best environmental practices, and gaps in their knowledge.
- The results of the group would be used to generate PSAs and other outreach materials. For the water resources sector, the materials would also contain information on low-flow plumbing fixtures, water-efficient appliances, information on landscaping practices, and tips and techniques to conserve water.

Short Term Recommendations:

- Create Green Ossining subcommittee; Develop focus group discussion materials based upon questions designed to elicit responses from participants that yield the most accurate picture possible of their day-to-day water usage practices.
- Solicit participants via Web Blast, Village and Town websites, and other identified conduits. Conduct focus group.
- Results are analyzed to determine gaps in residents' knowledge, with PSAs designed to target these knowledge gaps. PSAs should be made available in Spanish as well as English.
- Conduct program evaluation one year later to determine effectiveness of focus groups and PSA outreach.

Long Term Recommendations:

- Conduct additional focus groups in the future and create PSAs at designated intervals to work toward increasing overall knowledge of Green water usage practices among Ossining residents.

B. Create a "Greenest Home in Ossining" Contest

- Establish a "Greenest Home in Ossining" contest consisting of a competition to reduce the household's environmental footprint to the greatest extent possible. Waste practices would be one of several categories on which the household would be judged. Participating households would be graded on a set of criteria developed by the Green Committee, and all participating households would receive a passbook containing the various Green criteria. Participants would be required to submit evidence such as photographs, energy bills, and other documentation to show how they meet the criteria set forth within the passbook. The pages of the passbook would be stamped with a 'Green Ossining' logo under each category in which the household met the criteria. The finalists and winner of the competition would have a mini-documentary or case study

created on their household's practices that would be available online via the Green Ossining website and YouTube.

Short Term Recommendations:

- Establish Green Ossining subcommittee; Design and develop program, determining evaluation criteria and program details
- Conduct outreach via Ossining Web Blast, Village & Town websites, and send press releases to local newspapers to generate interest in the contest
- Conduct a Greenest House in Ossining kickoff event and begin program by releasing online household survey containing indicators developed by Committee; participating household would also submit energy bills and other evidence via email to Green Committee
- Evaluate survey results using Committee's criteria and select finalists; finalists will be asked to provide photos & other documentation of Green household practices and Green home elements
- Hold Green Ossining event to select winner and stamp passbooks; publicize winner via press releases, Village and Town websites, and Green Ossining website; work with winner to obtain information on household for the creation of a case study and/or a short documentary describing the household and its practices

Long Term Recommendations:

- Evaluate program's strengths/weaknesses; maintain contact with finalists to produce a "where are they now?" follow-up after a designated interval to see if the household has taken additional steps

C. Create a "Best Practices" Brochure for Homeowners and Landscaping Contractors

- Create materials focusing on best practices in landscaping for homeowners and local landscaping contractors. These would be made available at Village and Town offices and on the Village, Town, and Green Committee websites. The brochures would contain recommendations on usage of native and drought-resistant plants, techniques for environmentally friendly pest and weed control, information on rain gardens, and other similar measures. For landscaping contractors, the overall concept would be that the contractors could recommend to their clients that the most environmentally-friendly practices be used when they are hired to perform

landscaping work. For homeowners, the overall aim will be to focus on the types of work that are typically performed in the yard and home garden.

Short Term Recommendations:

- Establish Green Ossining subcommittee; Conduct research on best practices in landscaping and reach out to local landscaping contracting companies to determine awareness of best practices
- Draft brochure and make available in Village and Town offices as well as on Village, Town, and Green Committee websites

Long Term Recommendations:

- Update brochure over time as best practices evolve

D. Conduct a Native Plants and Sustainable Gardening workshop

- This informational workshop could be done in partnership with the Teatown Lake Reservation, the Native Plants Center at Westchester Community College, or another local organization with the required expertise. The workshop would take place in the evening and would present information on selecting native plants, planting techniques, irrigation for water conservation, and information on rain gardens.

Short Term Recommendations:

- Establish Green Ossining subcommittee; Reach out to local environmental organization and discuss potential for partnership; identify potential sites to hold event
- Confirm event location; set date for workshop and create press release; create a short feedback form for participants to fill out following event; Put information on workshop on Town, Village, and Green Committee websites and Web Blast
- Conduct workshop

Long Term Recommendations:

- Evaluate success of workshop; revise programming for future workshops based on evaluation from participants.

