
# Nyack Climate Action Plan for Government Operations and the Community

**Approved by the Village of Nyack**

**January 25, 2024**

**Produced by the Nyack 2030 Steering Committee and Nyack Climate Smart Committee through partnership with ICLEI – Local Government for Sustainability (ICLEI)**

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# Letter From Mayor Don Hammond

I'm very pleased to introduce this ambitious Nyack 2030 Climate Action Plan, which so many individuals in the Nyack community have come together to create. This is a plan for us to address climate change locally. Without a doubt, preventing further global warming calls for systemic change on a large scale. But at the same time, we must transform our communities by taking rapid, effective and sustained action in our homes, businesses and local and regional governments. This Nyack 2030 Climate Action Plan lays out solutions we can work on together in the years ahead.

In the plan, you'll find ways we can achieve substantial reductions in our greenhouse gas emissions and protect our natural resources. We need to transition rapidly to new, low emission vehicles for our local and commuter trips, purchase renewable energy and install more local solar, geothermal and wind power. We need to improve efficiency and conserve resources in our Nyack government buildings and operations, and especially in the community at large. The Action Plan provides a framework for us to make this happen.

This project will rely on Nyack's special strength in Rockland as a place that supports community volunteer action and environmental protection. And that includes not just our government and our village residents and businesses but also the broader community–the greater Nyacks. Together we've shown the power of local partnerships over the past decade as we've taken the lead on climate action. Many community members contributed to this plan, and we know many more will help accomplish the climate solutions it lays out.

If you've been wondering how to help address climate change in a meaningful way locally, please take the time to read this. The Action Lists that are included for the four focus areas give detailed checklists for the Village government and the community for the years ahead.

With this roadmap, working together, we can make the transformation we need. The Village leadership and staff, the Nyack Climate Smart Committee's working groups, individuals, community organizations, businesses and institutions can achieve the vision of a clean and green place to live and work, with emissions dropping year by year.

We need everyone to take part. Please join us in meeting these incredible challenges and finding the new opportunities they will surely bring.

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# EXECUTIVE SUMMARY

## Vision and Purpose

Climate change and biodiversity loss are the greatest environmental challenges of the 21st century, threatening our economy, health, property and the whole web of life. In our community, we now recognize the impacts of climate change in more intense, prolonged heat waves, droughts, violent storms, floods and rising sea levels. Climate change and land development combined are altering the healthy functioning of ecosystems that can store more carbon than they produce. We need to address these intertwined challenges.

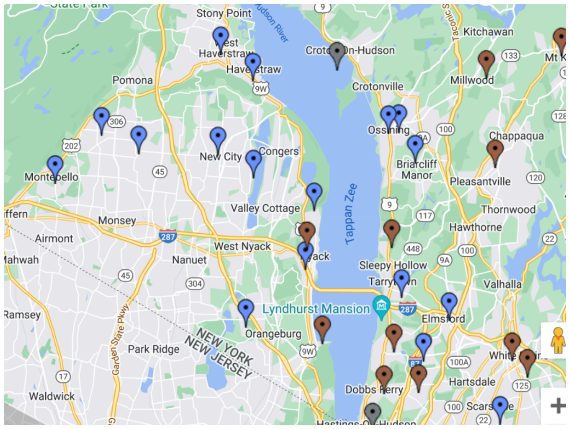
The Nyack 2030 Climate Action Plan (the Plan) offers practical solutions for the Nyack community and Village government to substantially reduce local climate pollution. It lays out ways to build strong, sustained partnerships to protect local natural assets, and to lay a foundation for a sustainable future.

Vehicles and transportation systems, commercial buildings and homes, agriculture, industry, and the waste from all these sectors emit heat-trapping gases that cause global warming – carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons – which have been accumulating in the atmosphere for decades. The Plan sets a goal of reducing government operations and community greenhouse gas emissions by 75% by 2030 through actions in three focus areas– Transportation, Energy & Built Environment, and Waste. Actions that have the most potential for achieving these goals are considered the highest priority in the plan.

A chapter on Natural Resources addresses ways to deal with climate change's impacts on the natural environment and recommends ways to protect, repair and care for our local landscape and wildlife. A separate project to develop an Adaptation Plan to address the increased heat, storms, flooding and other climate change impacts, is planned for 2024.

## Local Action in a Regional and Statewide Framework

This plan will coordinate Nyack's goals with actions at the regional, state, and federal levels. Nyack has been a local leader in New York's Climate Smart Communities and Clean Energy Communities programs, which provide a detailed framework to help communities reduce their carbon footprint in government operations and the community overall. The programs complement each other and are designed to support New York's ambitious Climate Leadership and Community Protection Act (Climate Act), which requires New York to achieve a




*Climate Smart Communities in Rockland and Nearby*

zero-emission electricity sector by 2040, including 70% renewable energy generation by 2030. A Scoping Plan finalized in December 2022 presents recommendations for achieving these goals. This Nyack 2030 Plan references the Climate Act goals, the Scoping Plan's recommendations, and new and upcoming NYS regulations for achieving the goals.

The Plan recommends projects that can utilize funding opportunities now available from the federal government. The Bipartisan Infrastructure Law and the Inflation Reduction Act (IRA) have unlocked resources for governments and communities to install renewable power and make buildings and infrastructure more resilient and energy efficient. Additional support will be available from traditional State funding sources and the NYS Environmental Bond Act, passed in 2022.

For regional guidance, inspiration and potential partnerships, those implementing the Plan can look to the Climate Smart Communities nearby throughout the Hudson Valley and beyond. The Hudson Valley Regional Climate Action Roadmap and Toolkit, coordinated by Sustainable Hudson Valley with support from Hudson Valley Regional Council and participation by over 90 experts and advocates, provides another source of ideas, knowledge and partnership opportunities.

## Equity

Besides ambitious emissions reduction goals, the NYS Climate Act requires the State to ensure that disadvantaged communities receive at least 35 % of overall benefits of spending on clean energy and energy efficiency programs – with the goal of 40%. The Nyack 2030 Plan lays out strategies to help deliver these benefits through targeted, ongoing outreach to bring technical support and funding guidance to low and moderate income building owners and renters, and building managers.

## Public Input and Partnerships

An eight-member Nyack 2030 Steering Committee, including the Village Administrator and local residents and business owners, guided the outreach process, participated in working groups, and reviewed the Plan during 2023.

A mailing to all households and businesses in the 10960 zip code area announced a kickoff workshop in March 2023, and nearly 100 people from the community participated in the event. Residents made up the majority of the group, which also included officials from the Villages of Nyack and Upper Nyack, the Town of Orangetown and Rockland County, Orange & Rockland Utilities, Nyack Public Schools, Rockland Sierra Club, Keep Rockland Beautiful and others, who briefly introduced the many important local initiatives already underway. Attendees worked together on a group activity and shared their ideas. Many signed up for working groups and updates. In follow-up sessions – two for each focus area – working groups had approximately ten participants, and all Steering Committee members participated in at least one of the groups.

Nyack Public School teachers and administrators participated in the workshop, and in follow-up meetings expressed support for keeping the schools involved and working together. The Town of Orangetown, the Village of Upper Nyack and Rockland County are all accomplishing actions in the Climate Smart Communities and Clean Energy Communities programs, and will be valued partners in the years ahead.

Many other stakeholders provided insights in small groups or one-on-one meetings over several months. Building contractors, architects, and owners and managers of large commercial properties, including Nyack Hospital, shared insights they learned in the process, opening the door for future partnerships, especially for education and outreach.

Draft chapters of the report were posted on the Nyack 2030 Climate Action Plan website, and members of the Steering Committee, working groups, the Village Board of Trustees, and others provided comments on the draft as it developed. The NYS Department of Conservation (DEC) office of Climate Change, Regional Climate Smart Communities and Clean Energy Communities Coordinators and ICLEI staff reviewed the draft, and the final plan was posted for public comment on the Village of Nyack website from December 5, 2023, through January 11, 2024.

## Greenhouse Gas Inventories for the Community and Government

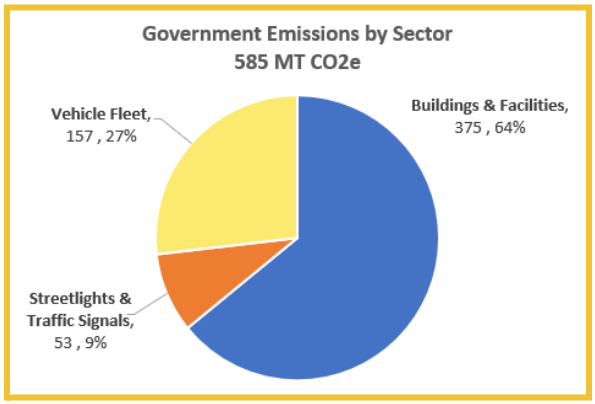
The Plan presents climate action strategies and solutions for government operations and the community in four Focus Areas:

**Energy & Built Environment**
**Transportation**
**Waste Management**
**Natural Resources**

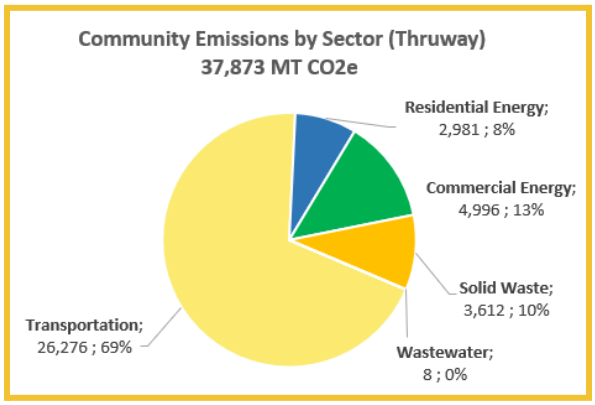
The first three of these focus areas address emissions included in greenhouse gas inventories (GHGI) from the Village government operations and the residential and commercial community within Nyack's borders, using 2018 data. The GHGIs were completed using the ClearPath emissions management tool from ICLEI USA. Using 2018 as a baseline will allow Nyack to capture the full picture of our progress since 2018 when it conducts additional inventories in 2025 and then again in 2030. An extract from the full GHGI report can be found in Appendix II. The full report is posted on the Village of Nyack website.

The GHGI for the Village government and Community show emissions measured in Metric Tons of Carbon Dioxide Equivalent (CO2e), which is a way to represent different greenhouse gases in a common unit. For any quantity and type of greenhouse gas, CO2e, signifies the amount of CO2 which would have the equivalent global warming impact.

*Government Operations Emissions*
Emissions from Government operations in 2018 totaled 385 Metric Tons CO2e. Buildings and Energy contributed 64% of the total, followed by the vehicle fleet at 27%. Streetlights and Traffic Signals contributed 9% at that time. (Nyack has since replaced all its streetlights with LED fixtures.)



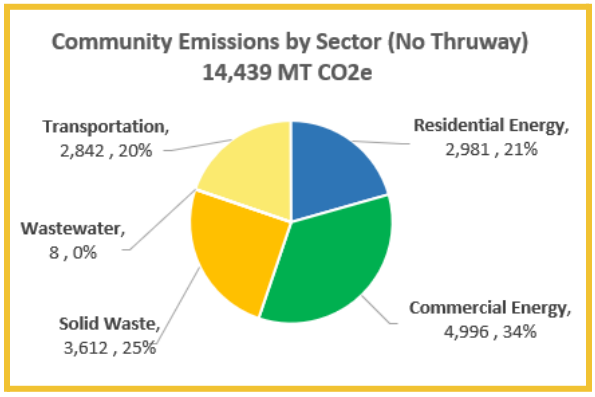

*Community Emissions*
Emissions from the Village of Nyack community were calculated and presented in two ways– one to capture the impact of NYS Thruway traffic passing through Nyack and the other to eliminate that pass-through effect. According to the first method, using the Google Environmental Insights Explorer Tool to measure the transportation emissions, community-wide greenhouse gas emissions in 2018 totaled 37,873 Metric Tons CO2e Transportation accounted for 69%, building related emissions




(residential and commercial energy) 21%,and municipal solid waste 10%.

While it is important to account for the Thruway pass-through effect, especially in describing regional impacts of transportation patterns and usage in our area, including it in the baseline for Nyack's local action planning presents a problem. The great discrepancy between the emissions from Transportation and the other sectors would give the impression that the vast majority of the actions in the plan should be focused on the daunting task of reducing traffic on the Thruway, over which the local community has little control.

The alternative method (using the NYS DOT volume report), which excludes the Thruway pass-through, provides a picture of the share of emissions from Transportation that is more relevant to the task of tackling vehicular emissions locally, but the result for transportation emissions is inconsistent with regional, state and national findings on the large impact of the transportation sector. The chart below shows these results. The overall emissions according to this method are 14,439 Metric Tons CO2e and Transportation's share would be 20%, Residential and Commercial emissions total 55%, and Solid Waste 25%.




This Plan is organized on the assumption that the community's Transportation emissions are higher than shown in this method, and that emissions for the Transportation and Energy and Built Environment sectors are the top priorities.

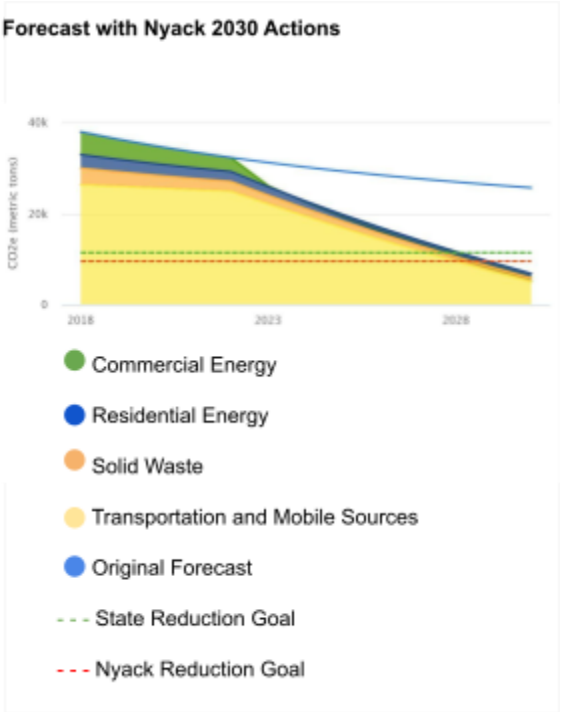
While there are no projections for emission reductions in the Natural Resources focus area, the Plan addresses protecting and enhancing the many benefits of the village's natural assets, which include capturing and sequestering carbon and reducing CO2 emissions and other kinds of pollution in landscape maintenance.

## Government and Community Roles

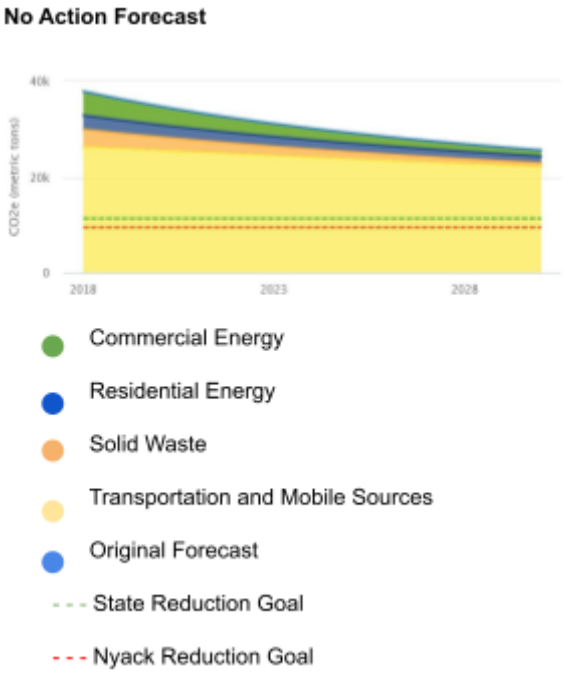
Many of the recommendations in the Plan involve community and government teamwork, and an understanding that the community extends beyond village boundaries. Besides reducing emissions from its operations, the Village government will have a vital role in helping to reduce the community's emissions by providing guidance, leadership and regulation. The community at large will work on initiatives that will reduce emissions beyond what will be measured within Nyack's borders. The Nyack Climate Smart Committee will coordinate many of the actions, regardless of where the emissions reductions occur.

## Forecasting

The Plan sets a 2030 emissions reduction goal of 75% for community and government operations overall. This includes expected reductions due to regulations and policies that NYS will implement during this period. Although ambitious, the forecast reductions are based on reasonable assumptions in each focus area.




We used ICLEI's ClearPath forecasting tool to determine emission reductions from a set of actions with the most potential. The NYS Climate Act calls for an 85% reduction in greenhouse gas emissions by 2050, with an interim target of 40% by 2030. Actions already taken since 2018 and those recommended in the Plan are projected to reduce emissions by overall 11,922 by 2030. The first chart below shows the forecast for 2030 without any action on the part of the Nyack community or government since the baseline year 2018, with the downward trend in




emissions due to NYS State government actions. As shown in the following chart, actions already taken since 2018 and those recommended in the Plan are projected to reduce emissions by overall 11,922 by 2030.

## Community Forecast and Priorities

The Community Forecast projects that by implementing the strategies in the Plan, the community (without factoring in the State measures) can reduce emissions by 3,210 Metric Tons CO2e, equivalent to 405 homes' electricity use for one year.

**COMMUNITY ACTIONS FORECAST FOR 2030**

| Reductions Measures | CO2e Metric Tons | Reduction Percentage | Reduction Percentage by Sector |
|---|---|---|---|
| Total 2018 Community Emissions without Thruway Traffic | 14,439 | | |
| Reduction Measures | | | |
| State Regulations & Policies | 8,553 | 59.2% | 59.2% |
| Electric Vehicle Adoption | 1,798 | 12.5% | |
| Reduced Vehicle Miles | 57 | 0.4% | 12.9% |
| 100% Renewable Electricity Contracts Community Choice Aggregation | 598 | 4.1% | |
| 100% Renewable Electricity Contracts - Large Commercial | 338 | 2.3% | |
| Heat Pumps | 65 | 0.5% | |
| Energy Efficiency Programs | 156 | 1.1% | |
| Rooftop Solar Installations | 39 | 0.3% | 9.4% |
| Increased Composting & Recycling | 159 | 1.1% | 1.1% |
| Total Reductions | 11,922 | 81.5% | |
| Remaining Emissions in 2030 | 2,677 | 18.5% | |
| Total | 14,439 | 100.0% | 81.5% |

For reducing transportation emissions, the key goals are accelerating the transition from gas and diesel vehicles to electric ones, and expanding the use of other modes of transport, including bikes and scooters, while also promoting public transit and carpooling. Village government actions, including installing EV charging stations, improving sidewalks and multimodal infrastructure, will help reduce community emissions from transportation.

The highest priority actions for the Energy & Built Environment focus area are expanding the purchase of renewable energy for residential and commercial customers, driving adoption of energy efficiency projects, and new heat pump and rooftop solar installations.

Nyack's municipal solid waste is sent to a landfill, where it emits methane, a powerful greenhouse gas. The high impact goal for Waste is reducing all municipal solid waste sent to the landfill by 20% by reducing food, textile and other waste, and increasing recycling. Note that waste included only in


the Community inventory. Most of the actions for the Village to take concerning waste management are to address community emissions.

The Plan lays out the many ways to use federal and state clean energy incentives, including energy audits, heat pumps, electric vehicles and charging stations, rooftop solar, as well technical support and funding for promotional campaigns.

## Village Government Forecast and Priorities

For Energy and the Built Environment, the goals for the Village government are to increase the amount of NYS generated renewable power and make Village operations more efficient. Part of this work is already done; the Village purchases 100% renewable electricity and has replaced Nyack's streetlights with LEDs, and the next GHGI in 2025 will reflect these changes. The Plan calls for the Village to add more NYS-generated renewable power to the electricity it purchases, install solar on Village property, and make additional efficiency upgrades in Village operations.

**GOVERNMENT ACTIONS FORECAST FOR 2030**

| Reductions Measures | CO2e Metric Tons | Reduction Percentage | Reduction Percentage by Sector |
|---|---|---|---|
| Total 2018 Government Operations Emissions | 585 | | |
| Reduction Measures | | | |
| State Regulations & Policies | 195 | 33.3% | 33.3% |
| 100% Renewable Electricity Contract - Building | 82 | 13.9% | |
| 100% Renewable Electricity Contract- Lights & Signal | 18 | 3.1% | 17.0% |
| Replace All Gas Vehicles with EVs | 63 | 10.8% | |
| Replace All Diesel Vehicles with EVs | 12 | 2.0% | 12.8% |
| Total Reductions | 370 | 63.1% | |
| Remaining Emissions in 2030 | 215 | 36.9% | |
| Total 2018 Emissions | 585 | 100.0% | 63.1% |

The Government forecast reflects a transition to 100% renewable electricity and conversion of 100% gas vehicles and 13% of diesel vehicles to electric ones. Since the electricity usage for government buildings and streetlights is now emissions-free, the calculations in the forecast were made on this basis rather than on projected increases in energy efficiency.

