ONE REGION FORWARD

Implementation Toolkit:

Ideas and Resources for Implementing Buffalo Niagara's 10 Big Climate Actions

GBNRTC
Greater Buffalo Niagara Regional Transportation Council

MAY 2026

This ***Implementation Toolkit*** is a companion report to ***10 Big Climate Actions to Reduce Emissions in Buffalo Niagara,*** a regional climate mitigation plan for the Buffalo Niagara region, located in western New York State. These documents, and the planning efforts that have supported their development, represent the latest chapter of **One Region Forward (1RF)**, a regional planning initiative for Buffalo Niagara started in 2011 that seeks to promote sustainable forms of development in land use, transportation, housing, energy and climate, and food access.

One Region Forward is led by the region's Metropolitan Planning Organization (MPO), **Greater Buffalo Niagara Regional Transportation Council (GBNRTC),** and is guided by a multi-sector Implementation Council.

ABOUT THIS REPORT

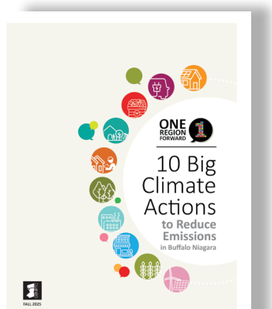
Implementation Toolkit presents key excerpts from ***10 Big Climate Actions to Reduce Emissions in Buffalo Niagara,*** the region's Comprehensive Climate Action Plan (CCAP) developed through the U.S. Environmental Protection Agency's (EPA) Climate Pollution Reduction Grant (CPRG) program. ***10 Big Climate Actions*** identifies ten high-impact strategies that local governments, agencies, and partners can pursue to significantly reduce greenhouse gas (GHG) emissions between 2025 and 2050.

This document is intended to support the implementation of the 10 Big Climate Actions by identifying actions that can be taken by a range of stakeholders across the region, as well as funding opportunities and other resources to enable progress.

The introductory section of this report summarizes key information from the CCAP, including the region's greenhouse gas emissions inventory (2024), future emissions projections under several scenarios, and a long-term emissions reduction target. Together, these elements informed the selection and analysis of the plan's emissions reduction measures, referred to as the 10 Big Climate Actions. An overview of the 10 Big Climate Actions and the metrics by which they can be tracked is presented on pp. 8-9, followed by the Implementation Toolkit section.

To read the full CCAP document, please go to:

oneregionforward.org



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Buffalo Niagara **Greenhouse Gas Inventory**

Understanding the sources and amounts of greenhouse gas (GHG) emissions in our region can help us craft data-driven solutions to our climate challenge and track the progress of our actions. To inform the development of the CCAP for Buffalo Niagara, a regional GHG inventory was completed for emissions from 2024.

Overall, Buffalo Niagara emits about 12.7 million metric tons of CO2 equivalent per year.

Most emissions come from the energy we use to travel and power our homes and buildings. Transportation alone accounts for 41% of regional emissions, and the energy we consume in our residential, commercial, and industrial buildings makes up nearly half of all emissions.