Stormwater Management

These are:

The methods and practices associated with the control and dispersal of rainwater runoff into receiving water bodies during a storm event. The objective of stormwater management is to control the quantity and quality of runoff and to mitigate the harmful effects of polluted runoff on receiving water bodies.

A. Work with Village and Town on Stormwater Management and Illicit Discharges outreach

- The Village and Town are charged by the US EPA and by New York State DEC with conducting outreach on stormwater management and illicit discharge detection and elimination (IDDE) as part of Phase II stormwater regulations. Basic information on Stormwater and IDDE are featured on the Village and Town websites. Existing outreach could potentially be bolstered by the creation of additional brochures, PSAs, and other materials and disseminated via the Village, Town, and Green Committee websites as well as the Ossining Web Blast.

Short Term Recommendations:

- Work with Village and Town to disseminate existing stormwater outreach materials

Long Term Recommendations:

- Create new brochures, PSAs, and other materials

Ossining Community Climate Action Plan

Section IV: Community Emissions Reduction Measures

Subsection H: Transportation Sector Measures

Commercial Transportation Practices

These are:

Techniques and best practices designed to reduce the number of single occupancy vehicle trips undertaken by employees during their daily commute, to encourage employers to implement telecommuting and flexible work schedules, and optimize their usage of vehicles in daily operations so as to minimize environmental impact.

A. **Green Operations Plans – Transportation Component**

Partner with local businesses for training sessions on best practices in transportation. These training sessions could be done in partnership with the Greater Ossining Chamber of Commerce and other local groups and could serve as a precursor to a Green business program for local businesses. The transportation component would be one of several components focused upon at the training sessions, which would be done under the umbrella of promoting Green practices for local businesses. The goal of these sessions would be to work with each of the businesses to produce a short, easy-to-follow operations plan tailored to their particular needs and detailing steps to take to Green their operations. Business could sign a pledge sheet within the plan that would demonstrate their commitment to making their business more environmentally friendly.

Short Term Recommendations:

- Establish a Green Ossining subcommittee and reach out to 511NY or other local and regional organizations with the expertise to conduct training sessions on best practices in transportation for small businesses.
- Establish a pilot program with one local business via Greater Ossining Chamber outreach with goal of refining program and creating model operations plans

- Finalize program details and hold kickoff event

Long Term Recommendations:

- Conduct training sessions on an annual or biennial basis to ensure that local businesses are kept up to date on the best practices in transportation; revisit operations plans with local businesses at regular intervals to update them as needed

B. Ossining Green Business Guide – Transportation Component

- Draft a document consisting of best practices in environmentally-friendly operations for small businesses. The transportation sector would be one of several areas of practice addressed within the document, which would be written in user-friendly language and would target measures that will boost the businesses' bottom line as well as lessen the environmental impact of their operations. The Guide would also contain information on how to create a Green Operations Plan for businesses not interested in undertaking the formal process of creating one through the training sessions outlined in (a) above, and it would include a checklist of Green transportation-related measures that a business could undertake within the document, such as encouraging employees to utilize ride-sharing programs or to telecommute if such options are feasible.

Short Term Recommendations:

- Gather materials on best practices in transportation for small businesses; provide information on best practices being currently undertaken by local businesses to provide examples and show how these can be done
- Assemble document and release via Web Blast, Village & Town websites, press releases to local newspapers, and other identified conduits

Long Term Recommendations:

- Release updated versions of the document as best practices evolve over time

C. Ossining Green Business Program – Transportation Component

- This would consist of a program in which participating local businesses are provided with a set of Green transportation-related measures. The program could be modeled on the Westchester Green Business Challenge and the Green business initiatives currently under development in other Westchester communities. Businesses would be graded using a set of criteria developed by the Green Committee, with transportation as one of several categories on which the

businesses would be judged. Businesses that meet a certain threshold of points would be eligible to display a “Green Ossining” emblem in their window and could be recognized via the Ossining Web Blast, GOTV, the Green Ossining website, and at a Green Ossining event. The program would utilize the Green Ossining website as a clearinghouse for Green business activities and as a venue to make it known which businesses are making an extra effort to Green their transportation practices.