Installing solar on Village property will reduce Village costs, increase supply of renewable energy, improve energy efficiency, and lessen demand on the grid.

## Information, Education & Inspiration

The Outreach and Education chapter presents a framework for creating networks to build the knowledge, access funding and implement the array of solutions in the Plan. The first step is creating an Outreach and Education Plan. It will outline how the Village and community partners from all sectors can use existing communication venues and tools and create new ones. These may include door to door outreach, newsletters, tours, presentations, how-to videos and email groups.

The Village of Nyack and Nyack's Climate Smart Committee will coordinate and sustain ways to keep information and inspiration flowing to community partners. These partners, in turn, will need to craft messages and access various audiences. Engaging and being responsive to all parts of the community will require developing new approaches and channels for communication.

The printed Nyack 2030 Climate Action Plan will be available online via a dedicated Nyack 2030 website, showing projects and progress. The website will allow community members to find ways to take action, share knowledge, and build capacity over time.

## Adaptation

Planning for climate action involves more than reducing global warming or *climate mitigation*. The community also needs to address *adaptation* – recognizing the hazards resulting from climate change and preparing the government and community for these new conditions.

Preparing the Nyack 2030 Climate Action Plan required intensive engagement with the community about mitigation. Adaptation planning will require a separate effort. The Village plans to conduct a Vulnerability Assessment and create a Climate Adaptation Plan in 2024, pending grant funding from the NYS Hudson River Estuary Program. Nyack Mayor Don Hammond signed a letter in February 2023 committing to the Village's participation in ICLEI USA's *Race to Resilience* initiative by developing a Vulnerability Assessment related to climate hazards identified to be of highest concern through preliminary review of relevant studies: 1) Increasing temperatures and frequency and duration of heat waves; 2) increasing intensity of extreme weather events; 3) rising sea levels and storm surge; and 4) climate change related disease.

The project will entail coordinating with county, town and local agencies and community stakeholders, updating plans and programs, creating a community resilience vision, and establishing a permanent body for ongoing engagement and implementation.

## How to Use this Document and Help Implement the Plan

### Chapter Organization

The Plan is designed to facilitate a host of climate solutions in a concerted way over the coming years. It includes a chapter for each of the four focus areas and a set of recommendations and strategies for outreach and education that is applicable across all topics. The chapters on the four focus areas each include two parts:

**1. The Overview** presents the 2030 Vision, the needs and challenges, the accomplishments Nyack already has achieved, and the rationale for the solutions presented in the Action List.

**2. The Action List** is a checklist for the Village staff, Climate Smart Committee, and other groups and individuals to use in implementing the Plan. Each checklist includes information on key resources, partnerships, and funding. Additional resources are listed in Appendix I.

The Action Lists along with the Outreach chapter will help the Village and community coordinate their projects and share their progress. Nyack can achieve technical support, credits and funding for any actions that can be completed according to the requirements of the Climate Smart Communities and Clean Energy Communities programs.

### Implementation

**Participation**

The actions recommended in the Plan involve participation from Village departments, and groups and individuals across the community. The Village Trustees and many groups and individuals involved in crafting the Plan have expressed their support and intention to help implement it. The first step in growing a team of participants is to announce the Plan widely in a variety of ways, highlighting portions

as appropriate so that all potential partners can become familiar with the vision and actions. The Climate Smart Committee will hold a public open house in February 2024 to introduce the Plan's highlights, community partners and projects to jump start actions for the year.

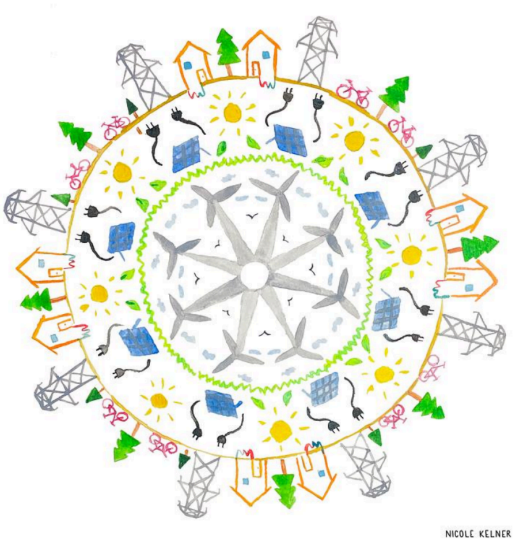
**Coordination**

The Village of Nyack recognizes that the Plan's success will require staff time and funding in addition to the ongoing work of the Nyack Climate Smart Committee, which has grown to include 18 active members in this process. The Committee will be essential in keeping implementation on track.

The core committee will continue to be the body that helps the Village stay current and well-formed on programs, relevant emerging policies and opportunities for funding and other support. Committee working groups for each focus area will include representatives from other community groups or organizations.

The Village Administrator sits on the Climate Smart Committee and provides the critical link to Village staff, officials and boards. The Plan anticipated new and ongoing engagement with the Board of Trustees, land use boards, and the Nyack Housing Authority Board and management. The Assistant to the Village Administrator will help develop the Outreach and Education Plan described in Chapter V and keep Nyack 2030 updates flowing from Village channels. The Chief Building Inspector, Village Planner, DPW Foreman and other staff will be involved in policies that concern their departments and encouraged to bring new ideas to the process.

# ENERGY & BUILT ENVIRONMENT




**According to Nyack's Greenhouse Gas Inventory,** the village's second-highest source of emissions is energy use from our public and private buildings. Commercial buildings accounted for 13% and residential buildings 8% of Nyack's total community emissions.

Three key pathways to reducing emissions from buildings are:

- **purchasing renewable electricity**
- **increasing energy efficiency** in buildings through weatherization and other upgrades
- **electrifying buildings** by converting from gas to electric for heat, hot water, and cooking.

For new buildings and renovations, smarter design and construction practices will be needed to lower emissions, which at the same time can make Nyack residences and businesses more comfortable, resilient and energy efficient.

This chapter lays out steps for the Village government and all sectors of the community to achieve significant reductions in global warming pollution from energy use in buildings and infrastructure by 2030.

## Nyack Vision for 2030

### Green Power and High-Efficiency Buildings

In this Vision, by 2030 overall community greenhouse gas emissions will be reduced by 75%. Electricity purchased by residents and businesses and the Village government will be from 100% renewable sources, and at least 50% will come from NYS renewable facilities.

Leading by example, the Village will lower emissions from its operations 63% and help clean power grid by installing solar on Village owned property. All Village-owned lighting will be LED, and substantial upgrades for converting gas heating systems in Village-owned buildings will be underway or included in the Village's capital improvement plans.

Many homes will be more comfortable and cost less to heat as residents take advantage of incentive programs for insulation and air sealing. New construction projects will be all-electric and have high-performance design that requires less energy for cooling and heating. In existing homes, zero emissions electric equipment will begin to replace old gas furnaces, stoves, and hot water heaters even before the NYS mandates go into effect after 2030.

Commercial property owners will be celebrated for their efforts to drive down emissions, committing to energy audits of their properties, energy benchmarking, efficiency upgrades, and clean energy contracts. Techniques and materials for green high-performance buildings will be promoted and adopted.

By 2030 the Nyack community will have the knowledge, tools, policies, and regulations in place for continued rapid progress towards a clean energy future.

## Where we are in 2023

The Village of Nyack started a coordinated effort to reduce greenhouse gas emissions in government operations and the community upon joining the Climate Smart Communities program in 2013. In 2019, Nyack became the first bronze-certified Climate Smart Community in Rockland County. To date, the Village has achieved 5,000 points and earned $20,000 in grants for high impact actions in the NYSERDA Clean Energy Communities program, including converting all streetlights to LEDs and

adopting the NYS Stretch Energy Code, a more stringent local energy code that improves the State Energy Code's efficacy by roughly 10%.

A NYSERDA Flextech energy audit of the Nyack Water Plant and Village Hall was conducted in 2015, and an informal, but thorough assessment of possible energy efficiency upgrades at the Department of Public Works (DPW) was conducted in 2022 resulting in a multi-year outline for improvements. So far, lighting at the DPW and the Water Plant has been converted to LED.

Currently, the Village purchases 100% renewable energy certificates (RECs) for all of its buildings. Nyack is a member of Rockland Community Power, the local opt-out community choice aggregation program, which offers renewable energy to residents and small businesses.

# What we need to do now

## Objectives & Recommendations

In the Energy & Built Environment focus area, purchasing renewable electricity is the highest impact action with the most significant emissions reductions that Nyack can reliably achieve by 2030. Other high impact actions will target energy efficiency upgrades, new electric equipment installations to replace natural gas, and alternative energy installations. Nyack will need to help bring these improvements to low and moderate income households and work closely with commercial property owners and managers to reach 2030 goals.

See the ***Action List*** after this section for details on recommended actions.

⭐ **Stars** indicate objectives with the best potential to deliver significant reductions in Nyack's greenhouse gas emissions by 2030.

## Objective 1 ⭐

## Purchase Renewable Energy

**1.1 Expand Participation in Community Choice Aggregation for Green Electricity**

Since 2021 Nyack has participated in Rockland Community Power, a Community Choice Aggregation (CCA) program comprising six communities in Rockland County. This program lets residential and small business electricity customers pay prices for renewable ("clean") energy comparable to what they've historically paid for "standard" fossil-fuel-based electricity from Orange & Rockland (O&R).

ROCKLAND Community Power

Through this CCA program, the default energy source is 100% renewable energy from New York State. According to the latest available disclosure forms from 2021), Orange & Rockland's standard energy mix included about 12 % renewables–hydroelectric (8%), renewable biogas(<1%), solar (<1%), and wind (3%).

The Village sends notification letters to eligible households and small businesses describing the plan to which they have been automatically enrolled, and the option to drop out. The mailing excludes customers that already have an electricity contract with an Energy Service Company (ESCO), those receiving benefits in the Home Energy Assistance Program, Time-of-Use customers, and those who opted out of the program previously. As of October 2023, 86.5% of the Nyack residents who were automatically enrolled in the program for the current two-year contract chose to remain in the CCA program, while 13.5% chose to opt-out.

To maximize participation, the Village government and community should initiate a campaign to enroll eligible residents and small businesses who are not currently signed up by promoting better understanding and appreciation of the program benefits and drive towards 100% participation.

Nyack's outreach should reinforce the message that Rockland Community Power contracts take the

guesswork out of dealing with ESCOs on your own. The CCA program provides strong consumer protection, including no contracts for consumers, stabilized rates, and no surprise price changes, and no fees to sign up or to cancel at any time

The outreach should emphasize the positive impact of purchasing renewable electricity. Currently, many buildings in the village use gas for heat, hot water, and cooking. Once these systems and appliances are replaced with electric ones, emissions from building energy use can drop to zero if all electricity used is powered by 100% renewable energy.

Outreach should be designed to reach those who were not considered eligible initially because they had an existing contract with an ESCO, were enrolled in the time-of-use program, or opted out. All of these categories of O&R customers are eligible to participate in the program if they so choose.

**1.2 Expand Participation in Community Solar**
Community solar farms are relatively small-scale solar projects located within the same utility service area. By subscribing to a community solar farm, residents and businesses support the development of new and more local renewable energy projects.

Credits from the solar project are applied to a subscriber's electric bill, including both the supply and delivery portions. Discounts, which until now have been close to 10% are guaranteed, typically for twenty years. Community solar does not duplicate, overlap, or conflict with the renewable energy delivered through CCA base electricity supply.

The Rockland Community Power CCA program is expected to offer community solar pending decisions by the NYS Public Service Commission, which is anticipated to authorize opt-out community solar programs. Customers can also select a community solar company on their own, without the extra assurances that come with subscribing through Rockland Community Power. The advantages of opt-out community solar through Rockland Community Power include the assurance that there will be no contract for consumers, consolidated billing (on the utility bill instead of a separate bill), and no credit check. It is likely that opt-out programs will prioritize low to moderate income customers.

The Village and the community should encourage adoption of community solar and should seek help from Joule Energy (the administrator of Rockland Community Power), from Nyack Library, and from other community resources to provide clear information and guidance.

**1.3 Increase Renewable Electricity Purchasing by Commercial Properties not Eligible for CCA**
Larger commercial properties with demand metering (for customers who exceed a predetermined level of energy usage) are not eligible for CCA, but they should be encouraged to help reduce Nyack's emissions and achieve 2030 goals by purchasing renewable electricity, as the Village of Nyack has done. The Village's Climate Smart Committee has begun to build a network of larger property owners and managers to share information and build support for this and other clean energy and efficiency goals in the Plan.

**1.4 Adopt a Renewable Energy Procurement Policy and Purchasing– Government**
The Village of Nyack currently has a contract for 100% renewable electricity supply in Renewable Energy Certificates (RECs) for Village Hall, the DPW, Water Plant, and Police Substation. The electricity comes from a mix of sources in various states. The contract qualifies for the EPA Green Partners certification.

The Climate Smart Communities program encourages municipalities to adopt a policy for green power procurement to show leadership and a commitment to reducing emissions; the Village policy should commit to the purchase of NYS RECs that support the production of more renewable energy in New York State. The Clean Energy Communities program awards points for purchasing these NYS RECs.

## Objective 2 ⭐
## Make Existing Buildings Energy Efficient

**2.1 Energy Efficiency Programs – Single Family and Small Multifamily Residential**
Nyack has many older homes that need to be insulated and weatherized. State and Federal programs to incentivize energy audits and provide free and low-cost efficiency improvements such as heating upgrades, insulation, LED lights and low-flow plumbing fixtures are underutilized. The Village of Nyack and the community should provide local support to help residents access benefits and share their experiences.

*Blower door test – An essential tool for energy-efficiency audits*

The Action List recommends creative strategies to build knowledge about retrofits and funding options. At the top of the list is to develop a cohort of local renters and owners who have participated and learned from having an energy audit and implementing upgrades so that they can spread the word and serve as resources to others. Many shared resources from other communities in the region are available for organizing this work and learning from the experience of other communities. Local contractors should also be encouraged to share their experiences, knowledge, and perspectives.

The Climate Act requires the State to ensure that disadvantaged communities receive at least 35 % of overall benefits of spending on clean energy and energy efficiency programs – with the goal of 40 %. Nyack's outreach and education efforts should focus on strategies to ensure that these owners and renters are well-informed about the federal and state incentives available for low and moderate income households and take advantage of them to support this goal.

**2.2 Energy Efficiency—Commercial & Large Multi-family**

The commercial sector, which includes businesses and large multifamily residences, is responsible for the largest share of emissions from buildings in Nyack. Nyack Climate Smart Committee members have begun holding meetings with managers of larger commercial properties and the Nyack School District to learn more about how existing buildings have been upgraded for energy efficiency, whether commercial properties are using green power, and what improvements are planned. Valuable information and ideas about technologies, construction methods, funding opportunities and technical support have emerged in the discussions each time. The Village government and community should create a network for sharing information regularly among building managers, designers, and contractors about energy efficiency options, approaches, and programs and how best to take advantage of them.

Designs, incentives, and financing for renovations and retrofits in large residential properties will differ from case to case. The opportunities and challenges will depend on the ownership and management structure. For example, apartment owners in building cooperatives with a board of directors will have a different set of options than renters. Renters and managers of market rate rental properties have different choices than those in affordable housing. Affordable housing presents a range of options depending on whether it's publicly or privately owned.

For multifamily rental buildings where tenants pay their utility bills, there are mixed incentives and motivations for making energy efficiency or alternative energy improvements. Landlords won't reap the rewards of these investments in the form of lower energy bills, but may see value in making their buildings more comfortable and resilient. Various financing mechanisms are emerging to address this issue, including financing for installing and operating smart thermostats in thousands of rental units at low to no upfront cost for building owners; shared solar and backup battery installations and electric vehicle chargers in multifamily building garages and parking lots.

The Village and community, particularly the Climate Smart Committee, will need to help keep track of emerging opportunities and keep information flowing where it's needed. The committee and the network should seek support from many sources, including the NYSERDA Energy Advisor for Rockland, O&R, and Rockland County housing agencies. To build support among managers and tenants in low and moderate Income residences, they should involve houses of worship and community organizations including NAACP, Nyack Center and other partners.

***Workforce***

This building industry network should include Rockland BOCES and Rockland Community College representatives to help advance workforce training to respond to the emerging demands and opportunities for technical support and funding.

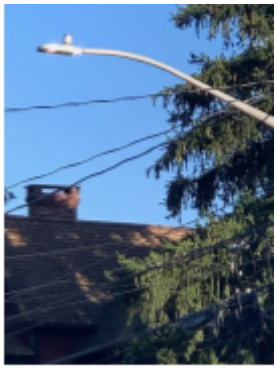
***Green Business Recognition***
Businesses in Nyack should be supported in developing and maintaining a program that would outline and celebrate their efforts to reduce energy consumption and increase adoption of renewable energy. The program should encourage tracking energy use and planning proactively for efficiency upgrades. Businesses that benchmark energy use in the EPA Portfolio Manager could be celebrated in the program.

Partners in the business community can review examples from nearby communities of recognition programs for green businesses and develop a program that targets the high priority actions in the Nyack 2030 Plan while also recognizing smaller but significant steps toward sustainability. Some program examples include Ulster County Green Business Champions, Rutherford Green Leaf, and Ewing Township Green Business Recognition Program.

**2.3 Energy Efficiency Upgrades–Government**
Nyack's greenhouse gas inventory for government operations includes the Nyack Village Hall, DPW, and the Nyack Water Plant. Opportunities for energy efficiency retrofits have been outlined for these properties, and progress should be assessed regularly. Funding incentives are now available in the Inflation Reduction Act for governments and other non-taxable entities for some of this work.

The Village government should evaluate the needs, opportunities and recent upgrades at the Nyack Housing Authority and other buildings owned but not managed by the Village – the Nyack Senior Center, Head Start, Chelsea Firehouse, and the Orangetown Police Substation.

The Village of Nyack purchased and converted all Village streetlights to LEDs in 2020, and buys green energy, so emissions have already been reduced from lighting since the 2018 baseline for the greenhouse gas inventory.



*LED streetlight in a Nyack neighborhood*

**2.4 Demand Response**
During periods of highest electricity demand, typically in summer, utility demand response programs pay participants to reduce the use of electricity from the grid. These programs have long been available to commercial and industrial O&R customers. As of 2023, O&R's residential customers can participate in a demand response program with Meltek. The Village of Nyack and the community should promote participation in both programs.

**2.5 Cool Roofs**
Cool roofs lower the temperature of buildings by reflecting more sunlight than conventional roofs. There are cool options for nearly all types of roof coverings. A new type of white paint has been developed by scientists at Purdue University that can reflect 98% of the sun's rays out of the Earth's atmosphere. The Village of Nyack and community should evaluate roofs on Village-owned properties, map other opportunities throughout the village, and promote cool roof installations.

**2.6 Water Efficiency**
Reducing water use reduces the energy used to make it potable, pump it from the Nyack Water Plant, and then pump and treat the wastewater at the Orangetown Sewage Treatment Plant. The Action List recommends developing a water conservation and reuse plan and increasing installations of low-flow plumbing fixtures at government buildings and in the community. (Also see the Waste Management chapter for a discussion of wastewater and the Natural Resources chapter for a discussion of irrigation.)

## Objective 3 ⭐
## Electrify Buildings

New York State is supporting a rapid transition to all electric buildings by phasing in restrictions on fossil fuel emissions for new buildings and incentivizing new electric systems for existing ones. The Clean, Resilient Building legislation included in the 2023-2024 NYS State Budget sets the following guidelines for constructing modern zero-emissions homes and buildings:

***Under the new codes**:*
*Beginning on December 31, 2025, new buildings that are seven stories or fewer will be built to achieve zero on-site emissions. There is an exception for new commercial or industrial buildings that are greater*

*than 100,000 square feet. The exception will give more time for compliance to larger buildings outside of New York City.*

*Starting December 31, 2028, newly constructed buildings, regardless of size, will have to be built with zero on-site emissions. Certain buildings and equipment will have exemptions, such as emergency backup and standby power, manufacturing facilities, commercial food establishments, laboratories, car washes, laundromats, hospitals, crematoriums, agriculture buildings, fuel cell systems, and critical infrastructure.*

**3.1 Increase Installations of Electric Heating and Cooling Equipment and Appliances in Existing Buildings – Private/Non-Govt**

Most buildings in Nyack use gas for heat, hot water, and cooking. New efficient heat pumps that can operate at cold temperatures now provide an alternative to gas systems, and incentives, regulation and promotions will drive a major shift to these electric systems in the next decade. Evaluating old gas heating, cooling, water and cooking systems and equipment before they need to be replaced allows for planning, design and purchases before an emergency failure.