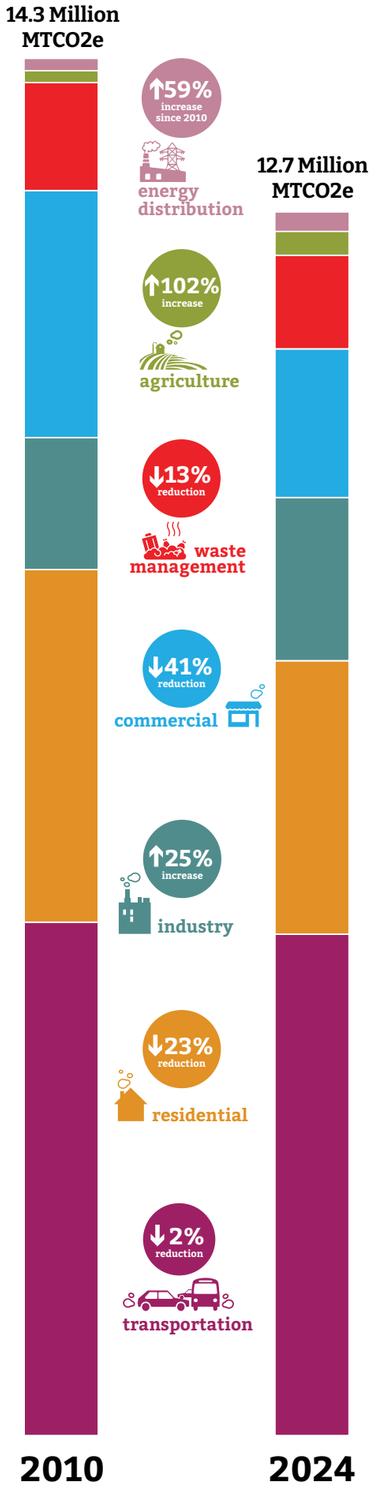
Overall, our emissions are down by 11% compared to 2010 due to a range of factors.

The last GHG inventory for Erie and Niagara counties was completed in 2010. **As our data sources and methods have evolved since then, direct comparisons are limited**. However, we can use this 2010 data to uncover some key regional trends.

Overall, regional GHG emissions decreased by 1.6 million MTCO2e since 2010. **This is a conservative estimate since some emission sources measured in 2024 were not included in the 2010 inventory,** such as crop production and transmission and distribution losses in energy distribution.

The graph at right shows a comparison of Buffalo Niagara's GHG emissions by sector in 2024 and 2010.

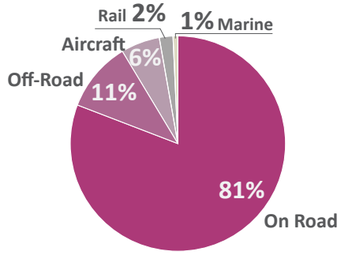
1. For more information on the results and methods used in Buffalo Niagara's GHG Inventory (2024), see "Data Sources and Notes, p. 30.



The pie graphs below break down the sources of emissions within each sector. Complete information about the Buffalo Niagara GHG Inventory (2024) can be found in the CCAP and on the interactive dashboard, Buffalo Niagara's GHG Inventory, which includes a GHG summary report for each municipality in Erie and Niagara Counties (see p. 28).