Short Term Recommendations:

- Establish Green Ossining subcommittee and reach out to Chamber of Commerce; gather information on operations of Westchester Green Business Challenge Program and similar programs in other Westchester communities
- Design and develop program, determining evaluation criteria and program details.
- Work with Chamber of Commerce to reach out to local businesses and determine initial pool of participating businesses
- Conduct an Ossining Green Business Program kickoff event and begin program

Long Term Recommendations:

- Maintain program operations over the long term, expanding it to include additional businesses over time

Household Transportation Practices

These are:

Techniques and best practices designed to reduce the number of single occupancy vehicle trips undertaken by households during the daily commute, maximize use of public and alternative means of transportation when possible, and optimize usage of vehicles in their daily operations so as to minimize environmental impact.

A. Create a “Did You Know” Campaign targeting Household Environmental Practices

- The campaign would consist of two components: an initial focus group and an outreach initiative. The focus group would consist of residents solicited via the Ossining Web Blast and notices placed on the Town and Village websites. The purpose of the focus group would be to obtain a sense of residents’ current transportation practices, knowledge of best environmental practices, and gaps in their knowledge.
- The results of the group would be used to generate PSAs and other outreach materials. For the transportation sector, the materials would also contain information on ridesharing, public transportation, and best vehicle practices such as minimizing idling and ensuring a state of good repair.

Short Term Recommendations:

- Create Green Ossining subcommittee; Develop focus group discussion materials based upon questions designed to elicit responses from participants that yield the most accurate picture possible of their day-to-day energy usage practices.
- Solicit participants via Web Blast, Village and Town websites, and other identified conduits. Conduct focus group.
- Results are analyzed to determine gaps in residents’ knowledge, with PSAs designed to target these knowledge gaps. PSAs should be made available in Spanish as well as English.
- Conduct program evaluation one year later to determine effectiveness of focus groups and PSA outreach.

Long Term Recommendations:

- Conduct additional focus groups in the future and create PSAs at designated intervals to work toward increasing overall knowledge of Green energy usage practices among Ossining residents.

B. Create a “Greenest Home in Ossining” Contest

- Establish a “Greenest House in Ossining” contest consisting of a competition to reduce the household’s environmental footprint to the greatest extent possible. Waste practices would be one of several categories on which the household would be judged. Participating households would be graded on a set of criteria developed by the Green Committee, and all participating households would receive a passbook containing the various Green criteria. Participants would be required to submit evidence such as photographs, energy bills, and other documentation to show how they meet the criteria set forth within the passbook. The pages of the passbook would be stamped with a ‘Green Ossining’ logo under each category in which the household met the criteria. The finalists and winner of the competition would have a mini-documentary or case study created on their household’s practices that would be available online via the Green Ossining website and YouTube.

Short Term Recommendations:

- Establish Green Ossining subcommittee; Design and develop program, determining evaluation criteria and program details
- Conduct outreach via Ossining Web Blast, Village & Town websites, and send press releases to local newspapers to generate interest in the contest
- Conduct a Greenest House in Ossining kickoff event and begin program by releasing online household survey containing indicators developed by Committee; participating household would also submit energy bills and other evidence via email to Green Committee
- Evaluate survey results using Committee’s criteria and select finalists; finalists will be asked to provide photos & other documentation of Green household practices and Green home elements
- Hold Green Ossining event to select winner and stamp passbooks; publicize winner via press releases, Village and Town websites, and Green Ossining website; work with winner to obtain information on household for the creation of a case study and/or a short documentary describing the household and its practices

Long Term Recommendations:

- Evaluate program's strengths/weaknesses; maintain contact with finalists to produce a "where are they now?" follow-up after a designated interval to see if the household has taken additional steps

Alternative Transportation

These are:

Measures and practices designed to promote the use of non-motorized modes of transportation such as walking and bicycling by Village and Town residents.

A. Implement a Safe Routes to School Program when NYSDOT funding is restored

- Safe Routes to School (SRTS) is a national program designed to improve safety for students during their trips to and from school as well as to facilitate ways to allow more students to walk and bike to school. SRTS focuses on the "5 Es" – Engineering, Education, Enforcement, Encouragement, and Evaluation. In the past, SRTS grants have been made available by the New York State Dept. of Transportation (NYSDOT) to fund both programmatic and infrastructure improvements to municipalities wishing to improve travel conditions for students. These grants will likely be offered again within the next several years upon the passage of a transportation bill in the US Congress. In 2007, an SRTS Needs Assessment and workshop were conducted by the Ossining School District that set forth a menu of potential options for which SRTS funds could be used. These measures could form the basis of a future funding proposal for SRTS projects within the Village and Town once NYSDOT's funding for the program becomes available again and should be reviewed and potentially revised when NYSDOT announces the availability of the funds.