The Clean Energy Communities program offers support and incentives for communities to conduct *Clean Heating and Cooling Campaigns*. Nyack should plan a campaign for 2024 with a team of community partners, including energy coaches, contractors, and knowledgeable neighbors, with events, case studies, videos, and social media to get people the information they need.


*Rewiring America* 's Electrify Everything in Your Home, is a smart planning guide for transitioning to electric heating and cooling, cooking, laundry, and vehicles. Federal and State financial incentive programs aim to drive a rapid adoption of air source and ground source heat pumps and heat pump hot water heaters. The Rewiring America also offers this guide to the financial assistance available in the Inflation Reduction Act (IRA). Outreach programs should focus on making this and other helpful guidance widely available.

**3.2 Install Electric Equipment and Appliances in Existing Buildings – Govt**

Plans should be developed for replacing the gas boiler at Village Hall. As noted earlier, the Village of Nyack should evaluate the needs and opportunities for upgrades at the other buildings owned but not managed by the Village.

## Objective 4
## Build High Performance, Resilient New Construction

**4.1 Efficiency standards for new construction**

The Nyack Building Department has been requiring and enforcing the NYStretch Energy Code 2020 since it was adopted in 2022. Building Department staff work to help applicants and designers understand new requirements and ensure that construction conforms to approved plans.

The NYS Scoping Plan calls for adopting, by 2025, a "highly efficient State Energy Code for new construction (and additions and alterations as applicable) of residential and commercial buildings to require highly insulated thermal performance and air tightness; electric readiness for space conditioning, hot water, cooking, and dryers; EV readiness where parking is provided; and solar wherever the opportunity exists and is feasible (with allowances for green roofs and other uses of rooftop space)."

The Village of Nyack should continue to ensure implementation and strict enforcement of the current NY Stretch Energy Code 2020, and adoption of the next versions of the Stretch Code once released. The goal is to have all new residential

construction certified as Zero Energy ready, and all commercial construction as carbon-neutral ready as defined by NYSERDA.

The Building Department may need support as new codes and permitting requirements are adopted. The NYS Scoping Plan calls for additional funding for local code enforcement (staff, training, materials) and a credentialing program for Energy Code inspector as well as continued training and resources from NYSERDA to enable all involved to meet energy code requirements. The Village should also consider requiring a third party reviewer for certain projects to ensure compliance.

**4.2 Green building materials**

The Village of Nyack should assess opportunities for other improvements to the local code for sustainable construction besides what is covered in the State Energy Code. Building products are being developed that require less energy in production, and so have lower "embodied carbon." The Climate Smart Committee should invite engineers, architects, and others who are attuned to new developments in sustainable building materials, to share information regularly. As a guide, materials listed in the National Association of Home Builders Home Innovations Research Lab database or approved by the U.S. Green Building Council for LEED should be considered. In addition, the Village government should pilot or highlight projects where appropriate use of certain innovative materials.

## Objective 5
## Install Local Renewable Power and Backup Battery Storage

**5.1 Rooftop Solar**

As demand for electricity increases and fossil fuels are phased out, more renewable electricity will be needed from large and small installations. Nyack should promote solar installations and emphasize the need to expand solar power on local rooftops, as well as NYS solar farms for more locally produced renewable power. Renewables, solar and wind will roughly halve in price again by 2030 according to forecasts by the Rocky Mountain Institute.

Nyack conducted a NYSERDA-funded Solarize Nyack campaign in 2016 that resulted in few new installations, but new incentives and falling costs for solar equipment now make solar more attractive. Between 2016 and 2022, 69 rooftop solar projects were completed in the village. New promotions of rooftop solar in Nyack should enlist these Nyack solar owners as ambassadors who can help clarify what to look for in installers and equipment, report on maintenance concerns and answer other frequently asked questions. A new effort to increase rooftop solar in the village should focus on the larger roofs in the commercial district.

*Preliminary Rooftop Solar Feasibility Mapping in Downtown Nyack near the Municipal Parking Lot with Google Project Sunroof*

*Government*

The Village of Nyack and other tax-exempt entities will be able to receive a payment equal to the full value of the tax credit for building qualifying clean energy projects through the 2022 federal Inflation Reduction Act's (IRA) Direct Pay program. The roofs at DPW, Chelsea Firehouse, and the Nyack Water Plant will be assessed for rooftop solar. Nyack has had several municipal parking lots assessed for potential solar canopies, and they would not be economically viable currently.

**5.2 Geothermal**

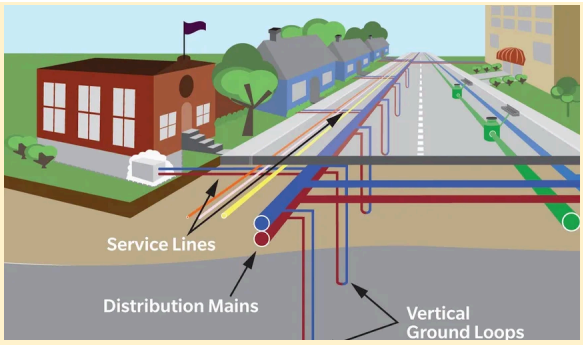
*Ground source heat pumps*

Ground source heat pumps extract heat from the ground during cold weather via an underground pipe system, then distribute it throughout a building. During warmer months, the process is reversed to provide cooling. This system is the most efficient type of heat pump and can provide all of a household's heating and cooling needs.

While the upfront cost to install this system is higher than for air source heat pumps or other types of HVAC equipment, the annual energy bills and maintenance costs are lower, and they have a longer life span. Federal, State, and utility tax credits for ground source heat pumps installation are available. Nyack should encourage the installation of ground source heat pumps for new construction and for heating system conversions.

*Thermal Energy Networks*
A thermal energy network is a system of ground-source heat pumps. A loop of pipe filled with pure water runs along the street in the gas utility's right of way. Service loops connect to buildings along the street. Each building has its own heat pump inside that pulls heating or cooling thermal energy from the water in the service line. See a video explaining networked geothermal here.

New York State is funding local pilot projects to advance understanding and expand installations of thermal energy networks. The Village of Nyack has discussed the current status of this new opportunity with representatives from O&R and should keep abreast of developments that would enable local projects.



*Thermal Energy Network*

**5.3 Energy Storage**
Energy storage can take the form of batteries, thermal, pumped hydro, and other mechanical systems. As renewals become a larger share of the electrical grid, energy storage will become increasingly important for demand response and to balance loads, address peak demand, and provide backup power. As Nyack plans for resiliency and purchases more EVs, the opportunities and requirements for including battery storage need to be well understood and shared.

Battery storage is the most common residential application for storage, and there are a number of solutions. Some electric vehicles can provide backup power directly to the home.

The NYS Scoping Plan (page 86) calls for adopting "building resilience features into State codes for new construction (and additions and alterations as applicable), to require energy storage or on-site renewable generation that is able to operate independent of the grid, with specifications for sizing to meet resilience demands." The code will also require "grid-interactive electrical appliances as feasible (such as batteries and hot water heaters) to support grid reliability and eliminate barriers to residential adoption of [ground source heat pumps]. These requirements should apply to construction of buildings that file for a building permit starting in 2025."

Prior to the IRA, battery storage systems were only eligible for funding incentives if they were fully charged by onsite solar panels. Now, the 30% tax credit is available for energy storage systems with a capacity of 3 kilowatt-hours or more, whether their energy comes from community solar or rooftop panels.

**5.4 Small-Scale Wind Power**
Small scale or micro wind turbines are becoming more widely available for residential and commercial applications. There are three model types: horizontal and vertical axis and solid state turbines. Wind complements solar because the turbines can produce energy when the sun's not shining.

Exploring electricity production through wind turbines should be considered as the Village and commercial operations study alternative fuel generation. These systems cost significantly more than solar panels, and unlike solar panels, there are moving parts that require ongoing maintenance. However, as noted above, the systems would qualify for the IRA's direct pay credits.

## Objective 6
## Equipment and Appliances with Alternative Refrigerants

**6.1 Alternative Refrigerants for HVAC and Refrigeration**
Hydrofluorocarbons (HFCs) are synthetic gases primarily used for cooling and refrigeration. Many widely used HFCs are very powerful, short-lived climate pollutants. For example, the most common refrigerant currently used in heat pumps in the U.S., R410A, has a Global Warming Potential (GWP) of 2088, which means one pound of R410A has the same global warming effect as 2088 pounds of CO2.

Homeowners buying new air conditioners, refrigerators, dehumidifiers, and heat pumps should check not only energy efficiency labels but the refrigerants label too. Heat pumps on the market now still use R410A, but EPA regulations that will take effect in January 2025 will limit refrigerants used in heat pumps to a maximum of 700 GWP. Most will then run on R32 which has a GWP of 677 or

R454,with a GWP of 467. Heat pumps using R290 (propane), with a GWP less than 1, are becoming popular in Europe and will likely be available in two to three years.

HVAC equipment and refrigeration should be installed with care and maintained to minimize leakage of refrigerants. HVAC technicians often don't take the time to fix leaks or properly capture refrigerants during replacement and repair of central air conditioning or heat pump systems, since it is easier and less time-consuming to add more refrigerant to a leaking system than to fix it. The Village and community should promote proper installation and maintenance with property owners and contractors, and provide resources on appliance options with low GWP refrigerants.

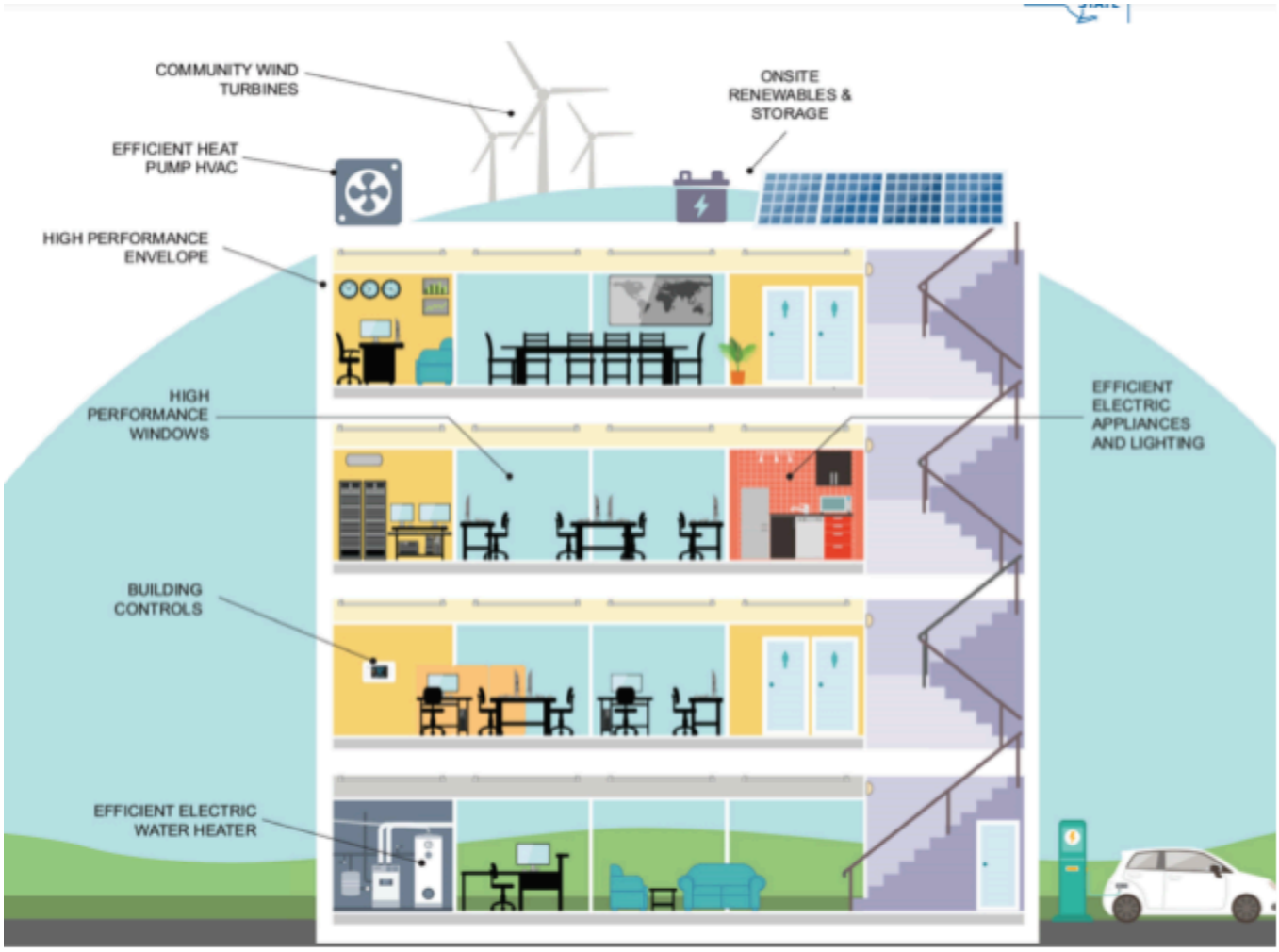
On the commercial side, food markets are a major source of leaked refrigerants. Very few larger markets have switched to low GWP refrigerant systems. Smaller markets will often find it hard to make an investment in the right equipment. New York State is aware of this issue and incentives for replacements may emerge. The Village and community should keep abreast of opportunities to reduce this source of climate pollution and encourage markets as well as restaurants to replace equipment with climate smart alternatives.

*Also see a discussion of refrigerants management and disposal in the Waste Chapter.*

## Objective 7
## Adopt Energy Efficient Practices

**6.1 Energy Efficient Computer, Office Equipment, and Electronics Use**
The Village of Nyack should assess how computers and electronics are managed in Village operations and make changes to improve energy efficiency as needed according to guidance on best practices. Outreach to the community about these practices should be part of the Village's overall strategy for reducing energy use.

**6.2 Energy Use Reduction Campaign**
The Village and community can highlight ways small individual behaviors and habits at home and work can add up when adopted across the community. A *Reduce Energy Use Campaign* for residences and businesses, outlined in the Climate Smart Communities program, focuses on small steps like walking to school or work, turning down the thermostat, buying locally-made/grown products, eating less meat and creating engaging ways to build awareness and support. For example, the Arlington County, Virginia library has an Energy Lending Library with LED sampler kits and energy usage monitors. Campaigns could include friendly competitions at small or large scale, where residents and/or businesses compete against their peers to see who can reduce the most energy.




Energy Efficiency + Electrification *(NYS Clean Heat Program)*

# ENERGY & BUILT ENVIRONMENT ACTION LIST

**The Village of Nyack and the Nyack Climate Smart Committee support the following actions and will coordinate with community partners to implement them. High priority actions to focus on first are labeled FIRST PRIORITY.**

| 1. Purchase Renewable Energy ⭐ | |
|---|---|
| ***1.1 Community Choice Aggregation*** **FIRST PRIORITY** | ***Partners*** |
| **Increase participation in Rockland Community Power**<br>☐ Develop user-friendly messaging that clarifies key points, including how to read the electric bill.<br>☐ Develop a multipronged program for ongoing outreach, using the Nyack 2030 Outreach & Education Strategy. Create short videos with graphics and include links to them in printed materials, on websites and social media. Conduct door-to-door outreach with materials and in person contact (in areas of low participation, if that information is available). See the Outreach and Education Section for other strategies, including campaigns and mailings.<br><br>**RESOURCES**<br>Rockland Community Power website<br>NYSERDA CEC Action – Community Choice Aggregation (Completed<br><br>**Funding:**<br>Joule Community Power | Peggy Kurtz, Rockland Community Power<br><br>Joule Energy<br><br>Andrew Goodwillie, Former South Nyack Trustee<br><br>Orangetown's Environmental Committee<br><br>George Hoehmann, Supervisor, Town of Clarkstown |
| ***1.2 Community Solar*** | ***Partners*** |
| **Encourage adoption of community solar with targeted outreach and a campaign.**<br><br>☐ Work with Joule Energy (the administrator of Rockland Community Power), Nyack Library and other community resources to help provide clear guidance. (See Orangetown and Haverstraw regarding their community solar campaigns (which were not part of CCA). This will target low and moderate Income communities first.<br><br>**RESOURCES**<br>CEC program Community Solar campaigns.<br>PowerMarket<br>**Funding**<br>Solar for All | Joule Energy<br><br>Nyack Library<br><br>Town of Orangetown<br><br>Village of Haverstraw |
| ***1.3 Renewable Electricity for Commercial Properties not eligible for CCA*** | ***Partners*** |
| **Increase renewable energy purchasing among large commercial customers.**<br>☐ Create an outreach strategy working with key property owners and managers, including Nyack Hospital.<br>☐ Contact larger businesses to find out whether they are purchasing renewable electricity. Encourage them to do so if they aren't and encourage them to publicize it if they are. | Owners/managers of large buildings not in CCA.<br><br>Nyack Hospital |

| | |
|---|---|
| **RESOURCES** | |
| ***1.4 Renewable Power Purchasing - Govt.*** | ***Partners*** |
| **Increase the amount of NYS renewable energy purchased by the Village of Nyack.**<br>☐ Adopt a policy to require the use of renewable energy to meet government needs. Include a goal or requirement for a percentage of RECS to be retired in a New York State Generation Attribute Tracking System.<br>☐ Purchase NYS Renewable Energy<br>☐ Apply for credits for the above in the CSC and CEC programs<br><br>**RESOURCES**<br>CSC Green Power Procurement Policy<br>CEC High Impact Action for the purchase of RECs<br>CSC Action RECs<br>EPA Green Power Partners | |
| **2. Make Existing Buildings Energy Efficient** | |
| ***2.1 Energy Efficiency Upgrades– Residential*** **FIRST PRIORITY** | ***Partners*** |
| ☐ Promote information from Rewiring America.<br>☐ Work with Building Dept to develop information and resources to share with permit applicants, including a webpage ***How Do I Do a Green, Efficient Project?***, devoted to best practices and resources for low emissions high performance design, upcoming rules and regulations, incentives, etc.<br>☐ Develop a network of local ambassadors.<br>☐ Conduct an energy efficiency/reduction campaign.<br>☐ Vet and share information about contractors and equipment.<br>☐ Work with O&R on outreach aligned with local goals<br>☐ Consider using induction stove in the Nyack Center kitchen to promote.<br>☐ Energy Performance Ratings at Point of Sale: Phase in a requirement for home energy audits to be included in the transfer of all homes and buildings for the benefit of owners, tenants, and prospective buyers.<br>☐ Offer presentations or trips to visit high performance, zero energy buildings (such as Passive House certified buildings in nearby areas.)<br><br>**RESOURCES**<br>Smart Energy Choices Mid-Hudson<br>Energy Smart Homes Marketing Resource Inventory<br>CSC Energy Efficiency Reduction Campaign<br>CSC Water -Efficient Fixtures<br><br>**COSTS /FUNDING**<br>● NYS Guide to Inflation Reduction Act Savings<br>● IRA Savings Calculator<br>● IRA Federal tax credits<br>● O&R grants and discounted products<br>● O&R air sealing and insulation<br>● EmPower + New York program<br>● Federal Weatherization Assistance Program<br>● Federal tax credits for geothermal heat pump system installations<br>● Additional 10% domestic content bonus credit | Community Energy Advisor<br><br>O&R Utilities<br><br>Energy Auditors<br><br>Homeowner network<br><br>Contractors |

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| • HOMES Rebate<br>• High-Efficiency Electric Home Rebate Act (HEEHRA) | |
| **2.2 Energy Efficiency Upgrades—Commercial & Large Multi-Family and Schools** | **Partners** |
| ☐ Create a network of commercial property owners for information sharing.<br>☐ Consider a requirement for 3rd party review of plans.<br>☐ Promote Energy Benchmarking for commercial and multifamily buildings.<br>☐ Develop a Green Business Recognition Program.<br>☐ Highlight energy efficiency work done at community spaces such as Nyack Center, Nyack Library and businesses.<br>☐ See also the recommended *How Do I?* webpage in 2.1 above.<br>☐ Participate in Demand Response<br><br>**RESOURCES**<br>EPA Portfolio Manager for Energy Benchmarking<br>Tap demand response and smart metering<br><br>***Funding***<br>Inflation Reduction Act: Businesses website<br>O&R Demand Response Program | NYSERDA-approved contractors.<br><br>Large property owners and managers<br><br>Nyack Public Schools<br><br>Nyack Hospital |
| **2.3 Energy Efficiency Upgrades – Government** | **Partners** |
| ☐ Adopt a clear policy that requires some or all of the following items and apply for CSC certification for this action.:<br>☐ Proactively upgrade existing buildings to a specific set of energy efficiency upgrades and standards by a certain date.<br>☐ Incorporate green building standards when facilities are to be upgraded. This applies to DPW, Water Plant, and Village Hall. (See CSC guidance.)<br>☐ Apply green building standards to existing operation and maintenance programs. (See CSC guidance.)<br>☑ Energy Benchmarking – Govt.--Continue the annual updates in EPA Portfolio Manager and info-sharing with NYSERDA. (Nyack has been benchmarking since 2018.<br>☑ LED Streetlights<br>☐ LED Traffic Signals Determine which are LED and upgrade as needed, apply for CSC credit.<br>☐ Promote green building standards and planning for other buildings that are owned but not operated by the Village. See Nyack Clean Green Schools Program for Head Start.<br><br>**RESOURCES**<br>CSC Green Building Standard for Government Buildings<br>CSC Interior Lighting Upgrades (Govt)<br>CSC HVAC Upgrades<br>CSC Clean Energy Upgrades<br>CSC LED Traffic Signals<br>CSC Environmentally Preferable Purchasing Policy (for Energy Efficiency)<br>CSC Financing Mechanism for Government Energy Projects<br>**Funding**<br>NYSERDA Clean Green Schools Program | |
| **2.4 Demand Response** | **Partners** |
| ☐ Promote Demand Response - Residential<br>☐ Promote Demand Response - Commercial | O&R |