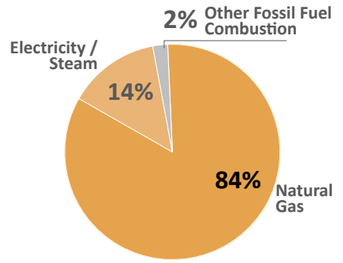
Transportation

1.7 MMCO2e - 13% of regional GHG emissions



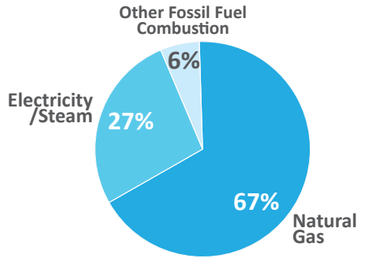
Residential

2.8 MMCO2e - 22% of regional GHG emissions



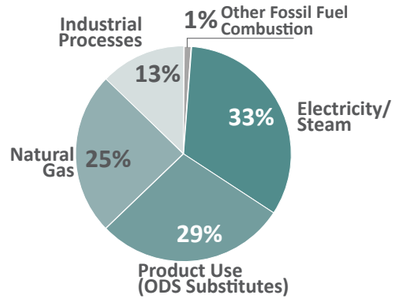
Commercial

1.5 MMCO2e - 12% of regional GHG emissions



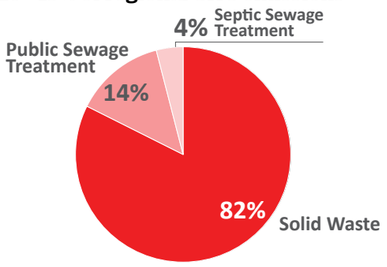
Industrial

1.7 MMCO2e - 13% of regional GHG emissions



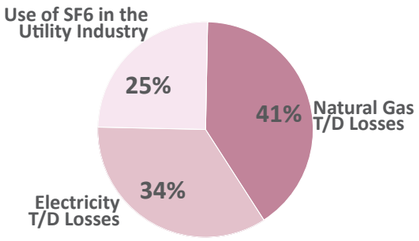
Waste

1.7 MMCO2e - 13% of regional GHG emissions



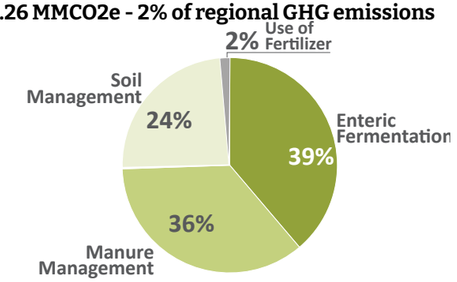
Energy Distribution

0.18 MMCO2e - 1% of regional GHG emissions



Agriculture

0.26 MMCO2e - 2% of regional GHG emissions



How can we estimate future GHG Emissions?

To estimate and benchmark future GHG reductions, the CCAP outlines three possible pathways the region could follow, described in "The Three Scenarios" section, at right. These scenarios project emissions in Buffalo Niagara through 2050 based on past trends and varying levels of implementation of the 10 Big Climate Actions. They are designed to guide local and regional planning for climate mitigation, inform target-setting, and track progress over time.

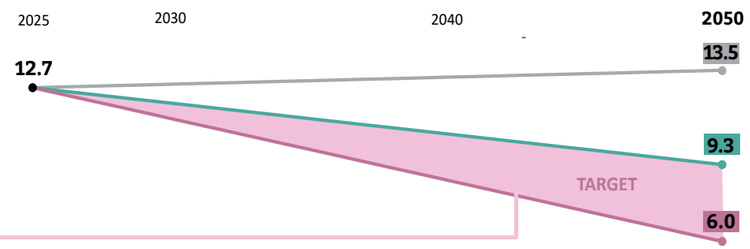
Buffalo Niagara's aspirational goal is to reduce emissions at twice the pace of current trends. Recognizing the uncertainties involved, the region's emissions reduction target is framed as a range—from maintaining the current trajectory to doubling that rate of reduction.

2. For more information on how the future emissions scenarios were developed, see "Data Sources and Notes, p. 30.

A REGIONAL TARGET FOR EMISSIONS REDUCTION

The economy-wide emissions target for Buffalo Niagara is the range between the "Current Trend" and "Doubling Down" scenarios described below. This target range seeks to set a goal that will challenge us to make steady and substantial progress to reduce emissions, while taking into account the political and economic conditions of the region, our current momentum, and recent realignments of funding and policy priorities at the federal level. A best-case scenario would be to meet or exceed the "Doubling Down" scenario, working toward the goals of New York's Climate Leadership and Community Protection Act (CLCPA).

Projected Annual GHG Emissions By Scenario
(Millions of MTCO2e)



THE THREE SCENARIOS
for future emissions in Buffalo Niagara

NO ACTION

WHAT IF WE STOPPED MAKING PROGRESS ON CLIMATE MITIGATION?

This "No Action" projection assumes emissions increase at the same pace as statewide emissions grew from 1990-2005, or by 0.2% per year. This scenario assumes that we return to a similar rate of GHG emissions growth before New York State enacted many state climate initiatives, like the Regional GHG Initiative cap-and-trade system and others.

CHANGE: *+0.2% annually*
+6% from 2025 to 2050

CURRENT TREND

WHAT IF WE CONTINUED OUR CURRENT TREND ON CLIMATE MITIGATION?

This "Current Trend" projection assumes that we decrease regional emissions at the same rate we experienced from 2010 to 2025, which is about -0.8% annually overall, but varies by sector with higher reductions from buildings and less from transportation.[20]

-0.8% annually
-22% from 2025 to 2050

DOUBLING DOWN

WHAT IF WE DOUBLED DOWN ON CLIMATE MITIGATION?