Short Term Recommendations:

- Review 2007 SRTS needs assessment and workshop documentation; develop project priority list for future SRTS funding

Long Term Recommendations:

- Establish Green Ossining subcommittee; reach out to Ossining School District to form joint SRTS subcommittee
- As SRTS funding becomes available, work with Village Planning Department to develop and submit application
- If proposal is funded, implement project(s)
- Conduct project evaluation per SRTS requirements

B. Create a Village & Town Bicycle and Pedestrian Plan

- A Bicycle & Pedestrian Plan is a planning document designed to help guide the implementation of physical or programmatic improvements within a community to help facilitate bicycling and walking as both recreational and transportation options for residents. Plans can potentially set forth optimal routes between destinations in a community on low traffic streets as well as designate locations for future construction of sidewalks, painting of bike lanes, and implementation of signage designed to improve pedestrian safety and raise motorist awareness of cyclists and pedestrians. In 2009, the Village of Croton-on-Hudson created a 19 page bicycle & pedestrian plan that set forth locations for signed bicycle routes, bicycle lanes, opportunities to improve neighborhood connectivity, and public education programs for community residents. The potential exists for the creation of a similar document for Ossining in the future if community stakeholders deem such a project a priority.

Short Term Recommendations:

- Establish Green Ossining subcommittee; conduct a review of bicycle and pedestrian documents from similar communities in the region; reach out to these communities to see which elements of each plan have been implemented and analyze strengths & weaknesses of each plan

Long Term Recommendations:

- If funding is available in the future, work with municipal staff to draft plan upon approval of Village Board of Trustees and Town Council

C. Expand and Promote Ossining School-Community Walk Day

- The Ossining School-Community is a joint effort between the Village, Town, Ossining School District, and the Greater Ossining Rotary Club to promote walking as a healthy lifestyle and transportation option. During this event, which takes place on May 1st each year, participants are able to track and submit their mileage via an online form to see how they compare with their peers as well as utilize an online mileage calculator to see how many tons of CO₂ were saved by walking instead of driving. As this event takes place during the same month as National Bike Month, opportunities exist to expand the event to include bicycling as well as walking. The expanded event could potentially include an informational session on pedestrian and bicycle safety and could be implemented following the creation of a community bicycle and pedestrian plan, as outlined in Measure B above.

Short Term Recommendations

- Continue holding Ossining School-Community Walk Day and promote via press releases, Ossining Web Blast, Village and Town websites, Green Ossining website, and Ossining School District website

Long Term Recommendations:

- Draft bicycle and pedestrian plan (see Alternative Transportation Measure B)
- Utilize Ossining School-Community Walk Day as kickoff event for community bicycle & pedestrian plan
- Evaluate success of event and alter per evaluation results

Motor Vehicle Best Practices

These are:

Measures and practices involved in minimizing the harmful environmental impacts caused by cars, trucks, and other motor vehicles within the Village and Town as well as maximizing the efficiency of vehicles through measures to increase the number of occupants per vehicle.

A. Conduct Public Outreach program on Vehicle Idling

- As of this writing, vehicle idling for longer than three minutes is prohibited by Westchester County law, with the exception of temperatures below freezing. Violators face a fine of \$250 for a first offense and up to \$500 for a second offense. Though the Village Environmental Advisory Council (EAC) has conducted outreach on this topic in the past via public service announcements aired on GOTV, many residents are likely unaware that this law exists and the penalty involved if caught. An outreach campaign could potentially be undertaken in partnership with Westchester County to help raise awareness of the law, the reasons for its implementation, and its associated penalties. The outreach could take the form of additional PSAs, pamphlets, and online information.