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| **RESOURCES**<br>O&R Demand Response Program with Meltek | Meltek |
| ***2.5 Cool Roofs*** | ***Partners*** |
| ☐ Evaluate roofs on Village-owned properties<br>☐ Map other opportunities throughout the village, and promote their installation.<br><br>**RESOURCES**<br>DOE Cool Roofs Information | Roofers<br>Architects<br>Engineers |
| ***2.6 Water Efficiency*** | ***Partners*** |
| **Implement a Water Conservation and Reuse Program**<br>☐ Audit Village Hall, DPW, and Water Plant fixtures and replace with water efficient ones as needed.<br>☐ Implement community outreach and education on water conservation and reuse, and/or participate in the EPA WaterSense program as a promotional partner.<br>☐ Develop a water conservation and reuse plan for government operations.<br>☐ Develop a water conservation and reuse plan for the community (residents, businesses).<br><br>**RESOURCES**<br>CSC Action Water Conservation and Reuse<br>CSC Action Water Efficient Fixtures (Govt)<br>Village of Nyack Guide to Water Conservation and Reuse 2015 (Study conducted by VHB Planning, including some local metrics and useful appendices)<br>EPA Watersense | Nyack Water Plant<br>DPW |
| **3. Electrify Buildings** | |
| ***3.1 Electric equipment and appliances – Private/Non-Govt***<br>**FIRST PRIORITY** | ***Partners*** |
| ☐ Conduct a Clean Heating and Cooling Campaign with a clear set of strategies for targeting all populations, and ensuring a strong focus on low and moderate income households.<br>☐ Develop Building Department and Planning Board materials for applicants<br>☐ Disseminate Info from Rewiring America Including this Electrify Your Home Guide<br>☐ Use Nyack Center induction stove in kitchen to promote.<br>☐ Work with Nyack Library on strategies including lending induction stoves and equipment or ideas such as those in Arlington's Lending Library.<br>☐ Create a network of ambassadors who have installed devices and can be a resource to help neighbors.<br>☐ Battery Storage - Use car batteries for home back-up power and to stabilize grid during peak time periods.<br><br>**RESOURCES**<br>Arlington County Energy Lending Library<br>CEC Clean Heating and Cooling Campaign<br><br>**FUNDING**<br>NYS Guide to Inflation Reduction Act Savings<br>NYSERDA CEC Clean Heating and Cooling Campaign funding for clean energy projects<br>Infrastructure Reduction Act | Schools<br><br>Nyack Library<br><br>Local residential and business ambassadors<br><br>Orange & Rockland<br><br>Contractors & Vendors<br><br>Nyack Center<br><br>Appliance retailers |

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| Rewiring America IRA Incentive Calculator<br>https://www.washingtonpost.com/climate-environment/2023/02/07/ev-battery-power-your-home/ | |
| ***3.2 Electric Equipment in Existing Buildings – Govt*** | ***Partners*** |
| ☐ Assess the boiler at Village Hall and plan options for future replacement.<br>☐ Identify opportunities at Nyack Senior Center, Head Start, Housing Authority and Orangetown Police substation.<br><br>**RESOURCES and RECOGNITION**<br>CSC HVAC Upgrades | Nyack Housing Authority<br><br>Nyack Head Start |
| **4. Build High Performance New Construction** | |
| ***4.1 Efficiency standards for new construction*** | ***Partners*** |
| ☐ Adopt NYS Stretch Energy Code<br>☐ Building Dept-Continue with any new training for enforcement of new energy code.<br>☐ Consider requirement for third-party certification on certain projects to ensure compliance.<br><br>**RESOURCES**<br>Sustainable Westchester/Bedford/Ulster for contacts, models. | |
| ***4.2 Use "green" building materials*** | ***Partners*** |
| ☐ Create a mechanism for sharing new information about green materials, coordinated by the Energy Working Group.<br>☐ Pilot projects and coordination among municipalities to drive markets for innovative materials.<br>☐ Use and promote low carbon concrete.<br>☐ RESOURCES<br>Green NY Specification for Low Carbon Concrete<br>Rivertown Mix Low Carbon Concrete<br>Pozzitive– Nearby Manufacturer of ground glass pozzolan | Hastings on Hudson<br><br>Upper Nyack<br><br>Other communities. |
| **5. Install Local Renewable Power and Energy Storage** | |
| ***5.1 Rooftop Solar – Community and Government***<br>**FIRST PRIORITY** | ***Partners*** |
| ☐ Promote installations–dispel the idea that green power purchases eliminate the need to build more renewable energy capacity.<br>☐ Complete new assessments of all potential rooftop solar sites owned by the Village.<br>☐ Install canopies on parking lots if/when feasible.<br>☐ Expedite and/or reduce fees of solar permits<br><br>**RESOURCES**<br>**CSC Solar Energy Installation**<br>**SolarApp+** | Community ambassadors–Residents or businesses that have installed solar. |

| 5.2 Geothermal | Partners |
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| ☐ Encourage the installation of ground source heat pumps for new construction and heating system conversions.<br>☐ Explore opportunities for thermal energy networks.<br><br>**RESOURCES**<br>NYSERDA Community Heat Pumps Pilot Program<br><br>**Funding:**<br>Federal Tax Credits<br>NYS Heat Pump Program (NYS Clean Heat)<br>O&R Rebates | O&R<br>Architects, engineers, and contractors |
| **5.3 Energy Storage** | **Partners** |
| ☐ Develop outreach. Organize resources about battery options and funding that can be available as part of a stand-alone workshop or combined with other related topics.<br><br>**RESOURCES** | Sustainable Hudson Valley |
| **5. 4 Small-scale wind** | **Partners** |
| ☐ Consider options for the Village and commercial operations for alternative fuel generation.<br>☐ Learn about Nyack Middle School's installation and highlight it.<br><br>**RESOURCES**<br>DOE Small Wind Guidebook | |
| **6. Purchase Equipment and Appliances with Alternative Refrigerants** | |
| ☐ Promote proper installation and maintenance with property owners and contractors, and provide resources on appliance options with low GWP refrigerants.<br>☐ Encourage markets and restaurants to replace equipment with climate smart alternatives.<br>**RESOURCES**<br>EIA's Searchable Database Clean Cooling Technologies<br>New Yorkers for Cool Refrigerant Management tools and resources | New Yorkers for Cool Refrigerants Management |
| **7. Adopt Energy Efficient Behaviors and Practices** | |
| **7.1 Energy Efficient Practices** | **Partners** |
| ☐ Assess how computers and electronics are managed in Village-operations and make changes to improve energy efficiency as needed according to guidance on best practices.<br>☐ Conduct outreach to the community about these practices as part of the Village's overall strategy for reducing energy use.<br><br>**RESOURCES**<br>Energy Saver Website | |
| ☐ **Reduce Energy Use Campaign** | **Partners** |
| ☐ Consider partnering with schools or community groups to implement a Reduce Energy Use Campaign for residences and businesses as outlined in the CSC program, focused on energy efficient behaviors.<br>**RESOURCES**<br>CSC Energy Reduction Campaign | |

# TRANSPORTATION


**Transportation's share of greenhouse gas emissions** in Nyack's greenhouse gas inventory is 69%, factoring a share of NYS Thruway traffic that passes through Nyack's borders. While the amount of local traffic measured only within the Village boundaries (using the NYS DOT volume report) accounts for 11% of the emissions from transportation, this "pass-through" traffic on interstate highways (determined using the Google Environmental Insights Explorer Tool) should be accounted for in greenhouse gas inventories. Using either data source, transportation emissions are a high priority, and our local inventories will use both of these sources in future inventories.

Besides the greenhouse gas costs of the traffic on NYS 287 and Rte. 9W and local roads through Nyack pollutes the air with particulate matter in vehicle exhaust, as well as byproducts of burning gasoline and diesel, including nitrogen dioxide, carbon monoxide, hydrocarbons, benzene, and formaldehyde. Since the wildfires in Canada in the spring of 2023 blanketed our region, a new awareness of poor air quality and the danger of particulate matter presents a useful opening for communicating about co-benefits of greener transportation alternatives. In addition, the shift to telework during the Covid pandemic demonstrated opportunities for reducing commuting that can now factor into planning for a lower-emissions lifestyle.

Significantly reducing emissions from local trips, commuting, and commerce will require getting more zero-emission vehicles (ZEVs) and hybrid vehicles on the road, transitioning to a mix of mobility alternatives, and improving public transit.

New York State's Scoping Plan describes strategies needed to transform the sector significantly by 2030:

*Nearly 100% of Light Duty Vehicle (LDV) sales and 40% or more of medium- and heavy-duty (MHD) vehicle sales must be zero-emission and a substantial portion of personal transportation in urbanized areas would be required to shift to public transportation and other low-carbon modes. New York can achieve these goals through ZEV sales requirements and accompanying incentives, investments to help achieve these mandates, historic investments in expanded public transportation and micro-mobility, enhanced bicycle and pedestrian infrastructure, smart growth development, market-based policies that support lower-carbon transportation choices, and potentially a clean transportation standard that reduces the average carbon intensity of fuels as the transition to ZEVs proceeds.*

Nyack will need to take an active role supporting this transition since it will require accessing grants, learning about new technologies, installing infrastructure, and changing the culture.

## Nyack Vision for 2030—A rapid transition to low-emission transportation

This chapter lays out steps for the Village government and all sectors of the community to achieve significant reductions in greenhouse gas emissions from transportation by 2030. In this vision, by 2030 EVs will account for over half of new car purchases, and convenient charging infrastructure will be widespread. The Village fleet will include several light- and medium-duty EVs, and a strategic plan for replacements with zero- and low- emissions cars and trucks will be in place. Students will ride to school in electric buses and take safe routes on foot and by bike.

The Village will continue to seek ways to improve and promote the use of local and commuter transit, and ridership will be on the rise. Improvements to local streets, sidewalks, signage, bike racks, and traffic lights will support mobility and safety for all users.

## Where we are in 2023–

Nyack's Comprehensive Master Plan Update (2016) and Bicycle and Pedestrian Master Plan (2018) provide recommendations for increasing transportation options and improving safety. A review of these plans for the current project shows progress in achieving the goals of traffic-calming, safer crosswalks and signals, and sidewalk accessibility. Many other recommendations from those plans have been incorporated into the Nyack 2030 Plan.

Sidewalk improvements along Broadway were completed in 2023 with a grant from the federal Transportation Alternatives Program. A federally funded Safe Routes to School project will improve safety and accessibility between the Depew Avenue area and the Middle School. Also, Community Development Block Grant and Housing and Urban Development funded sidewalk projects are planned or in progress elsewhere in the downtown. Traffic lights with pedestrian signaling have been installed at downtown intersections. Bike racks are available at various locations in the commercial district. Over 300 new street trees planted by volunteers and maintained by the DPW are making Nyack's sidewalks more shaded and attractive for walkers.

In 2018 the Village installed two EV charging stations in the municipal parking lot by Hezekiah Easter Veterans Park for public use, with no fee for charging, as a way to help promote electric vehicle ownership. Six new charging stations will be installed in 2024 in that lot, and plans are in place for a subsequent installation in the public lot near the Nyack Marina.

In 2020 the Shared Bicycle and Pedestrian Path on Governor Mario M. Cuomo Bridge opened, bringing new opportunities for local businesses catering to bike and scooter riders and for greener commuting.

In late 2018 an enhanced bus service, Hudson Link, replaced the Tappan Zee Express between Rockland and Westchester counties. Amenities include free wireless network service, USB charging stations, and bike racks. Ridership remains well below capacity, but for weekday commuters, the service is generally convenient, although delays even at rush hour are not unusual. Coach USA operates Rockland Coaches, a commuter bus service to midtown Manhattan. Rockland County operations Transport of Rockland (TOR).

## What we need to do –

See the ***Action List*** after this section for details on recommended actions.

⭐ **Stars** indicate objectives with the best potential to deliver significant reductions in Nyack's greenhouse gas emissions by 2030.

### Objective 1 ⭐ Purchase Zero And Low-Emission Vehicles

**1.1 Personal Electric Vehicles – Increase ownership and private charging of electric vehicles and among Nyack residents and businesses**

Electric vehicles (EVs) have zero operational emissions, lower operating costs and a quieter and smoother ride than gasoline or diesel vehicles, the higher cost of EVs and the need for charging at home and on the road have been barriers to wider adoption, but prices are dropping, and charging opportunities are expanding. Purchasers may also have concerns about the use of critical minerals, human rights abuses and environmental degradation in EV battery production. Automakers and battery companies are working to develop different ways to make batteries that address these concerns.

The IRA offers tax credits up to $7500, and a rebate of up to $2,000 is available from NYSERDA's Drive Clean rebate (2023). Nyack should conduct an Electric Vehicle Campaign following the requirements of the Clean Energy Communities program, promoting awareness of vehicle and charging options and incentives, charging facilities and in small and larger multifamily residences. The Plan lays out actions for assessing existing EV ownership and private charging in the village and implementing an ongoing program for disseminating information to potential EV owners as the market, vehicle models, and financial incentives change.

**1.2 Village Fleet**

Nyack should lead by example in transitioning to a green vehicle fleet. The Village should adopt and implement a set of requirements for monitoring usage and setting goals for transitioning to a green fleet with minimum percentages of zero or low emissions vehicles within a certain time frame.

**1.3 Electric School Buses**

New York State's 2022-23 budget established a commitment for all new school buses purchased to be zero emission by 2027, with all school buses in operation to be electric by 2035. The Transportation Working Group of Nyack's Climate Smart Committee should help communicate about new purchases and plans for this transition, which will bring health and ecological benefits for the community.

## Objective 2 ⭐ Reduce Motorized Vehicle Miles Traveled

**2.1 Public Transit And Carpooling**

Nyack should support strategies that increase the use of public transit ridership by investigating the needs of the community, coordinating with nearby Villages, Towns and the County, and advocating for improvements. The Village and community's outreach should highlight system improvements and available tools and programs to encourage residents, employees, and visitors to consider public transit and carpooling. For example, 511NY Rideshare helps to connect carpool or vanpool partners and provides trip planning tools and incentives.


*Electric Bus at the Lamont-Doherty Earth Observatory Campus*

**2.2 Complete Streets**

Nyack's Greater Nyacks Bicycle and Pedestrian Plan (BP Plan) completed in 2018 and the Complete Streets Policy adopted in 2019, support street design and operations to enable safe use and mobility for all users. Following the lead of the Town of Clarkstown and the Village of Piermont Traffic Committee, the Village convened a full-day workshop of local stakeholders to learn more about the concept and how it could be applied in Nyack. The many recommendations in the Action List draw from these previous plans and efforts. They aim to promote awareness of alternative possibilities, shift priorities, and build the necessary infrastructure to make Nyack streets safe and appealing for all users.

Transforming a car-centered, urbanized environment like Nyack's into a Complete Streets community is a challenging long-term project involving local decisions about sidewalk and other infrastructure design and as well as coordinating with groups and agencies beyond village borders. The Village should organize a local working group including staff and members of the public to review the existing recommendations and plan for future work within Nyack. Additionally, the Village and the community should establish a regional committee to meet and coordinate on multi-modal transportation planning outreach and funding commitments.

***Sidewalks***

Nyack should develop an effective way to create a high quality, safe, sidewalk system. According to the Village of Nyack Code, the abutting property owner is responsible for sidewalk construction and repair costs. . The Village should consider various strategies, including reinstituting a 50/50 cost share program and better enforcement or adopting

sidewalk improvement districts, funded by an annual fee. In addition, Nyack should adopt sidewalk design guidelines with details on low-carbon concrete, accommodations for tree roots and other details needed to provide a long-lasting, sustainable, safe, attractive public pedestrian route throughout the village. Also see the discussion of trees and sidewalks in the Natural Resources Chapter.

**2.3 Local Nyack Transit –Shuttle and Ferry**

The Nyack Comprehensive Plan 2016 recommends conducting a feasibility study for a shuttle to connect the Nyacks with the Village's downtown, and this idea is included in the Action List. Note that the Comprehensive Plan also included a feasibility analysis of both recreational and commuter ferry service options for Nyack and recommended steps towards implementation. A seasonal weekend service was outlined as an option that could be pursued separately from a weekday commuter service, or as a step toward development of a commuter service. The Comprehensive Plan does not include analysis of greenhouse gas emissions associated with ferry service or associated infrastructure, and the commuting data used is outdated. Therefore, the Action List recommends only updating the analysis in the Comprehensive Plan if it appears justified in the future.

**2.4 Idling**

U.S. cars and trucks consume more than 6 billion gallons of diesel fuel and gasoline each year without moving. Rockland County and Nyack have anti-idling laws that the Parking Authority is authorized to enforce, but buses are exempt. Nyack should work with bus operators and others to reduce idling at the bus stops, add signage where it often occurs, and promote awareness of the problem of idling among local drivers.

***The Transportation Chapter of the NYS Final Scoping Plan can be found here.***

# TRANSPORTATION ACTION LIST

**The Village of Nyack and the Nyack Climate Smart Committee support the following actions and will coordinate with community partners to implement them. High priority actions to focus on first are labeled FIRST PRIORITY.**

## 1. Purchase Zero and Low Emission Vehicles ⭐

| *1.1 Personal Electric Vehicles* FIRST PRIORITY | *Partners* |
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| ☐ Conduct a Community Campaign for Electric Vehicles according to the requirements of the CEC program.<br>☐ EV Information and Support for Purchasers. Establish a system for the CSC Working Group to keep informed and share info about vehicles and incentives. Participate in webinars and sign up for emails. Check in with key partners.<br>☐ Create and support an EV Owner's Team to help answer questions and track levels of ownership. Help purchasers address barriers at dealerships.<br>☐ Host and or promote EV Demonstration Days For example, Local EV owners and/or dealers bring cars and information to a school parking lot or the downtown car show.<br>☐ Charging facilities and options– Provide prospective purchasers, the Building Department and Planning Board with information on EV charging options and funding sources.<br><br>**RESOURCES**<br>CEC Community Campaign for Electric Vehicles<br><br>**FUNDING**<br>Inflation Reduction Act<br>NYS Drive Clean Rebate for Electric Cars | Auto dealerships<br><br>Frankie Lede, Community Energy Advisor<br><br>Cornell Cooperative Extension<br><br>Seth Leitman, Green Living Guy<br><br>Jessica Enzmann Sierra Club<br><br>Clean Energy Communities Coordinators:<br><br>Rockland County Commissioner of General Services, Kate Johnson-Southren<br><br>EV Owners Ambassadors |

| *1.2 Village Fleet* FIRST PRIORITY | *Partners* |
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| **Transition the Village to an electric and low emissions fleet**<br>☐ Adopt a Village Resolution for Improving Public Health and Welfare by greening the Village Vehicle Fleet.<br>☐ Indicate support for a timeframe and plan for accomplishing the steps for Fleet Inventory, Policy, Right-Sizing, and making the actions public.<br>☐ Conduct a fleet inventory<br>☐ Adopt a fleet efficiency policy<br>☐ Right-size the fleet, and replace traditional vehicles with advanced vehicles matching the right vehicle with the right task and reducing the overall number of vehicles.<br>☐ Obtain Points in NYSERDA CEC program for the Clean Fleets Action: Deploy light to heavy duty electric vehicles. (Nyack has already obtained 200 points for EV infrastructure.)<br>**RESOURCES**<br>Climate Smart Communities: | Nyack Public Schools<br><br>New York Metropolitan Transportation Council<br><br>Sustainable Hudson Valley<br>Village of Nyack DPW, Water<br>Village of Nyack DPW, Water Department, Building Department, Parking Authority |