This "Doubling Down" projection assumes we double the pace of reducing emissions in the region since 2010, or 2X the GHG reductions of the Current Trend. Reaching and maintaining this pace of GHG emissions reductions is our regional target.

-1.6% annually
-44% from 2025 to 2050

10 **Big Climate Actions**

The **10 Big Climate Actions** are Buffalo Niagara's game plan for tackling climate mitigation and building a healthier, more resilient region for everyone. These actions were shaped by a combination of technical analysis, including our regional Greenhouse Gas (GHG) inventory and emissions projections, as well as extensive input gathered through community engagement and stakeholder collaboration across sectors.

These actions **target the region's major sources of emissions**—ranging from buildings and transportation to waste, land use, and electricity. Together, they offer a comprehensive and coordinated path toward decarbonization. If implemented collectively and at scale, these actions can significantly reduce emissions of GHGs and co-pollutants such as hazardous air pollutants (HAPs), volatile organic compounds (VOCs), and ammonia (NH_3), while delivering a range of additional health, economic, and environmental benefits for Buffalo Niagara communities.

In the full CCAP document, analysis of each of these ten actions includes:

- an **overview of key trends, challenges, and opportunities** within the region;
- **emissions impact modeling under various scenarios** to estimate potential GHG and air pollution reductions;
- a **summary of co-benefits**, from healthier homes and cleaner air to economic opportunity and resilience;
- a **roadmap of preliminary steps** needed to move forward;
- insights into the **authority to implement** these actions, clarifying the roles of public agencies and institutions to lead implementation, along with community and private sector partners;
- identification of **existing funding and programmatic resources** to accelerate progress; and,
- a **high-level cost summary**, estimating capital, programmatic, and incentive needs alongside expected returns on investment.

THE 10 BIG CLIMATE ACTIONS	We can achieve these actions by...
Make the region welcoming and ready for **low- and zero-emissions vehicles**.	↑ LZEVs replacing gas- and diesel-powered passenger and fleet vehicles.
Reinforce **compact & walkable forms of land use and development** to reduce on-road travel and boost multi-modal transportation options.	↓ daily Vehicle Miles Traveled (VMT) through compact development.
Activate large-scale efforts to improve **home energy efficiency and reduce carbon-emitting energy sources** from the region's **existing housing** stock.	↑ residential energy efficiency projects completed.
Get the region ready for new NYS requirements for **eliminating combustion-powered energy in new buildings.**	↑ energy efficient new building projects completed.
Facilitate the **decarbonization and improved energy efficiency of existing commercial & institutional buildings.**	↑ commercial energy efficiency projects completed.
Create policy frameworks and tools that **reduce pollution and carbon emissions** from industrial production.	↑ industrial energy efficiency projects completed.
Strengthen the region's capacity to **capture landfill gas and divert organics and single-use plastics** from the waste stream.	↑ tons of waste diverted from landfills.
Equip agricultural producers with resources to continue to **improve the economic and environmental sustainability of farm operations** while reducing GHG emissions.	↑ implementation of sustainable agriculture practices.
Capture carbon through increased natural/forested/farmland **conservation and urban reforestation** efforts.	↑ preservation of natural land.
Move toward a **fully renewable electricity supply and increase the capacity of the electric grid** to distribute it.	↑ renewable energy projects completed.

IMPLEMENTATION

Framework for **Implementation**

10 Big Climate Actions for Buffalo Niagara is more than a roadmap—it's a call to coordinated action. Transformative climate mitigation solutions require shared responsibility and collaboration across governments, businesses, community organizations, and residents.

The Implementation Toolkit in the following pages presents actionable steps that distinct groups of stakeholders can take to initiate or continue progress toward reducing emissions across various economic sectors. The potential actions for each type of stakeholder are categorized according to their different spheres of activity.

The implementation actions for each sector are accompanied by a selection of resources and funding options to enable these efforts.