Short Term Recommendations

- Establish Green Ossining subcommittee; Create and release online survey on awareness of county idling law; Reach out to Westchester County to determine possibility of partnership on outreach
- Draft outreach material and disseminate via Ossining Web Blast, Village and Town websites, and Green Ossining website

Long Term Recommendations:

- Evaluate success of outreach via online survey; alter as needed to ensure maximum effectiveness

B. Encourage participation in Metropool and similar ridesharing programs

- Metropool is a program run by the travel resource agency 511 designed to reduce single-occupancy vehicle usage for commuting by facilitating contact between commuters headed to the same or nearby destinations, allowing them to share rides to work and other destinations. Participants enroll into the free program on their own, submitting information on their origin, destination, and time of travel so that they can be matched up with fellow travelers utilizing the same route. Usage of services such as these can help participants to save money on fuel costs, reduce air pollution, and lower their carbon footprint. Outreach on the benefits of ridesharing for local businesses could potentially be done in partnership with MetroPool in the form of an informational workshop.

Short Term Recommendations

- Place links to websites of ridesharing services on Ossining Web Blast as well as Village, Town, and Green Committee websites,
- Reach out to MetroPool and the Greater Ossining Chamber of Commerce to determine potential for an informational workshop on ridesharing services

Long Term Recommendations:

- Continue to make information on ridesharing programs available

Public Transportation

These are:

Measures involved in maximizing the opportunities of Village and Town residents to make use of public transportation, including the Westchester Bee-Line bus system and the Metro North commuter railroad.

A. Support any future expansions of public transportation in the region via outreach and letters of support to Westchester County DOT, MTA, NYMTC, and other involved entities when new public transportation projects are proposed

- When implementing infrastructure projects such as new public transportation initiatives, comment from stakeholders is typically solicited in order to obtain feedback on the proposed project. In the event that new public transportation projects such as additional bus routes, train station improvements, or other projects are proposed, the Green Committee and other local stakeholders can offer feedback to help shape the project and ensure the best possible outcome. As of this writing, the Tappan Zee Bridge/I-287 Corridor Improvement Project represents an ongoing opportunity to provide input and support for public transportation improvements as it will involve the provision of expanded commuter rail service, expanded bus service, and is expected to remain in the environmental impact review phase for some time.

Short Term Recommendations

- Monitor Tappan Zee Bridge/I-287 Environmental Review website for updates; attend any future stakeholder workshops and provide input

Long Term Recommendations:

- Continue to stay abreast of any developments in the Tappan Zee Bridge/I-287 Corridor Improvement Project and provide stakeholder input whenever possible

Ossining Community Climate Action Plan

Section IV: Community Emissions Reduction Measures

Subsection I: Other Measures

These are:

Measures that do not fall strictly within the Water, Water Resources, Energy, and Transportation Sectors.

A. Ossining Community Tree Planting Initiative

- Hold an annual tree planting event taking place on or on the same week as Arbor Day or Earth Day. The trees could potentially be donated by local nurseries and could be planted on municipal property with consent of the Town or Village or on the property of homeowners interested in participating in the project. .

Short Term Recommendations:

- Form subcommittee of interested Green Committee members and other residents; designate date for event to take place and investigate location
- Reach out to local nurseries to determine willingness to donate trees for planting in advance of event date; finalize location
- Finalize tree donation; create press releases to notify community and solicit volunteers; send press releases to local media outlets and solicit volunteers via Web Blast and Town and Village websites
- Conduct tree planting event on designated date

Long Term Recommendations:

- If event proves a success, make recurring on an annual basis

Appendix A: Glossary of Terms

Active Transportation - the use of walking and bicycling as methods of transportation, usually associated with access to public transportation to provide increased mobility.

Carbon Dioxide (CO₂) – A gas naturally found in Earth’s atmosphere that functions as a greenhouse gas. Carbon Dioxide emissions attributed to human activity are believed to be responsible for much of the warming associated with climate change.

Carbon Footprint – An estimate of the amount of greenhouse gas emissions produced by an individual’s routine, daily activities.

Climate – A given area’s weather averaged over a defined time period.

Climate Change – Human-induced alterations to the planet’s overall weather patterns that have taken place since Industrial Revolution.

CO₂ Equivalent – A numerical factor representing the conversion of non-CO₂ greenhouse gas emissions into the equivalent amount of CO₂ emissions in order to facilitate a comparison. CO₂ Equivalent Units are one of the units used by ICLEI’s CACP program to provide greenhouse gas emission data.

Fluorinated Gases – Gases produced as a byproduct of industrial activities, including refrigerants such as CFCs and HFCs.

Greenhouse Gas - Substances found within Earth’s atmosphere that absorb heat from sunlight hitting the planet’s surface. Greenhouse gases include carbon dioxide (CO₂), Methane (CH₄), Nitrous Oxide (NO_x), water vapor, and fluorinated gases.