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| Fleet Inventory<br>Fleet Efficiency Policy<br>Fleet Right-sizing<br>Advanced Vehicles<br>Clean Energy Communities Clean Fleets Action | |
| ***1.3 Electric School Bus Fleets*** | ***Partners*** |
| ☐ Support, promote purchases of electric school buses.<br><br>**RESOURCES**<br>Tarrytown's Electric School Bus<br>Area school districts contemplate shift from diesel to electric bus fleets<br>Tech Partners Are Ready to Help Transition Schools to E-Buses<br>School bus article from Rockland ME<br>**Funding**<br>https://electrek.co/2023/04/25/epa-electric-school-bus-grants | Nyack Public Schools<br><br>511NY Rideshare |
| ***1.3 County Buses and Fleet*** | ***Partners*** |
| ☐ Support/amplify efforts for electrifying the County Fleet. | Sustainable Hudson Valley<br>New York Metropolitan Transportation Council (NYMTC) |
| ***1.4 Charging Stations*** | ***Partners*** |
| **Government**<br>☐ Install more stations at Veterans/Hezekiah Easter Parking Lot (currently planned).<br>☐ Install stations at the Marina Lot (currently planned).<br>☐ Install Village fleet charging stations.<br>**Private**<br>☐ Consider regulations and Incentives to advance EV charging access.<br>☐ Consider requiring chargers for new parking structures.<br>☐ Consider waiving permit fee for home charger installations.<br>☐ Make information available for applicants at the Building Dept.<br><br>**FUNDING**<br>IRA Tax Credit to install home chargers<br>Great resource for charging station:<br>https://afdc.energy.gov/fuels/electricity_locations.html#/find/nearest?fuel=ELEC | Village of Nyack<br>O&R<br>NYSDEC<br>NYSERDA |
| **2. Reduce motorized vehicle miles traveled ⭐** | |
| ***2.1 Public Transit and Carpooling*** | ***Partners*** |
| **Support/Promote Public Transit Use and Carpooling**<br><br>☐ Create a coalition of key stakeholders local, Village, County–to meet/communicate regularly. | 511NY Rideshare<br>Rockland County<br>NYSDOT<br>Rockland Coach USA |

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| ☐ Assess local transit needs.<br>☐ Advocate for improvements to public transit, such as better service on weekends and other off-peak hours.<br>☐ Promote public transit and carpooling with campaigns and outreach, for example, special group trips to introduce the system.<br>☐ Improve bus stop signage. Make sure every bus stop can be clearly identified.<br>☐ Add Carpool Widget on the Nyack Village Website, 511NY Rideshare.<br>☐ Organize a car-free day.<br><br>**RESOURCES**<br>Climate Smart Communities: Public Transit<br>Highland - Electric Bus Subscription Service. | Scenic Hudson<br>Tri-State Transportation Campaign |
| ***2.2 Complete Streets*** | ***Partners*** |
| **Multi-Modal Transportation**<br>☐ Establish a committee of local and partner communities to meet and coordinate on multi-modal transportation planning outreach and funding.<br>☐ Consider hosting an electric scooter rental service.<br>☐ Review the Greater Nyacks Bike Walk Master Plan for actions worth further consideration.<br>☐ Evaluate the Complete Streets Policy and add guidelines as needed.<br><br>**Pedestrian Circulation**<br><br>☐ Create a pedestrian master plan that provides an implementation strategy for the construction, renovation and ongoing maintenance of sidewalks and pathways, crosswalks and ADA-compliant curb ramps.<br>☐ Develop a "Safe Routes to School" program to focus on improving pedestrian infrastructure within student walk zones.<br>☐ Improve walkability along the Route 59 corridor to strengthen pedestrian connections to the Waldron Terrace neighborhood and Central and West Nyack.<br>☐ Require restaurants permit to use parklets, temporary sidewalk extensions installed in parking lanes, during the warmer months to better accommodate outdoor dining, contingent on ineligibility to obtain sidewalk cafe permits, to preserve walking space on sidewalk.<br>☐ Increase shade on sunny sidewalks and parking areas through tree planting or other means, such as solar carports.<br>☐ Introduce an improved wayfinding system that directs travelers to appropriate streets and destinations.<br><br>**Vehicular Circulation**<br>Explore the use of solar-powered speed radar warning signs to increase vehicle compliance with speed limits.<br><br>**Improve Bicycle Circulation and Safety**<br>☐ Map locations and provide appropriate bike racks and/or parking.<br>☐ Paint "sharrows" on driving lanes of Broadway, Midland and Franklin St, as appropriate, to reinforce the principle of vehicles and bicycles sharing the driving lane.<br>☐ Create a bicycle route network that accommodates local, regional and long-range cyclists.<br>☐ Assess and experience cycling first hand as a local user. | Village of Piermont Traffic Committee<br><br>Village of Upper Nyack<br><br>Town of Orangetown<br><br>Rockland County Planning Depart and Health Department<br><br>Orange and Rockland<br><br>Rockland Bicycle Club<br><br>Nyack Public Schools<br><br>511NY Rideshare |

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| ☐ Introduce an improved wayfinding system that directs travelers to appropriate streets and destinations.<br>☐ Develop a plan for improvements for bicyclists from the end of the Esposito trail at Cedar Hill Avenue into downtown Nyack.<br><br>**RESOURCES**<br>Project Mover Ossining<br>Make Way for the Bike Bus<br>FHA Bicycle and Pedestrian Program<br>New Federal Guidance for bicycle, pedestrian and micromobility projects<br>**Funding**<br>NYS Complete Streets funding package<br>Safe Streets for All Grant Program<br>https://nyrideclean.org/ | |
| ***2.3 Local Nyack Transit – Ferry and Shuttle*** | ***Partners*** |
| ☐ Shuttle– Explore the feasibility of a shuttle to connect the Nyacks with the Village's downtown.<br>☐ Ferry–Update the analysis of commuter ferry options in the Comprehensive Master Plan if and when it appears justified.<br><br>**RESOURCES**<br>Nyack Comprehensive Master Plan Update 2016<br>Greater Nyacks Bike and Pedestrian Master Plan 2018<br>Climate Smart Communities: Planning for Biking and Walking Safe Routes to School | |
| ***2.4 Air Quality*** | ***Partners*** |
| **Address Air Quality Impacts**<br>☐ Reduce illegal idling. Rockland County No-Idling law (https://ecode360.com/9669826) limits idling to three minutes. Nyack Parking Authority is authorized to issue summonses for idling, but buses are exempt. Install signs, build awareness, and encourage better compliance.<br>Post Air Quality Alerts (See 511 RIdeshare)<br><br>**RESOURCES**<br>511NYRideshare<br>Resources page | Clean Air New York |

# WASTE MANAGEMENT

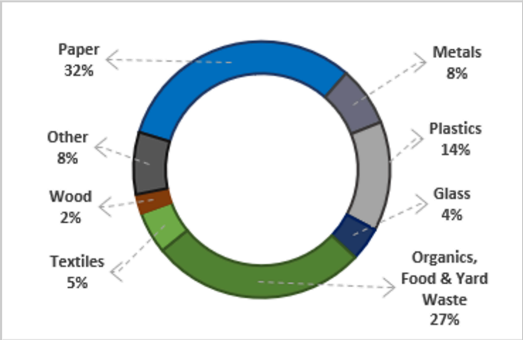

**Reducing, reusing, recycling, repairing, and landfilling** materials are all part of waste management. This focus area of the Plan concerns ways to reduce emissions from the whole range of activities involved in waste management as well as wastewater treatment.

The main source of Nyack's greenhouse gas emissions from waste handling is uncaptured emissions of methane from landfills. In Rockland County, there are also notable emissions from hauling waste 329 miles to the Ontario County Landfill in diesel-fueled tractor trailers that average 6.5 miles per gallon.

Besides methane production and transportation, during their full life-cycle, the products and packaging that eventually become waste create significant global warming emissions. While we can't quantify this in the Nyack greenhouse gas inventory, actions to help reduce all waste by changing some buying habits are included in the Plan.

Operations for handling municipal solid waste generated in Rockland County are controlled by Rockland Green, the Solid Waste Management Authority. These include recycling of certain plastics, glass, cardboard, metal, paper, and composting yard waste, sewage sludge and food waste, trash hauling and landfilling. There are special provisions for collection and disposal of hazardous waste, electronics, pharmaceuticals, and appliances that contain refrigerants.

The chart below shows the material makeup of municipal solid waste in Rockland County. Much of the paper, plastic glass, metal, textiles, and organics (yard debris and food waste) can potentially be recycled, significantly reducing the amount of trash sent to the landfill.




## Nyack Vision for 2030

### On a path to zero waste

This chapter lays out steps for the Village government and all sectors of the community to achieve significant reductions in greenhouse gas emissions from waste materials by 2030. In this vision Nyack, working closely with Rockland Green, will have the knowledge, tools, policies, and regulations in place for continued rapid progress towards a circular, zero waste economy– keeping materials and products in circulation for as long as possible.

All households, businesses, schools, and houses of worship in Nyack will fully recycle to significantly reduce the amount of trash sent to the landfill. Additionally, the total material collected at the curb will decrease because the community will embrace the four Rs that precede recycling– refuse, reduce, repair, and reuse.

Food waste from Nyack residents and businesses will no longer be trucked out of the county. Instead, it will be donated or composted, either in a county composting facility or backyard bins. People across the community will have an impact on waste reduction by reducing food waste with better purchasing and management choices at home, in school cafeterias, restaurants, and the hospital.

Air conditioners, heat pumps, refrigerators and tanks that contain HFC refrigerants will be handled to prevent leakage and ensure proper end-of-life management to avoid release of these gases, which are thousands of times more damaging than CO2. New equipment that

uses alternative types of refrigerants that create less climate-warming pollution will be widely encouraged.

Property owners will reduce the volume of leaves, lawn clippings, and other organic yard waste for municipal pickup by keeping leaves on site by mulch-mowing, composting, or leaving them in place.

## Where we are in 2023

The Village of Nyack has been taking steps to improve waste management and recycling rates since the Village took the pledge to become a Climate Smart Community in 2013. In 2018 the Village increased recycling curbside pickup from alternate weeks to a weekly schedule.

Nyack DPW hauls yard waste (brush and leaves) to West Nyack, and Nyack residents may obtain the resulting compost and mulch for free from the Orangetown Highway Department in Orangeburg. The Village passed a resolution in 2015 to support on site leaf-mulching and composting, and has promoted the Love 'Em and Leave 'Em approach through email and other outreach methods in the years since.

Recycling and trash containers have been placed side by side in commercial areas and the parks, and designated recycling, and trash bins are available during street fairs.

Nyack helped to promote the Orangetown Food Scrap Recycling Program, the first such facility in Rockland, and had the highest level of participation of all communities in the program since it began. The Village opened a satellite food scrap drop-off at the Department of Public Works in 2023 and supported an initiative called *Downtown Drawdown*, which provides free assessments of food waste management to restaurants as part of Rethink Food Waste, funded by the NYS Department of Environmental Conservation. Rockland Composters, local advocates for climate-friendly food waste management, coordinated the project locally, starting a dialogue on the issue with restaurant owners.

*Wastewater*

Nyack's wastewater is pumped from stations near the waterfront for treatment at the Orangetown Sewage Treatment Plant in Orangeburg. The pump stations in Nyack regularly overflow in heavy rains due to infiltration of stormwater into the sanitary sewer.

The Grangetown Sewage Treatment plant has an energy efficient design that utilizes gravity to reduce the need for pumping. Treated wastewater flows to the Hudson River, and dewatered sludge is composted at Rockland Green to create a soil amendment sold for commercial use. Residues from water treatment at the Nyack Water Plant are currently processed into a soil amendment at a facility in Verona, NJ.

The Village hosts an electronic waste pickup day during Earth Month, and sends occasional email reminders about proper disposal of materials to those in the community who are signed up for email notifications.

Rockland County's Household Hazardous Waste Facility in Pomona accepts hazardous and electronic waste, and residents can drop off old batteries at the DPW anytime.

The Nyack DPW provides regular bulk pickup as well as a pickup of metals that are sold to a salvage yard.

## What we need to do

See the ***Action List*** after this section for details on recommended actions.

⭐ **Stars** indicate objectives with the best potential to deliver significant reductions in Nyack's greenhouse gas emissions by 2030.

### Objective 1 Reduce and Recycle Food Waste ⭐

Food waste makes up 18% of New York's municipal solid waste. Reducing food waste is key to reducing the methane and CO2 emissions at landfills in New York. The State has begun mandating changes and providing resources for outreach and infrastructure for improved food waste management.

**1.1 Food Waste - Residential**

The Action List includes a set of recommendations to reduce food waste through careful shopping, cooking, storing and disposing of food. The Village should continue to promote participation in the Orangetown Food Scrap Recycling Program and work closely with Rockland Green to find ways to support food waste reduction and donation and expand municipal food scrap composting options. Successful models of food waste

diversion exist in other parts of the region, including Westchester County, where many municipalities have established programs over the past six years, following Scarsdale's lead.

Backyard composting provides an easy, inexpensive way to reduce food waste and other organic materials in the waste stream and potentially reduce the burden on municipal green waste pickup service, for those residents with the space for this practice. The Village and community should promote backyard composting, inform the public about best practices,and making composting bins available to the public for free or at a discount.

**1.2 Food Waste - Commercial/Institutional**
The expansion of food waste composting services to include not only household, but commercial sources as well, will require further investment in composting facilities by Rockland Green. For restaurants, markets, schools and other institutions to participate will require collection and carting services serving this end. NYS law will likely continue to force the issue as thresholds for mandatory food waste diversion are lowered over the next few years to expand coverage to more food waste generators. The Village and community should encourage businesses and schools to take advantage of the consulting services available from Rethink Food Waste to find ways to reduce food waste through better planning.


*Food scrap drop off site at Nyack Department of Public Works (Photo credit: Glenn Sungela)*

## Objective 2 Reduce Yard Waste

**2.1 On-site Landscape Materials Management**
In 2022, the DPW hauled 225 tons of leaves and brush from Nyack properties to the recycling center at the Clarkstown Transfer Station in West Nyack to be recycled into mulch and compost. Keeping yard waste on site will reduce the amount of material that the DPW needs to haul, which will reduce transport costs and emissions.

Nyack should expand its efforts to educate the community about ecologically beneficial yard and garden practices, such as mulch-mowing leaves that use clippings, leaves and twigs to promote healthy landscapes and support wildlife. See further details in the Natural Resources chapter.

## Objective 3 Increase Recycling Rates ⭐

**3.1 Residential Recycling**
Nyack should work to maximize recycling by partnering with Rockland Green, commercial apartment building owners, and private waste haulers to identify barriers to compliance and target outreach to non-participating residents and building owners. The Village's outreach should enhance Rockland Green's messaging clarifying how and what to recycle, as in the "*Re:Think Recycling!" (OOPS!*) campaign, and make it clear to residents that recycling is an important and effective strategy for reducing waste and emissions.


*Rockland Green Recycling Observer placing a tag on non-compliant recycling (Photo credit: Rockland Green)*

**3.2 Commercial/Institutional Recycling**
While the Village already models recycling in Village Hall and Village streets, the extent of commercial property compliance with County recycling law is unknown. The Village and Rockland Green should work with local businesses, waste haulers and institutions to identify barriers to non-participation and target outreach efforts accordingly.

### 3.3 Government Recycling
To ensure that the Village models best practices for recycling, an audit of its recycling in municipal building and document the placement and labeling of recycling bins, and other practices as outlined in the Climate Smart Communities program or other guidance. The Village should publicize its efforts and share information on successful ways to encourage recycling.

## Objective 4 Reduce Paper Waste

**4.1 Recycled-Content Paper** The procurement of paper with recycled and recyclable content can help drive the market for these products and reduce waste. The Village should include recycled material content, recyclable materials and forest stewardship in an environmentally preferable purchasing policy and promote this procurement policy to all residential and commercial consumers.

**4.2 Reduced Paper Use**
Changing habits and policies on printing at Village Hall and in the community to reduce or eliminate the use of paper for certain tasks and encouraging efforts to cut down on junk mail will help lower costs for recycling and upstream costs of tree harvesting and paper manufacturing. The Nyack Building Department will transition to an online permit application system in 2024. The Village and all residential and commercial entities should continue to invest in paperless operations.

## Objective 5 Reuse and Repair

**5.1 Textiles, Furnishings, and Other Usable Items**
Many options are now available to keep usable goods circulating. Most textiles (85%) are not recycled, and according to clothing collector Helpsy, that amounts to 100 pounds discarded per person per year. But donation bins are easy to find, even for items that are past their usable life. For furniture and household items there are online marketplaces, consignment stores and Habitat for Humanity's ReStores. Nyack's outreach should raise awareness of these resources and how reuse reduces solid waste disposal and transport costs, lowers greenhouse gas emissions, and eliminates the need to use resources and energy to create new items.

**5.2 Repair**
In its outreach on reducing waste, Nyack should promote repairing items instead of discarding them. Repair Cafés help elevate this message while bringing community members together. They invite residents to bring household items to be repaired at no charge by skilled local volunteers. The Rockland Repair Café is held in rotating venues throughout Rockland County.

*Repair Cafe at Nyack Center*

In organizing outreach and initiatives related to repair, the Village government and Nyack community should keep attuned to changes in requirements at the State level and promote awareness of them. Nyack's efforts supporting reuse should aim to utilize where possible new State funding that may become available for local reuse centers, material exchanges, and repair shops.

**5.3 Reusable/Refillable/By Request**
Nyack should encourage reducing single-use packaging and products. Those involved in these efforts locally should stay informed of NYS initiatives and possible legislation described in the NYS Scoping Plan, including legislation that supports the reduction and eventual elimination of single-use packaged items for use in stores; expanded deposit container programs; Extended Producer Responsibility [EPR] programs; "By Request Only" policies for single-use products;reusable/refillable options for consumer goods in retail stores;incentivizing reusable and refillable solutions.

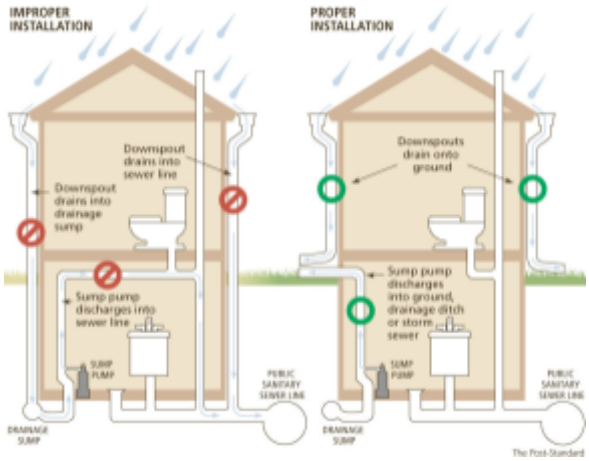
**5.4 Construction and Demolition Materials**
Construction and demolition (C&D) debris consists mainly of concrete, wood, and asphalt, gypsum, metals, bricks, glass, and plastics. Since landfill space is becoming increasingly limited, programs and policies are emerging to promote deconstruction of unwanted C&D materials, including regulatory requirements and incentives for voluntary compliance. Nyack should evaluate options for local policy changes to reduce C&D waste, recognize efforts of developers and contractors using good practices, and keep abreast of State policies that will likely develop.

## Objective 6 Improve Waste Water Management

**6.1 Household Wastewater**
Reducing the amount of water flowing into the sanitary sewer system reduces energy use for treating that water and therefore GHG emissions. Water-efficient fixtures including shower heads, toilets and faucets should be promoted to reduce energy used for processing potable water and wastewater, while also saving water.

**6.2 Sump pumps and Downspouts and Inflow and Infiltration**
Discharging runoff from roof drains and sump pumps into the sanitary sewer is prohibited in Nyack. The Village

should continue to partner with the Sewer District to identify illegal connections to the sewer system and gain compliance from property owners, and support solutions to the entry of groundwater and stormwater runoff into the sewer system. As an additional tool, a requirement for a plumber's certification of compliance is recommended.




*Proper and improper discharges of sump pumps and downspouts*

## Objective 6 Improve Refrigerants Management

**6.1 Managing Super Pollutants in HVAC and Refrigeration**
Hydrofluorocarbons (HFCs), widely used for cooling in refrigeration, air conditioning equipment and certain foams and aerosols, are greenhouse gases much more potent than carbon dioxide. Refrigerant management– avoiding leaks or during installation and operation of equipment or discharges at end of life – and using alternative refrigerants are two of the top ten global climate solutions according to Project Drawdown.

As state and federal regulations change in the coming years to address this issue, Nyack should review and improve as needed policies and practices for managing appliances and equipment at end of life and provide guidance on proper maintenance and disposal. The Village should work with Rockland Green to support county-wide policies to reduce refrigerant emissions through appropriate disposal of discarded appliances. Nyack can also encourage the development of workforce training in this area.

Also see the Energy & Built Environment Chapter on equipment selection and installation.

## Objective 7 Dispose of Hazardous Materials and Pharmaceuticals Properly

**7.1 Batteries, Electronics, Paint, Chemicals, Pharmaceuticals**
Nyack should continue to partner with Rockland Green to promote the safe disposal of hazardous materials at the Household Hazardous Waste drop-off center in Pomona and to businesses that accept certain products such as lithium batteries, and promote awareness of current and emerging NYS laws and local options for disposal of hazardous materials that can contaminate soil and water as well.