Even amid uncertainty and evolving federal and state policy landscapes, there is significant local authority and capacity to lead and advance climate mitigation efforts.

For this section, the 10 Big Climate Actions have been condensed into six categories, as some of the 10 Big Actions pertain to the same emissions sectors or can be implemented through similar types of actions. The circular symbols used to identify each of the 10 Big Actions (see p. 12) are included in each section to identify which sections encompass more than one of the 10 Big Actions.

LOCAL GOVERNMENTS

Local governments—villages, towns, cities, and counties—drive climate mitigation and adaptation through the policies they shape, the infrastructure they build, and the services they deliver. This section offers a menu of actions that municipalities in Buffalo Niagara can take to reduce greenhouse gas emissions and build community resilience. Actions are organized into two categories: planning and policy measures, such as zoning updates and climate-aligned policies, and projects and infrastructure investments, including building retrofits, fleet electrification, and green stormwater systems. Additionally, federal and state funding resources to support implementation are highlighted.

A good starting point for municipal action is to participate in the **NYSERDA Clean Energy Communities** (CEC) program and the **NYSDEC Climate Smart Communities** (CSC) programs, which can help municipalities assess needs, set goals, and access technical and financial assistance.

10 Big Climate Actions

- Transportation
- Industry
- Land Use & Compact Development
- Waste
- Residential
- Agriculture
- New Development
- Sequestration
- Commercial
- Power Generation

Make the region ready for zero- and low- emissions vehicles, and increase compact development and multi-modal transportation options.

Planning/Policies

Update comprehensive plans and zoning codes to incorporate installation of charging infrastructure and to embrace smart growth, higher density, mixed use, and transit-oriented development that works for the local context.

Develop a fleet inventory plan to guide replacement of municipal fleets with zero or low emissions vehicles and assess the viability of options for replacing heavy-duty and emergency services vehicles.

Adopt policies that encourage the integration of fast charging infrastructure into the existing built environment, like gas stations or convenience stores.

Enact laws that require large employers to develop Transportation Demand Management planning and programming.

Infrastructure/Projects

Invest in walkable and bikeable infrastructure, such as complete streets, bike lanes, trails, etc.

Install electric charging stations at centralized public sites, such as at municipal centers, parks, and local destinations.

Develop local mobility hubs that can serve as higher frequency transit centers and connect to microtransit or on-demand shuttles.

Invest in municipal charging stations or centers to serve fleets.

Invest in street, road, and bridge infrastructure that can accommodate heavy-duty LZEVs.

Resources

NYS: Smart Growth Community Planning Grants (NYS DOS); EV Fleet Infrastructure Program (NYPA); Municipal Zero-Emissions Vehicle Infrastructure Grants & Zero-Emissions Vehicle Rebate (NYS DEC); Transportation Modernization and Enhancement Program (NYSDOT); NY School Bus Incentive Program (NYSERDA); New York Main Street (HCR).

Federal: Safe Streets and Roads for All; Better Utilizing Investments to Leverage Development (both USDOT).

Other: Coordinate with NFTA and other mobility partners to create efficient and high performing solutions; Work with school districts, fire departments and ambulance services to plan for phased transition of their fleets to low- and zero-emissions models; Participate in regional planning activities with organizations like GBNRTC and UBRI.

Reduce emissions from buildings – homes, commercial structures, and public facilities.

Planning/Policies

Adopt energy benchmarking to measure energy usage in municipal facilities and plan for energy conservation, decarbonization, and weatherization.

Adopt the NY Stretch Energy Code, NYStretch-2020, a voluntary, higher-efficiency building code that helps communities reduce building emissions beyond state minimums.

Pass local laws that require or encourage/incentivize new construction to be fully electric or powered by other non-combustion fuel sources.

Incorporate electrification and weatherization into public housing and housing support programming administered through local or county government (CDBG, etc.).

Infrastructure/Projects

Lead by example by retrofitting municipal buildings (e.g., libraries, city halls, community centers, ice rinks, fire halls, etc.) to high performance or net-zero standards.