Greenhouse Effect - A process in which greenhouse gases trap heat from sunlight reflecting off the Earth’s surface, releasing it in all directions. This causes warming take place within the lower atmosphere, an effect that is believed to alter the climate over time.

Green Ossining Committee – A joint Village of Ossining and Town of Ossining Committee made up of residents of both communities interested in undertaking environmental-themed initiatives within the community. More information can be found at www.greenossining.org

Heat Wave – An extended period of abnormally high temperatures within a given region.

ICLEI – The International Council for Local Environmental Initiatives. ICLEI is an umbrella organization designed to facilitate sustainability-oriented actions by local governments. ICLEI also goes by the moniker ‘Local Governments for Sustainability.’

Illicit Discharge Detection and Elimination (IDDE) – The identification and mitigation of chemical, sewage, and other unauthorized discharges into a municipal storm sewer system.

Kilowatt (Kw) – A unit of power measurement equal to 1,000 watts.

Kilowatt-Hour (KwH) – A unit of energy equivalent to 1 Kilowatt expended over a time period of 1 hour.

Methane (CH₄) – A gas naturally found in Earth’s atmosphere that functions as a greenhouse gas. Landfills represent the primary source of atmospheric methane contributed by human activity. Methane is one of the units used by ICLEI’s CACP program to provide greenhouse gas emission data.

MMBtu – A unit of heat measurement equal to one million British Thermal Units (BTUs). A BTU is the amount of energy required to heat a pint of water by one degree Fahrenheit. MMBtu is one of the units used by ICLEI’s CACP program to provide greenhouse gas emission data.

Nitrous Oxide (N₂O) - A gas found in Earth’s atmosphere that functions as a greenhouse gas. Nitrous Oxide is a byproduct of the burning of fossil fuels and is also considered an ozone pollutant. Nitrous Oxide is one of the units used by ICLEI’s CACP program to provide greenhouse gas emission data.

NYSERDA – The New York State Energy Research and Development Authority. NYSERDA is a public benefit corporation tasked with the state’s reducing energy consumption, promoting the use of renewable energy sources, and protecting the environment.

Particulates – Also known as soot, these are microscopic bits of matter suspended in air. Particulate pollution can take place both naturally and by human activities, with the burning of fossil fuels for transportation and power generation purposes constituting the most common form of human-made particulate pollution. The diameter of the particulate matter is often listed in micrometers, such as PM_{2.5} or PM₁₀.

Stormwater Management - methods and practices associated with the control and dispersal of rainwater runoff into receiving water bodies during a storm event. The objective of stormwater management is to control the quantity and quality of runoff and to mitigate the harmful effects of polluted runoff on receiving water bodies.

Sustainable – Practices designed to increase the environmental-friendliness of common day-to-day activities. The end goal of sustainability is to meet the needs of the present while utilizing resources at a rate that does not compromise their availability in the future.

Transit Oriented Development (TOD) – Real estate development centered on transit hubs, such as train and bus stations, with the goal of allowing travel for commuting and other purposes while reducing the need to use a private car.

Vehicle Miles Traveled (VMT) – A metric indicating the distance travelled by cars or other vehicles within a given time period and geographical area. When combined with data on vehicle emissions or fuel efficiency, VMT can be used to estimate emissions for vehicles within a given study area.

Water Vapor – The gas phase of water. Water vapor is naturally occurring and is the Earth’s primary greenhouse gas.

Weather – The atmospheric activity taking place at a given time and location. Factors making up weather include temperature, air pressure, precipitation, humidity, and wind speed.