Waste Chapter of the NYS Final Scoping Plan

# WASTE MANAGEMENT ACTION LIST

**The Village of Nyack and the Nyack Climate Smart Committee support the following actions and will coordinate with community partners to implement them. High priority actions to focus on first are labeled FIRST PRIORITY.**

## 1 Reduce and Recycle Food Waste

| *1.1 Food Waste - Residential* FIRST PRIORITY | *Partners* |
|---|---|
| ☐ Develop an Organics Management Plan using guidance from the Climate Smart Communities Program.<br>☐ Promote awareness of ways to reduce food waste with a Buy less/ Waste less campaign.<br>☑ Establish a Nyack drop-off site for residential food scraps at and promote it widely<br>☐ Support efforts to establish curbside pickup for food scraps.<br>☐ Increase backyard composting through ongoing outreach. Identify backyard composters and potential new composters in coordination with the Naturals Resources Working Group of the Climate Smart Committee, and organize In-person programs, short how-to videos, campaign.<br>☐ Create a compost bin give-away program – Coordinate with Cornell Cooperative Extension (CSC credit) see also 2.1 below.<br>☐ Work with local schools to reduce cafeteria food waste.<br><br>**RESOURCES**<br>CSC Organics Management Plan<br>CSC Residential Organic Waste Program<br>CSC Compost Bins for Residents<br>CSC Waste Reduction Education Campaign<br>Village of Scarsdale curbside pick up program<br>Bedford Trash Bash This could be done in Nyack at DPW and Fire House Event<br>Marketing Toolkit for International Compost Awareness Week<br>Film: Just Eat It: A Food Waste Story<br>NYT Article: How Central Ohio Got People to Eat Their Leftovers<br>Debunking Myths<br><br>**Funding:**<br>NYS DEC<br>Pollution Prevention Institute | Rockland Green-<br><br>Rockland Composters<br><br>Cornell Cooperative Extension of Rockland<br><br>Schools |

| *1. 2 Food Waste - Commercial / Institutional* | *Partners* |
|---|---|
| ☐ Support the effort to promote food waste reduction in businesses with Rethink Food Waste<br>☐ Institute a system for food scrap collection in municipal buildings.<br>☐ Include food waste reduction in a Nyack Green Business recognition program. (See the Outreach chapter.) | Rockland Green<br><br>Rockland Composters |

| | |
|---|---|
| "<br>**RESOURCES**<br>CSC Organics Management Plan<br>CSC Organic Waste Program for Government Buildings<br>New York state food donation and food scraps recycling law<br>Rethink Food Waste<br>Aramark Progress Report Includes a section on their waste strategies<br><br>**Funding:**<br>The Rethink Food Waste consulting is free. There are State grants for outreach and education that RG uses. Research options for funding local outreach. | Nyack Chamber of Commerce<br><br>Local businesses participating in Rethink Food Waste, possibly Nyack Hospital, restaurants ad local markets |
| **2. Reduce and Recycle Yard Waste** | |
| ***2.1 On-site Organic Materials Management*** | ***Partners*** |
| ☐ Yard Waste Reduction and Recycling Outreach and Education. Develop an ongoing program for outreach and education to create awareness of ways to manage grass clippings, leaves and other yard waste on site.<br>☐ Backyard Composting – Make compost bins available free or at reduced cost.<br><br>**RESOURCES**<br>Love 'Em and Leave 'Em<br>CSC Residential Organic Yard Waste Program<br>NYSDEC's Leave it on the Lawn | Cornell Cooperative Extension of Rockland |
| **3. Increase Recycling Rates** | |
| ***3.1 Residential Recycling*** **FIRST PRIORITY** | ***Partners*** |
| ☐ Targeted outreach to non-recycling households.<br>☐ Best Recyclers Campaign–Work with Rockland Green to tackle the problem of wish-cycling and contamination of recyclables.<br>**RESOURCES**<br>Recycle Right NY<br>Recycling Campaign of the Year: Michigan's 'Know It Before You Throw It'<br>Recycling Awareness Week<br>Behavior Change to Increase Recycling<br><br>Various funding opportunities through NYS and maybe federal | Rockland Green<br><br>Key stakeholders in multifamily buildings |
| ***3.2 Commercial/Institutional Recycling*** | ***Partners*** |
| ☐ Work with local businesses, waste haulers and institutions to identify barriers to non-participation and target outreach efforts accordingly.<br><br>**RESOURCES** | Rockland Green<br><br>Commercial owners and managers. |
| ***3.3 Government Recycling*** | ***Partners*** |
| ☐ Improve recycling in municipal buildings and consider the CSC action for Recycling Bins in Government Buildings.<br>☐ Observe best practices in bins, placement, signage, marketing.<br>☐ Publicize the successful effort widely. | Community partners for outreach, including Nyack Library, Nyack Public Schools. |

| | |
|---|---|
| **RESOURCES**<br>CSC Recycling Bins in Government Buildings<br>CSC Recycling Program for Public Places and Events | |
| **4. Reduce Paper Waste** | |
| ***4.1 Recycled content paper – Government and Community*** | ***Partners*** |
| ☐ Government: Adopt a green purchasing procurement policy and make it public<br>☐ Community: Promote the use of recycled content paper<br><br>**RESOURCES**<br>Environmentally Preferable Purchasing Policy<br>Green Purchasing Communities | Possible Partners include Nyack Library<br>Nyack Public Schools, Nyack Hospital, Harrington Press |
| ***4.2 Reduced Paper Use – Government and Community*** | ***Partners*** |
| ☐ Print less–Institute a policy in municipal operations for two-sided printing and digital options instead of printing. Publicize the policy. (Note: Buildings Department is in the process of instituting digital permitting.)<br>☐ Promote reduced paper use in commercial operations (multi-function devices, scanning and other digital operations.)<br>☐ Reduce Junk Mail–Promote practices and tools to help reduce unwanted mail.<br><br>**RESOURCES**<br>CSC Solid Waste Audit<br>CSC Waste Wise | Commercial Partners |
| **5. Reuse and Repair** | |
| ***5.1 Textiles, furnishings and other Items*** | ***Partners*** |
| ☐ Promote the use of textile recycling bins and provide info on locations and how the products will be reused or disposed of. (Note that textile donations to non-profits could be tax-deductible, and donators to for-profits are not.)<br>☐ Promote the use of online marketplaces and other outlets for used items, such as thrift shops and Habitat Restores.<br>☐ Promote awareness of the approximately 12 textile drop-off locations within 5 miles of the Village.<br>**RESOURCES**<br>Secondary Materials and Recycled Textiles<br>Habitat for Humanity Restores<br>Re-Clothe NY<br>Helpsy<br>Carpet recycling DEC page<br><br>**Funding** Possibly from outreach partners. | Local online marketplace hosts<br><br>Thrift Shops |
| ***5.2 Repairable Items*** | ***Partners*** |

| | |
|---|---|
| ☐ Repair Café – Coordinate with Repair Café to promote events widely<br>☐ Support local opportunities for repair in Nyack<br>☐ Support Right to Repair<br><br>**RESOURCES**<br>CSC Community Repair<br>Repair Café HV-Rockland<br>Recycle Right NY | Kathy Galione<br>GalioneK@co.rockland.ny.us.<br>Rockland Green |
| ***5.3 Reusable/Refillable/By Request*** | ***Partners*** |
| ☐ Promote reducing single-use packaging and products.<br>☐ Keep abreast of legislation and incentives that support the reduction and eventual elimination of single-use packaged items. | Nyack Chamber of Commerce<br><br>Nyack Restaurants |
| ***5.4 Construction and Demolition Materials*** | ***Partners*** |
| ☐ Develop a Construction and Demolition Waste Policy<br><br>RESOURCES<br>CSC Construction and Demolition Waste Policy<br>Ulster County Reuse Innovation Center | |
| **6. Improve Wastewater Use** | |
| ***6.1 Household wastewater*** | ***Partners*** |
| ☐ Promote water-efficient fixtures<br>☐ Address the illegal sump pumps and downspouts connections<br>☐ Consider a sump pump disconnection requirement at point of sale.<br>RESOURCES<br>CSC Water-Efficient Fixtures | Orangetown Sewer Department |
| **7. Improve Refrigerant Management** | |
| ***7.1*** | ***Partners*** |
| ☐ Promote awareness of low GWP refrigerant equipment options, proper installation and maintenance best practices, and proper disposal of appliances and equipment and canisters at end of life.<br>☐ Include a provision on low GWP Refrigerants and HFCs in the Village's procurement policy<br>☐ Consider ways the community, including Nyack BOCES and contractors, can participate in efforts to provide local training for installers and contractors on handling, equipment maintenance, and disposal protocols.<br><br>RESOURCES<br>CSC Refrigerant Management Program | |
| **8. Dispose of Hazardous Materials and Pharmaceuticals Properly** | |

| 7.1 Batteries, Electronics, Paint, Chemicals, Pharmaceuticals | Partners |
|---|---|
| ☐ Clarify and promote proper disposal of batteries of various types including DPW, stores, local highway departments, and the hazardous waste site in Pomona. This could be a campaign focused only on batteries that also includes "getting to know" new kinds of batteries (ebikes, back up) and includes raising awareness of their increasingly important role.<br>☐ Promote awareness of the options for recycling electronic equipment at the Hazardous Waste Facility or at other locations provided by manufacturers, according to the NYS Electronic Equipment Recycling and Reuse Act.<br>☐ Promote awareness of the NYS Postconsumer Paint Collection Program<br>☐ Promote awareness of the need to protect water quality by disposing of chemicals and pharmaceuticals properly.<br><br>RESOURCES<br><br>NYS Electronic Waste Recycling. NYSDEC<br>NYS Postconsumer Paint Collection Program<br>Rockland County Household Hazardous Waste Facility<br>Rechargeable Battery Recycling. NYS DEC | Rockland Green |

# NATURAL RESOURCES

## Introduction

**Natural systems and resources–land, water, air, and wildlife**–are in dramatic decline around the world. Researchers have projected that a million plant and animal species are at risk of extinction, many within decades, due mainly to habitat destruction, but also to invasive species and climate change.

Warmer temperatures alter the life cycles of plants and the migration and hibernation patterns of animals. Rising temperatures are causing stresses in local plants and animals and leading some species to move farther north or to higher elevations.

Land use patterns and practices that replace natural habitats with development have contributed to climate change by reducing or eliminating carbon sinks, which absorb more carbon from the atmosphere than they release. Carbon sinks include trees, wetlands and healthy soils. This chapter describes ways the community can work together to protect, preserve and create natural areas here in Nyack.

## Nyack Vision for 2030

### A healthy and resilient local landscape

The recommendations in this chapter are grounded in a vision for a healthy and resilient local landscape where Nyack streetscapes, parks, yards and campuses are rich in native plantings and healthy soils that support birds, butterflies and other wildlife.

In this 2030 vision, with the growth of Nyack's successful tree program, the "community forest" in the village and beyond will have expanded over 50 percent since 2016 providing cooling shade, and reducing energy use and greenhouse gas emissions. The trees will improve air quality and, along with other "green infrastructure" practices, will help reduce flooding and water pollution.

Across the village and beyond, homeowners and property managers will help improve soil health and significantly reduce the need for power equipment and hauling by managing leaves and yard debris as valuable resources.

A community-wide network of residents, businesses, and educators will work together to build knowledge to address the decline in insect and bird populations and support biodiversity – transforming our green spaces into the sustainable habitats that Nyack's future residents and wildlife will share. Partnerships with neighboring communities will build a fund of knowledge to magnify our impact.

## Where we are in 2023

Nyack has instituted notable policies and programs to help protect local natural resources in recent years. A set of provisions for natural resource protection was added to the Village Code in 2010. The Village conducted a Green Infrastructure Roundtable in 2012-2013 that recommended improving land use policies and design to mitigate stormwater runoff pollution and flooding with green Infrastructure such as trees, green roofs, and rain gardens. Since then the Village implemented changes to the Code to streamline it, provide better pollution prevention, create a forestry program, and reduce parking requirements.

A Tree Committee established in 2015 created a planting and maintenance program that that has added about 350 trees to the streets and parks and advances proper stewardship.

Policies and projects for planting and maintaining public property now include mulch-mowing, and prioritizing native plants. Following the lead of Upper Nyack, the Village of Nyack instituted a seasonal ban on gas-powered leaf blowers that began in 2023, and a full ban will go into effect in 2024.

The Village has helped fund and maintain colorful pollinator gardens created by the Nyack Pollinator Pathway in the downtown that showcase recommended plant types and sustainable design practices for residents and visitors. These changes in the past few years along with Upper Nyack's ecological landscaping projects at Riverhook, the Nyack Memorial Garden at Nyack High

School, and the growing number of wildlife-friendly residential yards and gardens, have set the groundwork for future partnerships to build knowledge and accelerate a transition to healthier green spaces.

# What we need to do now

## Objective 1 Support Biodiversity and Sustainable Landscape Design

**1.1 Design for Sustainabilty**

Landscapes in many places no longer support functioning ecosystems due to human development. The Nyack community can help alter the balance and support vibrant landscapes by creating and maintaining green spaces with an ecological approach.

Sustainable site design, construction and management considers the landscape as a complex system with natural and man-made processes and components and aims to balance cultural, economic and ecological goals. Maintenance strategies based on healthy ecological systems are considered as part of the whole design. Seeds, leaves, flowers, grass clippings, soil, water, and wildlife each play a part. Seen this way, for example, leaves are valued as multi-use garden goods – fertilizers, soil conditioners, mulch and habitat – and so are kept on site instead of being hauled away. In addition, choices of materials factor in their whole life-cycle environmental impacts– including greenhouse gas emissions.

The Action List lays out ways for the Village and community to model and promote this approach in parks yards and campuses. Coordination and collaboration among those involved in site design should foster decisions to develop a sustainable design, construction and management as outlined, for example, in the Sustainable Sites Initiative and the National Wildlife Federation's Certified Wildlife Habitat program across the community,

**1.2 Use Native and Non-invasive Plants**

*Native Plants*

The Village should publicize and expand its projects to promote appreciation of the benefits of native plants. Native plants provide food sources (nectar, pollen, seeds, leaves, and stems) for native butterflies, insects, birds, and other animals. Plants native to our region are adapted to the conditions here and are generally easy to maintain without irrigation, pesticides and fertilizers.

Nyack has a policy to plant native and non-invasive plants on Village land and has developed a plant palette to be used when new plantings are introduced along the streets and in the parks and marina. Nyack's landscape crew works to reduce, if not fully eliminate, invasive plants on public property. The Village should ensure continued adherence to these policies and encourage owners of large and small properties to adopt similar practices. This can be done through education and outreach in a coordinated program with the Nyack Tree Committee, Nyack Pollinator Pathway , the Cornell Cooperative Extension of Rockland, the Native Plant Center at Westchester Community College, other partners in Rockland and communities In Westchester.

*Invasive Plants*

The NYS Department of Conservation defines an invasive species, as one that is "non-native to the ecosystem under consideration, and whose introduction causes or is likely to cause economic or environmental harm or harm to human health." Invasive plants are found in Nyack on most properties, and property owners should control their spread using appropriate, low-impact, methods recommended by Cornell Cooperative Extension, Hudson Valley Partners in Invasive Species Management or other qualified sources. The Village and Community should make a list of invasive plants and preferred alternatives available and easily accessible, publicize it, and keep it updated..

*Nyack Pollinator Pathway planting in downtown Nyack*

**1.3 Reduce Lawn**

Nyack residential properties generally consist of small lawn areas with garden beds and trees, but the park lands and larger private properties and school campuses in the greater Nyacks have large areas of lawn. Well-managed lawns provide some environmental benefits but much less than diverse and multi-layered areas of native plants. Lawns are an important reason for the loss of habitat in developed areas, and can have other drawbacks due to the need for mowing and the use of fertilizers and pesticides. Reducing or eliminating lawn to provide habitat and pollinator-friendly gardens is recommended.

Testing alternative planting and management approaches for healthy, low-emissions, high-performance lawn alternatives is a good way to learn about what works and build knowledge the community can share. The Village should continue to use public sites in this way. The "No Mow May" pilot projects that the Village and various homeowners in the community have undertaken are an example of this; lawn mowing delayed until mid-spring to allow early flowering plants in lawns to grow and support pollinators. Local pilot projects can inform how to create "urban grasslands" with less frequent mowing, alternative seed mixes, and meadow planting, based on current research into alternatives to traditional lawns at Cornell University, SUNY College of Environmental Science and Forestry, Stone Barns Center for Food and Agriculture, and Greenwood Cemetery in Brooklyn among others.

**1.4 Greenhouse Gas Emissions and Other Pollution from Landscape Maintenance**

Landscapes, especially lawns, can contribute to air and water pollution and greenhouse gas emissions. Gas-powered mowers, trimmers and blowers release carbon dioxide and other harmful pollutants. Fertilizer use is responsible for an increase in nitrous oxide in the atmosphere. Fertilizers can also lead to surface and groundwater pollution. Herbicides can cause water pollution and harm humans, pets, beneficial insects and other species. Replacing lawn with low maintenance native plant gardens reduces or eliminates these impacts. Building on the work of the Upper Nyack Green Committee and community members in Nyack who then successfully advocated for restricting gas-powered leaf-blower use, the Village and community should promote landscape maintenance with battery operated equipment and alternatives to harmful pesticides and fertilizers.

**1.5 Irrigate Wisely**

Climate change is bringing more frequent summer droughts and greater uncertainty for water supplies. Home gardeners, large property managers and landscape contractors should use gardening practices that conserve water. Water-wise landscaping requires efficient, targeted watering methods and appropriate timing. Plant selection and management practices that conserve moisture in the soil are also key for sustainable landscapes in dry times. The Action List recommends implementing the Water-Smart Landscaping Action in the Climate Smart Communities program, which can include outreach, a demonstration site, and an ordinance or incentives for water-wise design in new construction.

**1.6 Manage Leaves as a Valuable Resource**

Love "Em and Leave "Em is an organization in Westchester County, NY founded in 2012 that promotes on-site leaf management through a variety of techniques, informed by a "climate smart' approach. Depending on the situation and purpose in the landscape, leaves can be composted, raked whole into wooded margins of the yard (allowing important insects and small creatures a warm spot to overwinter); some leaves and branches can be piled to provide winter cover for birds and small animals; and remaining leaves on the lawn can be mulch-mowed and provide "free" fertilization, or mulch-mowed on hardscape for use on landscape beds. Nyack officially supported this approach in a resolution in 2015.

The Village should refresh and expand its outreach on Love 'Em and Leave 'Em" practices in partnership with the Community.

*Mulch mowing leaves*

**1.7 Help reduce impacts of harmful pest and diseases**

Besides the impacts of invasive plants on the local landscape, insect pests and diseases that can seriously harm or kill trees and crops, are appearing more regularly. The Village and community should help raise awareness about emerging threats and provide good information on ways to address them. Cornell Cooperative Extension is a key community resource for

this information. The civic science Map Invasives is a collaborative, GIS-based database and mapping tool that serves as the official invasive species database for New York State.

## Objective 2. Support a Healthy, Well-Managed "Village Forest"

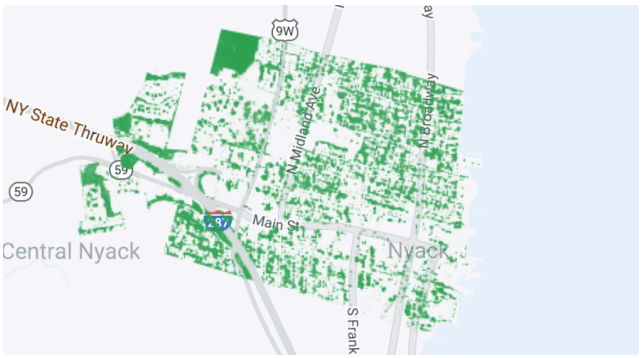
Besides beautifying our neighborhoods and providing habitat for wildlife, trees help mitigate climate change impacts and air pollution. Trees capture carbon in the process of photosynthesis. They provide cooling shade along our streets and in our yards. When planted on the south and west sides of buildings, deciduous trees help reduce the need for air conditioning. Trees improve air quality by intercepting particulate matter on plant surfaces and absorbing gaseous pollutants through their leaf pores.

**2.1 Tree Planting**

The Nyack Tree Committee was established in 2014 to create a program for planting, protecting and maintaining trees in the village. Since 2016, in a program called the Nyack Tree Project, volunteers and Village staff have planted about 350 trees and helped maintain them. Donations augment the Village's Street tree allocation in the budget, which has been increased since the start of the program. The Village should continue to support the Tree Committee in organizing this planting and stewardship program, and in advancing best practices and policies for the planting, maintenance, protection and removal of trees on public and private property.