Host a dashboard with energy and cost savings on the municipal website to show results of building performance upgrades across the portfolio of public buildings.

Integrate decarbonization in existing housing support programs as well as in residential properties owned/managed by public housing authorities.

Resources

NYS: Clean Energy Communities Grants, Energy Code Training (both NYSERDA); NY Community Development Block Grants (HCR).

Federal: Better Building Challenge; Resilient and Efficient Codes Implementation (both US DOE).

Other: University at Buffalo Thermal Energy Network Installation Project.

Cleaner and greener industry.

Planning/Policies

Adopt local energy codes that establish standards for energy consumption, including on-site generation of renewable energy to offset demand, and require energy benchmarking and management by industrial firms.

Revise zoning for industrial areas to include eco-industrial zones that allow for efficiencies such as thermal energy networks from waste heat.

Provide incentives or tax breaks to firms that voluntarily participate in demand response programs or implement energy efficiency measures.

Facilitate Energy Savings Performance Contracting for industrial firms by aggregating demand among firms and providing procedural guidance.

Infrastructure/Projects

Provide incentives for industrial firms to assess feasibility and implement combined heat and power (CHP) systems to capture and reuse waste heat.

Develop or retrofit an eco-industrial park in which firms share infrastructure like renewable energy resources and centralized waste heat recovery systems.

Support the installation of high-speed data networks in strategic industrial zones to enable use of smart-grid infrastructure.

Team up with industrial firms on the US Dept of Energy's Better Building Challenge to reduce building energy consumption.

Resources

NYS: Climate Smart Communities Program/Grants (NYS DEC). Air Quality Monitoring; Air Emissions Monitoring, DECinfo Locator Tool (all NYS DEC).

Federal: Better Buildings Challenge; Industrial Training and Assessment Centers; Advanced Manufacturing Office (all US DOE); Local Government Climate and Energy Strategy Series (US EPA)

10 Big Climate Actions

Transportation | Industry | Residential | Agriculture | Commercial

A more sustainable waste stream.

Planning/Policies

Adopt a municipal waste management plan that identifies waste and emissions reduction goals and strategies.

Make curbside composting and recycling a part of local waste collection/processing.

Incorporate policies that reduce trash generation, such as smaller collection totes or 'pay-as-you-throw' (PAYT) fee structures that incentivize waste reduction.

Adopt local laws and zoning updates that support local composting programs and reduce siting barriers, such as the model ordinance from the US Composting Council.

Provide tax incentives or grants to local businesses that implement innovative waste reduction measures.

Adopt standards for environmentally preferential procurement (EPP) to grow demand for sustainably produced products.

Infrastructure/Projects

Integrate recycling of paper/plastics, etc. as well as food/yard waste in municipal buildings and facilities.

Establish a municipal composting facility or partner with a third party to provide composting services for the community.

Host 'repair cafés', item swaps, and drop-off events for hard-to-recycle items, like paint, electronics, and tires, at public facilities.

Partner with local landfill operators and wastewater treatment plants (WWTPs) to install systems capable of capturing methane/landfill gas for waste-to-energy generation; establish purchase agreements for energy products from these producers.

Resources

NYS: Wastewater Infrastructure Engineering Planning Grants (NYS EFC); Food Waste Diversion Program (NYSP2I); NY Community Development Block Grants (HCR)

Carbon sequestration and sustainable agriculture.

Planning/Policies

Plan for and implement land use policies that limit encroachment of development on agricultural land (i.e. establishing agricultural districts, adopting Right-to-Farm laws, etc.).

Enact zoning that makes it easier for farmers to employ on-farm renewable energy and electrification like solar, wind, and biogas.

Develop a local tree canopy inventory and plan.

Perform a natural resource inventory and integrate open space planning into local zoning and comprehensive planning.

Require or incentivize street tree plantings and green infrastructure as part of new developments and preservation of existing trees when possible.