Community Greenhouse Gas Emissions in 2005 Detailed Report

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons) (%)	Energy (MMBtu)
Village of Ossining, New York					
Residential					
<i>Town of Ossining</i>					
Electricity	7,769	0	0	7,769 3.3	65,065
Fuel Oil (#1 2 4)	10,009	164	3,010	10,066 4.2	124,130
Kerosene	605	10	184	609 0.3	7,593
Natural Gas	8,335	31	1,571	8,357 3.5	142,513
Subtotal Town of Ossining	26,718	206	4,765	26,800 11.3	339,302
Based off of total residential customers from Con Ed 2012 customers electrical and 2007 gas					
Followed ICLEI directions and Residential Use Spreadsheet					
<i>Village of Ossining</i>					
Electricity	19,952	0	0	19,952 8.4	167,107
Fuel Oil (#1 2 4)	26,802	440	8,061	26,954 11.4	332,386
Kerosene	1,621	27	493	1,630 0.7	20,333
Natural Gas	20,076	76	3,784	20,127 8.5	343,238
Subtotal Village of Ossining	68,450	542	12,337	68,664 29.0	863,064
Based off of total residential customers from Con Ed 7,545 customers for electricity and 4,833 customers for gas					
Followed ICLEI directions and Residential Use Spreadsheet					
Subtotal Residential	95,168	748	17,103	95,464 40.3	1,202,366
Commercial					
<i>Town of Ossining</i>					
Electricity	7,539	0	0	7,539 3.2	63,141
Fuel Oil (#1 2 4)	767	13	231	771 0.3	9,511
Natural Gas	1,340	5	253	1,343 0.6	22,910
Subtotal Town of Ossining	9,646	18	483	9,654 4.1	95,562
Based off of total commercial and industrial customers from Con Ed 2018 customers electrical and 74 gas					
Took the number of properties that are classified business (138) and assumed each was 15,000 sq ft.; then multiplied by average fuel oil per square foot in the northeast 0.22 gal/sqft. and then multiplied by 15% (total businesses that use oil heat) Followed ICLEI directions.					
<i>Village of Ossining</i>					
Electricity	22,233	0	0	22,233 9.4	186,214
Fuel Oil (#1 2 4)	3,818	63	1,148	3,839 1.6	47,346
This report has been generated for Village of Ossining, New York using ICLEI's Clean Air and Climate Protection 2009 Software.					

Community Greenhouse Gas Emissions in 2005 Detailed Report

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	(%)	Energy (MMBtu)
Natural Gas	16,553	62	3,120	16,596	7.0	283,017
Subtotal Village of Ossining	42,604	125	4,268	42,669	18.0	516,577
Based off of total commercial and industrial customers from Con Ed 1441 customers electrical and 667 gas						
Took the number of properties that are classified business (687) and assumed each was 15,000 sq ft; then multiplied by average fuel oil per square foot in the northeast 0.22 gal/sqft. and then multiplied by 15% (total businesses that use oil heat) Followed ICLEI directions.						
Subtotal Commercial	52,250	143	4,751	52,322	22.1	612,139
Transportation						
<i>Town</i>						
Gasoline	58,463	8,434	7,389	59,848	25.2	748,262
Subtotal Town	58,463	8,434	7,389	59,848	25.2	748,262
Assuming all passenger cars and data by NYMTC for 2005						
<i>Village</i>						
Gasoline	22,141	3,194	2,798	22,666	9.6	283,384
Subtotal Village	22,141	3,194	2,798	22,666	9.6	283,384
Assuming all passenger cars and data by NYMTC for 2005						
Subtotal Transportation	80,604	11,629	10,188	82,514	34.8	1,031,646
Waste						
<i>Town of Ossining</i>						
<i>Disposal Method - Controlled Incineration</i>						
All Other Waste	0	0	111,427	1,170	0.5	
Subtotal Town of Ossining	0	0	111,427	1,170	0.5	
<i>Village of Ossining</i>						
<i>Disposal Method - Controlled Incineration</i>						
All Other Waste	0	0	529,195	5,557	2.3	
Subtotal Village of Ossining	0	0	529,195	5,557	2.3	
Subtotal Waste	0	0	640,622	6,727	2.8	
Subtotal Village of Ossining, New York	228,023	12,519	672,663	237,026	100.0	2,846,150
Total	228,023	12,519	672,663	237,026	100.0	2,846,150

Community Criteria Air Pollutants Emissions in 2005 Detailed Report

	NOx (lbs)	SOx (lbs)	CO (lbs)	VOC (lbs)	PM10 (lbs)	PM2.5 (lbs)
Village of Ossining, New York						
Residential						
<i>Town of Ossining</i>						
Electricity	13,917	11,438	0	0	0	0
Fuel Oil (#1 2 4)	547,414	35,998	117,924	43,446	38,480	0
Kerosene	2,014	6,274	407	69	239	0
Natural Gas	25,021	954	6,182	1,319	732	0
Subtotal Town of Ossining	588,367	54,664	124,513	44,833	39,452	0

Based off of total residential customers from Con Ed 2012 customers electrical and 2007 gas