Nyack should determine canopy cover goals for residential and commercial areas in the village based on aerial and ground-based assessments. Google's Environmental Insights Explorer (EIE) shows 31% canopy cover for the village overall, but there are wide variations. Extensive paving in the downtown and in the Gateway area on Route 59 limits tree planting, but opportunities for creating planting areas by removing paving should be mapped. With a $25,000 grant from Nice-Pak in Orangeburg in 2022, the Nyack Tree Committee designed and coordinated the removal of paving in several locations to create new tree plantings. Adding tree plantings in most of the places that could be transformed this way would require the support of private property owners.

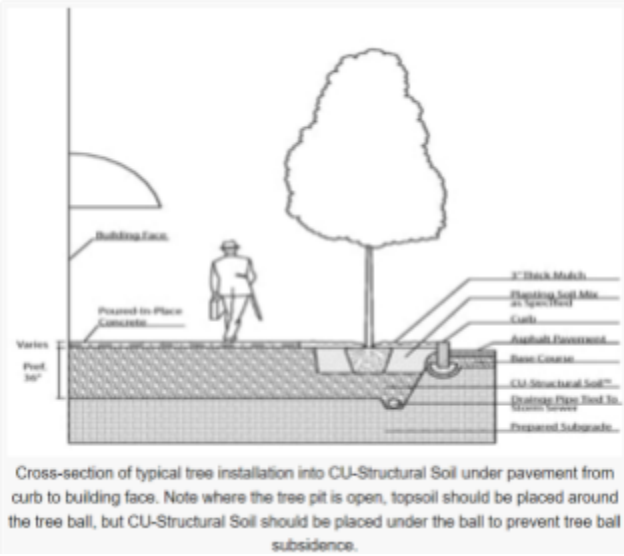
In addition, the Nyack Tree Committee in collaboration with the Parks Commission should map locations to add more shade trees in Nyack Memorial Park.




***Tree Canopy Cover Map of Nyack 2023***
*Source: Google EIE*

*Planting trees along sidewalks*

Tree and sidewalk conflicts are a well-known feature of urbanized environments. The Village can reduce the cost and burden of damage to sidewalks and poor tree health by establishing policies for selecting appropriate tree species for the location and using the best known techniques and materials for sidewalk and tree pit construction. Structural soil, a medium that that provides a quantity of uncompacted soil and meets engineering requirements for a load-bearing paving base that supports tree root growth has been used under sidewalks adjacent to tree pits on Main Street and Broadway, and large tree pits were installed as part of the Main Street streetscape improvements in 2012. Soil volume for tree roots should be increased or at minimum enhanced whenever possible in sidewalk retrofits that the Village undertakes. Standards for sidewalk construction undertaken by residents should be also be considered. The Action List includes recommendations on sidewalk design, tree selection for constrained sites, and planting specifications.




Cross-section of typical tree installation into CU-Structural Soil under pavement from curb to building face. Note where the tree pit is open, topsoil should be placed around the tree ball, but CU-Structural Soil should be placed under the ball to prevent tree ball subsidence.

*Planting on Private Property*

Along many streets in Nyack there is little or not room available for planting trees in the right of way along the sidewalk. The Village offers property owners trees for front yards where planting sites near the sidewalk will create a public benefit. Property owners who have adequate room should be encouraged to plant large native trees, selected from Nyack's Recommended Tree List. This list is available on the Tree Committee webpage on the Village website. It should be updated to include information about the ecological benefits of the trees and current and projected impacts of climate change and new insects and diseases.

**2. Inventory and Management Plan**

An inventory of Nyack's public trees conducted in 2015 provided information on the species, size, and age distribution of the public trees. Since then, over a hundred large public trees and many privately owned ones have been removed. Approximately 375 have been planted as of fall 2023, most of them by volunteers. It should be noted that these newly planted trees had 1 ½" -2" diameter trunks at planting time. The trees that have been removed by private permit and in the municipal public tree program were generally large trees over 12" and many much larger and decades older than the new trees.

With a $50,000 grant from the NYS Urban Forestry grant program in 2019, maintenance pruning on many of the large public trees was completed. Nyack should assess and plan for the current village forest, with a new inventory and management plan to be completed in 2025. The scope of the inventory and plan should include the trees on property managed by the Nyack Department of Public Works and by the Nyack Housing Authority. Volunteers currently keep the inventory up to date on a spreadsheet and Google Map. The Village should consider subscribing to a tree management software program to make this task less burdensome and more accurate.

**2.3 Protect Trees with Codes and Policies**

To better protect trees on public and private property, certain provisions of the Code for tree protection should be improved. The Action List includes a set of recommendations for changes to the Code to provide clarity and better outcomes in tree assessments, permitting removals, and protecting trees during construction.

*Tree planting day on 5th Ave. Fall 2019*

*Trees on 5th Ave.Nyack, Summer 2023*

## Objective 3 Create and preserve green infrastructure for stormwater management

**3.1 Mapping Green Infrastructure**
Mapping of green infrastructure opportunities in the village was recommended in the 2013 Green Infrastructure Plan. The Village should consider approaches to mapping locations for possible paving or depaving retrofits, green roofs, and rain gardens using aerial imagery and on the ground surveying. This might be accomplished as a project involving students. Rockland County Planning Department develops and maintains the "Municipal Mapper" software that includes high-quality aerial photos going back to 2000. The software can be accessed by village officials and by residents who serve on relevant committees.

**3.3 Green Parking Lots**
A review of Nyack's current parking lot design policies should be conducted using guidance from the Nyack GI Report and the CSC program. Shared parking policies, parking space sizing requirements and other existing recommended practices should be documented, and improvements related to tree plantings and paving considerations should be proposed.

**3.4 Community Garden Lot** The Nyack Community Garden, located on South Franklin Street between Depew and Hudson Avenues, is a community-based, non-profit organization that provides residents of the Nyack School District with an opportunity to grow vegetables and flowers on land owned by the Robert Martin Company. The Nyack Pollinator Pathway and Nyack Tree Committee have also been permitted to plant on this property. Given the importance of this green space in Nyack's downtown, the Village and community should explore the possibility of permanently protecting this land for public use.

*Sign at the Nyack Community Garden*

# NATURAL RESOURCES ACTION LIST

**The Village of Nyack and the Nyack Climate Smart Committee support the following actions and will coordinate with community partners to implement them. High priority actions to focus on first are labeled FIRST PRIORITY.**

## 1 Support Biodiversity and Sustainable Landscape Design

| *1.1 Design for Sustainability* FIRST PRIORITY | *Partners* |
|---|---|
| **Build the knowledge, test ideas, and transform landscapes**<br><br>☐ Convene a community cohort of ecological gardening enthusiasts and devise simple, effective ways to share ideas, plants, seeds, case studies with each other and the public.<br>☐ Create/support an educational project with local students for a team approach to the National Wildlife Federations Certified Habitats program.<br>☐ Engage/recognize local landscapers who support an ecological approach. Demonstrate/grow the market for alternative practices.<br>☐ Create a "Healthy Yards" program.<br><br>**RESOURCES**<br>Healthy Yards<br>Cornell Cooperative Extension of Rockland Sustainable Landscaping Resources<br>Sustainable Westchester's Sustainable Landscaping Initiative<br>National Wildlife Federation Certified Habitats<br>Sustainable Sites Initiative<br>Ecological Landscape Alliance<br>**FUNDING**<br>Possible grants for schools | Nyack Pollinator Pathway<br>Nyack Parks Commission<br>Nyack Park Conservancy<br>Upper Nyack-RIverhook<br>Nyack Public Schools<br>Nyack Seed Exchange<br>Nyack Garden Club<br>Rockland Youth Bureau<br>Cornell Cooperative Extension<br>Landscapers and Landscape Designers |
| ***1.2 Use Native and Non-invasive Plants*** | ***Partners*** |
| ☐ Keep the Village's Native Plant List up to date and share it. Label plants in some of the local planting sites.<br>☐ Make a list of invasive plants and preferred alternatives available and easily accessible, publicize it, and keep it updated.<br>☐ Inventory areas on public and private property for introducing native plants, and plan for future plantings. Involve the public and local schools in the inventory and planning.<br>☐ Develop varied educational programming on the why and how of native plant gardens to reach a wide audience.<br>☐ Coordinate with Riverhook in Upper Nyack on outreach and programming.<br>☐ Encourage local nurseries to carry more native plants.<br><br>**RESOURCES**<br>Local:<br>Nyack Public Properties Native Plant List<br>Native Plant Center at Westchester Community College<br>Nyack High School 911 Memorial Garden | See above |

| | |
|---|---|
| Go Botany<br>Mt. Cuba Native Plant Finder<br>NYS List of Prohibited and Regulated Invasive Plants | |
| ***1.3 Reduce Lawn and Develop Alternatives in Pilot Projects*** | **Partners** |
| ☐ Pilot small "lawn conversions" on public and private land. Document and share outcomes.<br>☐ Encourage friendly competition among property owners on lawn alternative projects.<br><br>**RESOURCES**<br>Cornell University Turf Management program<br>SUNY College of Environmental Science and Forestry Landscape Restoration Program<br>Stone Barns Center for Food And Agriculture | Above lists and Cornell University, SUNY College of Environmental Science and Forestry, Stone Barns Center for Food and Agriculture |
| ***1.4 Reduce Greenhouse Gas Emissions and Pollution from Landscape Maintenance*** **FIRST PRIORITY** | **Partners** |
| ☑ Ban gas-powered leaf blower use in Nyack.<br>☐ Advocate for/promote eliminating the use of all gas-powered landscape equipment.<br>☐ Promote alternatives to harmful pesticides and fertilizers<br>☐ Advocate for transparency about chemicals used in local lawn care maintenance.<br>**RESOURCES**<br>Healthy Yards<br>Sustainable Westchester Sustainable Landscapes Program | Landscapers<br><br>Upper Nyack Green Committee |
| ***1.5 Irrigate Wisely*** | **Partners** |
| ☐ Develop Outreach: Provide education for the public, local boards, and/or staff about the benefits of water-smart landscaping.<br>☐ Consider creating a demonstration site at government facilities for an area greater than 1,000 square feet.<br><br>**RESOURCES**<br>CSC Water Smart Landscaping<br>EPA Watersense | Rockland Water Coalition<br>Nyack Water Department<br>Rockland Water Task Force<br>Rockland Water Coalition |
| ***1.6 Manage Leaves as a Valuable Resource*** | **Partners** |
| ☐ Increase outreach supporting Love 'Em and Leave 'Em with a clear goal of reducing the amount of leaves carted away in the fall as described in the Waste chapter. Keep the message coming through the year to reinforce how leaves have important roles through the seasons.<br><br>**RESOURCES**<br>LELE.org<br>Ecological Landscape Alliance | Rockland Green<br>Rockland County Soil and Water District<br>Cornell Cooperative Extension |
| ***1.7 Help reduce impacts of harmful pest and diseases*** | **Partners** |

| | |
|---|---|
| ☐ Promote awareness of insect and disease threats to the local landscape and how to address them.<br><br>Map Invasives | NYS DEC<br>Lower Hudson PRISM<br>Cornell Cooperative Extension of Rockland |

## 2 Support a Healthy, Well-Managed Community Forest

| *2.1 Plant Trees* **FIRST PRIORITY** | **Partners** |
|---|---|
| ☐ Raise awareness about Front Yard Tree Program<br>☐ Raise awareness about the Tree Fund for Nyack Tree Project in coordination with Nyack Park Conservancy<br>☐ Update the List of Recommended Trees and publicize it.<br>☐ Provide guidance on tree selection, planting and care for the public.<br>☐ Create a policy and standard specification for the use of structural soil in sidewalks where the tree pit size is very limited.<br>☐ Map and pursue opportunities for creating new planting areas by removing paving.<br>☐ Support Tree Campus K-12 for Nyack Schools<br>☐ Support efforts to coordinate tree planting and improved tree care on school properties, including the BOCES campus.<br>☐ Adopt a Village standard specification for tree planting trees along sidewalks based on industry best practices<br><br>**RESOURCES**<br>CSC Local Forestry Program<br>Tree Campus K-12<br>NYS DEC Minimum Tree Planting Standard<br>**Funding**<br>NYS Urban and Community Forestry Grant Program<br>Tree Donations through the Nyack Park Conservancy | Nyack Tree Committee<br>Nyack Park Conservancy<br>Nyack Tree Project volunteers<br>Cornell Cooperative Extension of Rockland<br>NY Releaf<br>Nyack Public Schools |

| *2.2 Maintain the Village Forest* **FIRST PRIORITY** | **Partners** |
|---|---|
| ☐ Update the tree inventory and management plan by 2025.<br>☐ Subscribe to tree management software program.<br>☐ Promote tree care on private property<br><br>**RESOURCES**<br>The Cost of Not Maintaining Your Trees– webinar recording<br>**Funding**<br>NYS Urban Forestry Council Grant Program | NYS Urban Forestry Council |

| *2.3 Protect Trees with Codes and Policies* | **Partners** |
|---|---|
| ☐ Engage the services of a consulting arborist for tree assessments.<br>☐ Review and amend the tree removal permit requirements to require the Village's consulting arborist to perform assessments.<br>☐ Review and amend Village Code to include provisions for protecting trees during construction. | Village of Nyack (Building Dept., Planning, Administration, Land Use |

| | |
|---|---|
| ☐ Add provision to the Code for referring site plans to the Tree Committee for review.<br>☐ Add provisions on the post-construction enforcement of appropriate tree care (such as removing stakes and wires before they damage or kill trees) and replacing dead trees.<br>☐ Design Guidelines Develop Sidewalk design guidelines or better tree health and less damage to paving.<br><br>**RESOURCES**<br>NYS Urban Forestry Council<br>International Society of Arboricuture (ISA) | Technical Committee, Village Board)<br>Nyack Tree Committee |
| **3. Create and preserve green infrastructure for stormwater management** | |
| **3.1 Green Parking Lots** | **Partners** |
| ☐ Review current parking lot design policies using guidance from the Nyack GI Report and the CSC program. Document current green practices and recommend actions related to tree plantings and paving considerations.<br>☐ Apply for credit in CSC program.<br><br>**RESOURCES**<br>Nyack GI Report pages<br>CSC Green Parking Lot Policies | |
| ***3.2 Green Infrastructure Mapping*** | **Partners** |
| ☐ Map locations for possible paving or depaving retrofits, green roofs, and rain gardens using aerial imagery and on the ground surveying. This might be accomplished as a project involving students.<br><br>**RESOURCES**<br>Google tools<br>Rockland County GIS<br>Center for Watershed Protection | PTech<br>RC Soil and Water Conservation District |
| ***3.3 Seek Protection of Community Garden Lot as Permanent Green Space*** | **Partners** |
| ☐ Engage stakeholders to investigate the possibility of a donation, acquisition or memorandum. | Robert Martin Company<br>Village of Nyack<br>Nyack Community Garden members |

# INFORMATION, EDUCATION & INSPIRATION


## Introduction

The Nyack 2030 Plan calls for creating and sustaining a local and regional network to share ideas, build knowledge, and inspire action through ongoing outreach and education. Working group members, a cohort of building managers, local businesses and individuals who helped shaped the plan are ready to help implement it, and the Village of Nyack's Climate Smart Committee (CSC) will be the hub to keep this essential community apparatus going.

## Communications Team and Plan

A *Communications Team* should be established for regular reporting and information-sharing with the working groups, staff, and community partners. The team should first and foremost consider information and methods that will deliver results for the high impact actions outlined in Nyack's Climate Action Plan.

The CSC and community partners should create an Outreach and Education Plan to build knowledge and awareness of issues and solutions. The Climate Smart Communities program guidance lays out a framework and resources. The plan should set out goals and responsibilities for volunteers, Village staff, and community partners. It should be completed within the first quarter after the Nyack 2030 Plan is adopted.

## Communication Channels

The Outreach Team should aim to optimize all the existing municipal and community channels for communicating about the climate solutions in the plan, and identify and support new options. The Action Lists for each focus area note potential partners for each strategy, most of which have outreach and communication channels that can become part of the Nyack 2030 network.

***Village of Nyack***

The Village's regular communication channels are:

- Official Village of Nyack Website
- Sustainability Page on Village of Nyack website
- Official Village of Nyack Facebook Page
- Email Subscription
- Posters and flyers
- Building Department

***Nyack 2030 Website, Newsletter, Social Media***

In addition to the official Village outreach channels, a Nyack 2030 website will provide a regularly updated version of the plan as it is implemented. The Communications Team should plan to create a newsletter or blog for short articles on important topics, especially related to the priority actions, and consider administering a dedicated social media presence for Nyack 2030 Initiatives. The newsletter should be widely distributed and print copies of made available at the library and other locations. The Village and community should plan for funding outreach, including Nyack 2030 annual publication to be mailed to all households.

***Community Partners and Venues***

Existing and new opportunities for outreach should be explored with community groups and organizations to identify more partners and methods, and coordinate on events and tailor messages. Community venues and organizations for a communications network include but are not limited to:

Green News Roundup for the Rivertowns (monthly emails for subscribers)
Nyack Business Council
Nyack Center
Nyack Chamber of Commerce
Nyack Farmers Market
Nyack Head Start
Nyack Hospital
Nyack Library
Nyack NAACP
Nyack News and Views
Nyack Pollinator Pathway
Nyack Public Schools

Nyack Tree Committee
Visit Nyack
Local News Media
Nyack Rotary Club
Nyack Faith community
Keep Rockland Beautiful
Local Realtors
New York – New Jersey Trail Conference
RIverhook
Rockland Composters
Strawtown Studio
Upper Nyack Green Committee
Village of Haverstraw Climate Smart Coordinator
Village of Piermont (Traffic Committee and Sustainability Committee)

***Town, County, and Regional Partner Venues***
Certain actions in the plan call for coordination and support from the town, county or regional level, and efforts for outreach should be planned in coordination with the appropriate departments, agencies, institutions and non-profits to extend the reach and inspire new approaches. Appendix I provides a list of organizations and agencies that may provide guidance and partnerships.

## 3. Tools and methods

The communications toolkit should include a wide range of methods, draw on good research that shows what works, and build further community connections. For example, social media may be part of a larger strategy for repeated messaging to raise and reinforce awareness and build knowledge over time. Videos by local students can show how heat pumps work or feature special topics or events.

*Rockland Composters volunteers spreading the word about food waste.*

Online mapping can reveal opportunities for infrastructure such as tree plantings and cool roofs, and interactive features can enhance and expand their reach.

*Google Map of tree plantings along near Nyack BOCES created by Rick Plaisance and other Nyack Tree Project volunteers*

Door to door, and especially neighbor to neighbor outreach, can be very effective and should be considered for priority actions that require a high level of engagement. Making it easy to pass along information or a referral can be an effective tool. For some projects, professional marketing in partnership with the county or region should be recommended.

## Calendar

Climate Smart Committee Working Groups on should collaborate on drafting a calendar of events and initiatives, and then work with community partners to refine it. The calendar could include a combination of broad initiatives with many partners and more narrowly targeted ones.

Annual events like Arbor Day, Earth Week, National Drive Electric Week, Climate Education Week, and Climate Solutions Week that already exist can be included and new ones created. For example, the Nyack DPW/Chelsea Firehouse could host an open house when kids can see the trucks and facilities and families can learn about the goals for managing the village's waste. With input from community partners like Nyack Hospital, Nyack Public Schools, and the Chamber of Commerce, other events and initiatives are bound to emerge.

## Recognition and Celebration

The committee and all community partners should make sure to acknowledge the efforts that will go into making the plan a success, and celebrate milestones through announcements, awards and special events.

# APPENDIX I

## RESOURCES AND TOOLS

### Federal

- Inflation Reduction Act Guidebook
- Guidebook to Building a Better America Bi-Partisan Infrastructure Law
- Conserving and Restoring America the Beautiful Report

### New York State

- Climate Act Scoping Plan
- Clean Water, Clean Air and Green Jobs Environmental Bond Act
- Climate Smart Communities Program
- NYSERDA Clean Energy Communities Program
- Partnerships for Regional Invasive Species Management

### Hudson Valley Region

- Hudson Valley Regional Climate Roadmap and Toolkit
- Mid-Hudson Energy Choices

## ORGANIZATIONS

- Cornell Cooperative Extension of Rockland County
- Community Energy Advisor
- 511 NYRideshare
- Hudson Valley Regional Council
- Keep Rockland Beautiful
- New Yorkers for Cool Refrigerant Management
- New Yorkers for Clean Power
- New York Renews
- Scenic Hudson
- Orangetown Environmental Committee
- Riverkeeper
- Rockland Composters
- Sustainable Hudson Valley
- Rockland Community Power

### Rockland County Departments, Agencies, Boards

Environmental Management Council
Planning Department–Sustainability Coordinator
Conservation & Service Corps and Youth Employment Program
Soil & Water Conservation District
Rockland Green
Rockland County Stormwater Consortium
Workforce Development Board

### The Nyacks and Neighbors

Village of Nyack Website Sustainability webpage
Village of Nyack Alerts and Newsletters Sign-Up

Nyack Climate Smart Committee:
*Contact:nyackclimatesmart@gmail.com*
Nyack NAACP nyacknaacp.org
Nyack Pollinator Pathway
Nyack Tree Committee

Piermont Traffic Committee
Piermont Sustainability Committee
Upper Nyack Green Committee

**Towns**
Town of Orangetown Supervisor
Orangetown Environmental Committee
Town of Clarkstown Supervisor

### Education

Columbia Climate School Lamont-Doherty Earth Science Observatory
Dominican University
Nyack Public Schools
St. Thomas Aquinas College
Rockland Community College
Rockland BOCES

# APPENDIX II

## Nyack Greenhouse Gas Inventory Results

**This is an extract from the full Nyack Greenhouse Gas inventory published in 2023 using a 2018 base year. See the full inventory report Village of Nyack website.**

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## Inventory Methodology

### Understanding a Greenhouse Gas Emissions Inventory

The first step toward achieving tangible greenhouse gas emission reductions requires identifying baseline emissions levels and sources and activities generating emissions in the community. This report presents emissions from both the Nyack community as a whole, and from operations of the Nyack government. The government operations inventory is mostly a subset of the community inventory, as shown in Figure 4. For example, data on community vehicle-miles-traveled estimates include miles driven by municipal fleet vehicles.