Adopt policies and zoning revisions that support lease or sale of municipally-owned vacant lots for urban agriculture.

Infrastructure/Projects

Invest in tree plantings on local streets and parks.

Implement green infrastructure into streetscape projects, parks, vacant parcels, and other public properties.

Restore wetlands and plant native vegetation along waterways to store carbon and prevent erosion.

Cultivate nature-based projects on vacant land – like community gardens, bioswales, reforestation, or other carbon-positive reuses.

Host a farmer's market at a public venue.

Resources

NYS: Climate Smart Communities Grants; Community Forestry Conservation Grants; Community Reforestation (CoRe) Grants; NYS Conservation Partnership Program Grant; NYS Open Space Conservation Plan (all NYS DEC); Green Innovation Grant Program (EFC); Climate Resilient Farming (CRF) Program; Agricultural Environmental Management (AEM) Program (both NYS Dept. of Ag. & Markets).

Federal: Regional Conservation Partnership Program (USDA NRCS); Community Forest Program (USDA); North American Wetlands Conservation Act US Standard Grants (USFWS).

Land Use & Compact Development | Waste | New Development | Sequestration | Power Generation

Renewables and a resilient grid.

Planning/Policies

Develop a community energy resilience plan to identify risks to critical infrastructure and recommended steps to build greater grid resilience.

Incorporate renewable energy planning into comprehensive plans that prioritize brownfields, landfills, and former industrial sites.

Leverage zoning and land use regulations that allow and encourage residential renewables (i.e. solar, battery storage) by right and limits regulatory barriers.

Streamline permitting processes and revise zoning codes to accelerate deployment of distributed renewable energy and battery storage systems.

Adopt a green power procurement plan to purchase renewable energy for government buildings and public facilities.

Infrastructure/Projects

Install solar and battery storage on municipal buildings (town halls, schools, libraries, ice rinks, etc.).

Develop resilience hubs with solar and battery storage, and vehicle-to-building capability (where vehicle batteries can supply electric power to buildings) with school buses and municipal fleets to provide back-up power during emergencies.

Nominate local properties for NYSERDA's Build Ready program; work with NYSERDA and property owners to evaluate and prepare sites for renewable energy project development.

Partner with utilities and businesses to plan and implement grid modernization projects, including smart grid features for load management.

Resources

NYS: Build Ready Program (NYSERDA); Brownfield Opportunity Area Program (DOS); Electric Generation Facility Cessation Mitigation Program (ESD); Just Transition Site Reuse Planning Program (NYSERDA); Build Public Renewables Act; Draft New York State Energy Plan (both NYS).

Federal: Energy Improvements in Rural or Remote Areas; Grid Resilience and Innovation Partnerships (both US DOE).

Acronyms featured in the Local Governments Toolkit

EFC- Environmental Facilities Corporation (NYS)

ESD- Empire State Development

HCR- New York State Homes & Community Renewal

NYPA- New York Power Authority

NYS DEC- New York State Department of Environmental Conservation

NYS DOS- New York State Department of State

NYSDOT- New York State Department of Transportation

NYSERDA- New York State Energy Research and Development Authority

NYSP2I- NYS Pollution Prevention Institute

USDA- United States Department of Agriculture

NRCS- Natural Resources Conservation Service

USFWS- United States Fish & Wildlife Service

USDOT- United States Dept. of Transportation

US DOE- United States Department of Energy

COMMUNITY ORGANIZATIONS

Community organizations and non-profits play a critical role in advancing climate mitigation and adaptation in the region. Through their own programming, operations, and networks, they can model sustainable practices, support local resilience, and help residents and neighborhoods access climate solutions. This section outlines actionable steps organizations can take (and are taking)—such as integrating climate education into programs and helping communities access clean energy, transportation, and housing resources.

Beyond direct programming, community organizations play a role in advocating for policies and resources that advance human and environmental health and ensure all communities benefit from a safe and sustainable environment. By organizing community voices, building coalitions, and engaging in local and regional planning efforts, these groups can help ensure that climate solutions reflect community priorities and needs.