Followed ICLEI directions and Residential Use Spreadsheet

Village of Ossining

Electricity	35,742	29,377	0	0	0	0
Fuel Oil (#1 2 4)	1,465,824	96,392	315,767	116,335	103,040	0
Kerosene	5,393	16,800	1,089	184	641	0
Natural Gas	60,263	2,297	14,890	3,176	1,763	0
Subtotal Village of Ossining	1,567,223	144,867	331,746	119,695	105,444	0

Based off of total residential customers from Con Ed 7,545 customers for electricity and 4,833 customers for gas

Followed ICLEI directions and Residential Use Spreadsheet

Subtotal Residential	2,155,590	199,531	456,259	164,528	144,896	0
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Commercial

Town of Ossining

Electricity	13,505	11,100	0	0	0	0
Fuel Oil (#1 2 4)	41,941	2,758	9,035	3,329	2,948	0
Natural Gas	3,849	153	994	212	118	0
Subtotal Town of Ossining	59,296	14,012	10,029	3,541	3,066	0

Based off of total commercial and industrial customers from Con Ed 2018 customers electrical and 74 gas

Took the number of properties that are classified business (138) and assumed each was 15,000 sq ft.; then multiplied by average fuel oil per square foot in the northeast 0.22 gal/sqft. and then multiplied by 15% (total businesses that use oil heat) Followed ICLEI directions.

Village of Ossining

Electricity	39,829	32,736	0	0	0	0
Fuel Oil (#1 2 4)	208,795	13,730	44,979	16,571	14,677	0

Community Criteria Air Pollutants Emissions in 2005 Detailed Report

	NOx (lbs)	SOx (lbs)	CO (lbs)	VOC (lbs)	PM10 (lbs)	PM2.5 (lbs)
Natural Gas	47,548	1,894	12,277	2,619	1,454	0
Subtotal Village of Ossining	296,173	48,361	57,256	19,190	16,131	0
Based off of total commercial and industrial customers from Con Ed 1441customers electrical and 667 gas						
Took the number of properties that are classified business (687) and assumed each was 15,000 sq ft; then multiplied by average fuel oil per square foot in the northeast 0.22 gal/sqft. and then multiplied by 15% (total businesses that use oil heat) Followed ICLEI directions.						
Subtotal Commercial	355,469	62,373	67,285	22,731	19,197	0
Transportation						
<i>Town</i>						
Gasoline	364,480	19,494	3,909,634	400,929	8,412	0
Subtotal Town	364,480	19,494	3,909,634	400,929	8,412	0
Assuming all passenger cars and data by NYMTC for 2005						
<i>Village</i>						
Gasoline	138,037	7,383	1,480,669	151,841	3,186	0
Subtotal Village	138,037	7,383	1,480,669	151,841	3,186	0
Assuming all passenger cars and data by NYMTC for 2005						
Subtotal Transportation	502,517	26,877	5,390,303	552,770	11,597	0
Subtotal Village of Ossining, New Y	3,013,576	288,781	5,913,847	740,029	175,690	0
Total	3,013,576	288,781	5,913,847	740,029	175,690	0

Appendix C: References

Section I: Introduction

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Section III: Ossining’s Greenhouse Gas Footprint

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Section IV: Community Reduction Measures & Implementation Steps

Village and Town of Ossining, NY Greenhouse Gas Emissions Analysis, prepared by the Village of Ossining Department of Planning with assistance from ICLEI, Local Governments for Sustainability

Appendix D: Additional Resources

Climate Action Plans

- [City of New Rochelle Climate Action Plan](#)
- [Town of Bedford Climate Action Plan](#)
- [Town of Greenburgh Climate Action Plan](#)
- [Westchester Global Warming Action Plan](#)

Environmental Agencies, Organizations, and Programs

- [Energy Star](#)
- [ICLEI – Local Governments for Sustainability](#)
- [Intergovernmental Panel on Climate Change \(IPCC\)](#)
- [MetroPool](#)
- [The Native Plants Center at Westchester Community College](#)
- [NYS Climate Action Council](#)
- [NYS Dept. of Environmental Conservation – Climate Change](#)
- [NYS Energy Research and Development Authority \(NYSERDA\)](#)
- [US EPA – Climate Change](#)
- [Westchester County – Recycling](#)
- [Westchester County – Stormwater Management](#)
- [Westchester Green Business Challenge](#)