Figure 4

As local governments continue to join the climate protection movement, the need for a standardized approach to quantify GHG emissions has proven essential. This inventory uses the approach and methods provided by the U.S. Community Protocol for Accounting and Reporting Greenhouse Gas Emissions (Community Protocol) and the Local Government Operations Protocol for Accounting and Reporting Greenhouse Gas Emissions (LGO Protocol), both of which are described below.

Three greenhouse gasses are included in this inventory: carbon dioxide (CO2), methane (CH4) and nitrous oxide (N2O). Many of the charts in this report represent emissions in "carbon dioxide equivalent" (CO2e) values, calculated using the Global Warming Potentials (GWP) for methane and nitrous oxide from the IPCC 5th Assessment Report as illustrated in Table 1.

**Table 1: Global Warming Potential Values (IPCC, 2014)**

| Greenhouse Gas | Global Warming Potential |
|---|---|
| Carbon Dioxide (CO2) | 1 |
| Methane (CH4) | 84 |
| Nitrous Oxide (N2O) | 264 |

## Community Emissions Protocol

Version 1.2 of the U.S. Community Protocol for Accounting and Reporting GHG Emissions[1] was released by ICLEI in 2019, and represents a national standard in guidance to help U.S. local governments develop effective community GHG emissions inventories. It establishes reporting requirements for all community GHG emissions inventories, provides detailed accounting guidance for quantifying GHG emissions associated with a range of emission sources and community activities, and provides a number of optional reporting frameworks to help local governments customize their community GHG emissions inventory reports based on their local goals and capacities.

The community inventory in this report includes emissions from the five Basic Emissions Generating Activities required by the Community Protocol. These activities are:

- Use of electricity by the community
- Use of fuel in residential and commercial stationary combustion equipment
- On-road passenger and freight motor vehicle travel
- Use of energy in potable water and wastewater treatment and distribution
- Generation of solid waste by the community

The community inventory also includes the following activities:

- Wastewater processing
- Fugitive emissions from natural gas leakage

Carbon dioxide represents the vast majority (90.3%) of the community emissions and is produced from burning fossil fuels such as coal, gasoline, diesel, and natural gas. Methane accounts for about 9.3% of community-wide emissions, and comes primarily from grid electricity (from fuel combusted to create electricity), gasoline used for passenger vehicles, the methane-to-energy plant, flaring of digester gas, and leakage from the local natural gas distribution system. Nitrous oxide accounts for less than 0.5% of community-wide emissions, primarily from grid electricity (from fuel combusted to create electricity) and gasoline used for passenger vehicles.

## Local Government Operations (LGO) Protocol

In 2010, ICLEI, the California Air Resources Board (CARB), and the California Climate Action Registry (CCAR) released Version 1.1 of the LGO Protocol.[2] The LGO Protocol serves as the national standard for quantifying and reporting greenhouse emissions from local government operations. The purpose of the LGO Protocol is to provide the principles, approach, methodology, and procedures needed to develop a local government operations greenhouse gas emissions inventory.

The following activities are included in the LGO inventory:

- Energy and natural gas consumption from buildings & facilities
- Wastewater treatment processes
- On-road transportation from vehicle fleet

[1] ICLEI. 2012. US Community Protocol for Accounting and Reporting Greenhouse Gas Emissions. Retrieved from http://www.icleiusa.org/tools/ghg-protocol/community-protocol

[2] ICLEI. 2008. Local Government Operations Protocol for Accounting and Reporting Greenhouse Gas Emissions. Retrieved from http://www.icleiusa.org/programs/climate/ghg-protocol/ghg-protocol

# Quantifying Greenhouse Gas Emissions

## Sources and Activities

Communities contribute to greenhouse gas emissions in many ways. Two central categorizations of emissions are used in the community inventory: 1) GHG emissions that are produced by "sources" located within the community boundary, and 2) GHG emissions produced as a consequence of community "activities".

| Source | Activity |
|---|---|
| Any physical process inside the jurisdictional boundary that releases GHG emissions into the atmosphere | The use of energy, materials, and/or services by members of the community that result in the creation of GHG emissions. |

By reporting on both GHG emissions sources and activities, local governments can develop and promote a deeper understanding of GHG emissions associated with their communities. A purely source-based emissions inventory could be summed to estimate total emissions released within the community's jurisdictional boundary. In contrast, a purely activity-based emissions inventory could provide perspective on the efficiency of the community, even when the associated emissions occur outside the jurisdictional boundary. The division of emissions into sources and activities replaces the scopes framework that is used in government operations inventories, but that does not have a clear definition for application to community inventories.

The data gathered in this inventory illustrate a source based approach.  As noted, air travel, consumer purchases, and dietary considerations are not captured in the inventory.

## Base Year

The inventory process requires the selection of a base year with which to compare current emissions. Nyack's community greenhouse gas emissions inventory utilizes 2018 as its baseline year, because it is the most recent year for which the necessary data are available when the project was started prior to the pandemic.

## Quantification Methods

Greenhouse gas emissions can be quantified in two ways:

- Measurement-based methodologies refer to the direct measurement of greenhouse gas emissions (from a monitoring system) emitted from a flue of a power plant, wastewater treatment plant, landfill, or industrial facility.
- Calculation-based methodologies calculate emissions using activity data and emission factors. To calculate emissions accordingly, the basic equation below is used:

$$\textit{Activity Data} \times \textit{Emission Factor} = \textit{Emissions}$$

Most emissions sources in this inventory are quantified using calculation-based methodologies. Activity data refer to the relevant measurement of energy use or other greenhouse gas-generating processes such as fuel consumption by fuel type, metered annual electricity consumption, and annual vehicle miles traveled. Please see appendices for a detailed listing of the activity data used in composing this inventory.

Known emission factors are used to convert energy usage or other activity data into associated quantities of emissions. Emissions factors are usually expressed in terms of emissions per unit of activity data (e.g. lbs CO2/kWh of electricity). For this inventory, calculations were made using ICLEI's ClearPath tool.

## Community Emissions Inventory Results

The total community-wide emissions for the 2018 inventory are shown in Table 2 and Figure 5. Table 2 provides the usage within each sector and the respective associated C02 equivalent. These values correspond to the distribution in Figure 5.

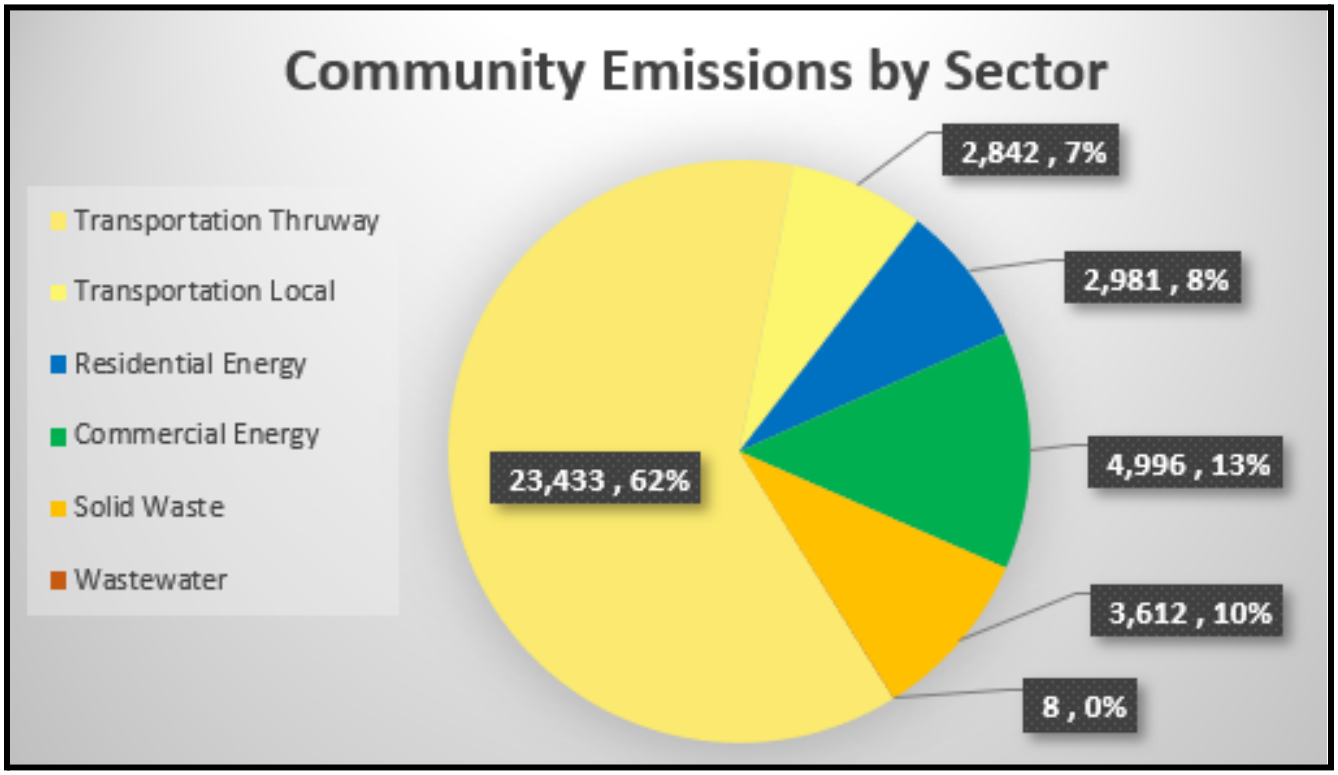
**Table 2: Community-wide Emissions Inventory**

| Sector | Fuel or source | 2018 Usage | Usage unit | 2018 Emissions ($MTCO_2e$) |
|---|---|---|---|---|
| Residential energy | Electricity (Orange & Rockland) | 17,236 | MWh | 1,995 |
| | Natural Gas (Orange & Rockland) | 184,421 | Therms | 986 |
| **Residential energy total** | | | | **2,981** |
| Commercial energy | Electricity (Orange & Rockland) | 41,141 | MWh | 4,761 |
| | Natural Gas (Orange & Rockland) | 43,740 | Therms | 234 |
| **Commercial energy total** | | | | **4,995** |
| Industrial energy | Electricity | N/A | | |
| | Natural gas | N/A | | |
| **Industrial energy total** | | | | **N/A** |
| On-road transportation | Gasoline (passenger vehicles) | 45,818,487 | VMT | 18,966 |
| | Diesel (passenger vehicles) | | | |
| | Diesel (freight trucks) | 4,888,117 | VMT | 7,310 |
| Transit | Diesel | | | |
| | Gasoline | | | |
| Aviation | Jet A (Jet Kerosene) | | | |
| | Aviation Gasoline | | | |
| Off-Road | Diesel | | | |
| | Gasoline | | | |
| Waterborne | Diesel | | | |
| | Gasoline | | | |
| Rail | [Fuel Type] | | | |
| **Transportation total** | | | | **26,276** |
| Solid Waste | Waste Generated | 3,858 | Tons | 3,612 |
| **Solid waste total** | | | | **3,612** |
| Process & Fugitive Emissions | Fugitive Emissions from Natural Gas Distribution | | | 8 |
| **Process & Fugitive Total (Water & Wastewater)** | | | | **8** |
| **Total community-wide emissions** | | | | **37,873** |

As noted, Figure 5 shows the distribution of community-wide emissions by sector. Transportation is the largest contributor, followed by Solid Waste & Residential Energy. This figure separates local transportation from Thruway traffic.

Emissions from vehicles using the Thruway account for 89% of all transportation emissions and 62% of all community emissions. Local vehicle miles represent 11% of total transportation emissions and 7% of all community emissions. This is a significant distinction as the Village determines strategies for reducing its carbon emissions.

**Figure 5**




## Next Steps:

This inventory should be used to focus and prioritize actions to reduce emissions. Based on the inventory results, the following high impact areas would provide the greatest potential for emissions reduction:

- On-Road Electric Vehicles Adoption
- Grid Decarbonization
- Residential and Commercial Building Electrification
- Residential and Commercial Building Efficiency

The Climate Action Plan calls for the completion of another GHG inventory in 2025 using 2024 data in order to assess progress resulting from any actions implemented. The detailed methodology section of this report, as well as notes and attached data files in the ClearPath tool and a master data Excel file provided to the Nyack, will be helpful to complete a comparable future inventory.

## Government Operations Emissions Inventory Results

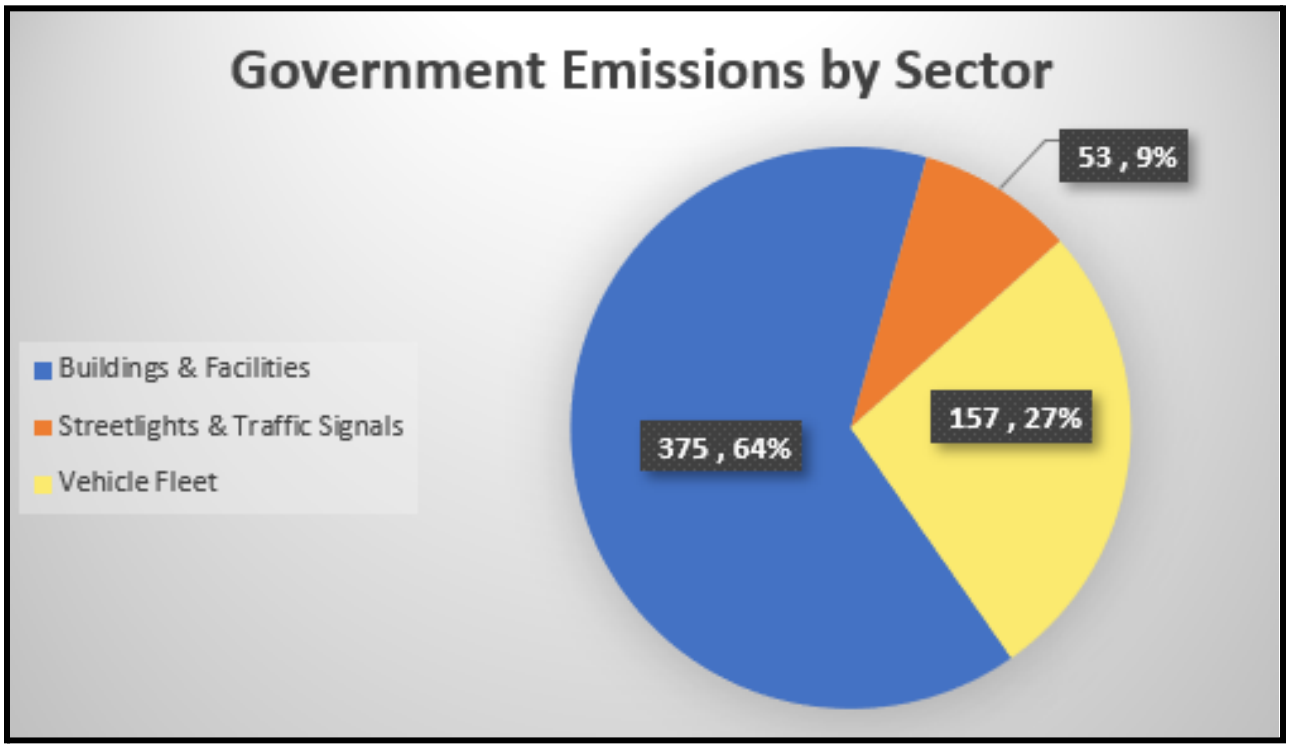
Government operations emissions for 2018 are shown in Table 3 and Figure 6.

**Table 3: Local Government Operations Inventory**

| Sector | Fuel or source | 2018 Usage | Usage unit | 2018 Emissions ($MTCO_2e$) |
|---|---|---|---|---|
| Buildings & Facilities | Electricity | 4,371 | MWh | 241 |
| | Natural Gas | 2,484 | MMBtu | 134 |
| **Buildings & Facilities total** | | | | **375** |
| Street Lights & Traffic Signals | Electricity | 465,516 | kWh | 53 |
| **Street Lights & Traffic Signals total** | | | | **53** |
| Vehicle Fleet | Gasoline (off-road) | | Gallons | |
| | Diesel (off-road) | 9,100 | Gallons | 94 |
| | Gasoline (on-road) | 7,123 | Gallons | 63 |
| | Diesel (on-road) | | Gallons | |
| **Vehicle Fleet total** | | | | **157** |
| Transit Fleet | Diesel | | | |
| | Gasoline | | | |
| **Transit Fleet total** | | | | **N/A** |
| Employee Commute | Gasoline | | | |
| | Electric | | | |
| | Hybrid Gasoline | | | |
| **Employee Commute Total** | | | | **N/A** |
| **Solid waste total** | | | | **N/A** |
| **Water and wastewater total** | | | | **N/A** |
| Process & Fugitive Emissions | Fugitive Emissions from Natural Gas Distribution | | | |
| **Process & Fugitive Emissions total** | | | | **N/A** |
| **Total government emissions** | | | | **585** |

Figure 6 shows the distribution of emissions among the three sectors included in the inventory. Buildings and Facilities represents the majority of emissions, followed by Vehicle Fleet and Street Lights and Traffic Signals.

**Figure 6**




## Next Steps:

Since 2018, the Village has undertaken a number of measures to reduce its greenhouse gas emissions including but not limited to replacing street lights with LED fixtures, joining a CCA to obtain renewable electricity for residential and small commercial users, and participating in a food scrap program through Orangetown.

However, more needs to be done. The local government operations emissions inventory points to a need for action to promote clean transportation alternatives, electrify and decarbonize the electricity used in Nyack's government buildings and facilities, and the installation of solar. In accordance with the high impact actions identified by ICLEI, strategies involving transportation, conversion of the municipal fleet to electric vehicles, and building efficiencies should be prioritized to reduce the emissions in this domain.

## Conclusion

This inventory marks the completion of Milestone One of the Five ICLEI Climate Mitigation Milestones. The next steps are to forecast emissions, set an emissions-reduction target, and build upon the existing recommendations in the 2015-1016 Sustainable Nyack Action Plan, the 2016 Nyack Comprehensive Master Plan, and 2018 Greater Nyack Bicycle and Pedestrian Master Plan with a more robust climate action plan that identifies specific quantified strategies that can cumulatively meet that target.

The Intergovernmental Panel on Climate Change (IPCC) states that to meet the Paris Agreement commitment of keeping warming below 1.5°C we must reduce global emissions by 50% by 2030 and reach climate neutrality by 2050. Equitably reducing global emissions by 50% requires that high-emitting, wealthy nations reduce their emissions by more than 50%. More than ever, it is imperative that countries, regions, and local governments set targets that are ambitious enough to slash carbon emissions between now and mid-century.

Science-Based Targets are calculated climate goals, in line with the latest climate science, that represent a community's fair share of the global ambition necessary to meet the Paris Agreement commitment. To achieve a science-based target, community education, involvement, and partnerships will be instrumental. Although the Paris Agreement calls for a 50% reduction, Nyack has set a target of 75% for 2030. We recognize that the science is telling us we need ambitious targets that incorporate a fair share of consideration of our historic contributions to global GHGs. The understanding means we should continue to identify strategies that get us well beyond our ambitious goal of 75% reduction by 2030.

In addition, Nyack will continue to track key energy use and emissions indicators on an on-going basis. It is recommended that communities update their inventories on a regular basis, especially as plans are implemented to ensure measurement and verification of impacts. Regular inventories also allow for "rolling averages" to provide insight into sustained changes and can help reduce the change of an anomalous year being incorrectly interpreted. This inventory shows that decarbonizing and electrifying the residential, commercial, and governmental buildings as well as community-wide transportation patterns will be particularly important to focus on. Through these efforts and others, the Village of Nyack can achieve environmental, economic, and social benefits beyond reducing emissions.