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Make the region ready for zero- and low- emissions vehicles, and increase compact development and multi-modal transportation options.

Programming

Introduce or expand projects or pilots such as electric car-share programs, e-bike libraries, and neighborhood mobility hubs with EV charging.

Plan and implement the conversion of community organizations' vehicle fleets to low- or zero-emission vehicles; install EV charging stations at community service provider sites that are available to the public.

Host test-drive events, particularly in areas with low adoption of EVs and other low-emissions vehicles; include opportunities to try e-bikes, e-scooters and new micro mobility options.

Amplify outreach and education around benefits of greener transportation options, including LZEVs, and financial resources to offset costs.

Advocacy

Advocate that local governments adopt Complete Streets policies and implement these standards in street redesign projects.

Mobilize households and individuals to advocate for sidewalk snow removal, protected bike lanes, and other public services and infrastructure that make walking and biking safer and more convenient.

Track areas/intersections that are unsafe or problematic for walking and biking and advocate with local governments to address problems.

Resources

NYS: Smart Growth Community Planning Program (NYS DOS); Transportation Alternatives (NYSDOT & OPRHP); Congestion Mitigation and Air Quality Program (NYSDOT); Urban Initiatives Program; Better Buffalo Fund; Neighborhood and Rural Preservation Programs; New York Main Street (all HCR).

Federal: Active Transportation Infrastructure Investment Program (FHWA).

Reduce emissions from buildings – homes, commercial structures, and public buildings.

Programming

Homebuyer assistance programs can provide education on energy efficiency upgrades and financing options.

Non-profit housing developers can make energy efficiency upgrades a standard part of renovation projects and standardize zero-emissions construction for new buildings.

Explore new partnerships to leverage the services of the WNY Clean Energy Hub and new ways to build the capacity of the regional Hubs.

Explore opportunities to conduct weatherization and clean heating and cooling upgrades at the neighborhood scale, in partnership with community members and the local government (ie, PUSH Green Development zone).

Work with small "Main Street" businesses to access funding and support to implement decarbonized sources of heating, cooling, cooking, and other energy needs.

Advocacy

Advocate for increased state and local funding for home weatherization, building upgrades, and decarbonization; engage with philanthropic organizations to supplement public funding for targeted projects and neighborhoods.

Non-profit housing developers and their supporters can advocate for grants, incentives, and financing tools to allow more buildings to be built to zero- emissions standards.

Collaborate with public health organizations/departments to conduct educational campaigns about the health benefits and potential cost savings of home energy efficiency upgrades.

Resources

NYS: WNY Clean Energy Hub; Empire Building Challenge - Hospitals; Energy Efficiency and Clean Technology Training Program; Building Greener Communities Competition (all NYSERDA).

Cleaner and greener industry.

Programming

Develop clean energy "hub" programs for industrial firms to share best practices and support energy demand planning; conduct energy audits, provide technical assistance on the implementation of energy efficiency measures, and connect firms with financial incentives and tax rebates.

Invite the public to provide input on industrial decarbonization planning, especially in directly-impacted communities.

Integrate energy management into workforce training programs.

Advocacy

Organize residents impacted by industrial air pollutants and other environmental impacts and lead campaigns to hold polluters accountable; communicate problem issues to permitting agencies, including NYS DEC and US EPA. (i.e., Clean Air Coalition of WNY).

Engage with industrial firms and advocate for cleaner production methods and transition to low-carbon fuels.

Resources

NYS: Water Quality Improvement Project; Technical Assistance Grants (NYS DEC); Commercial & Industrial Carbon Challenge, (NYSERDA).

Federal: Industrial Efficient Program (US DOE).

Other: WNY Clean Energy Hub (supported by NYSERDA).

10 Big Climate Actions

Transportation | Industry | Residential | Agriculture | Commercial | Land Use & Compact Development | Waste | New Development | Sequestration | Power Generation

A more sustainable waste stream.

Programming

Provide education to students and the general public about the environmental and economic benefits of composting, reducing single-use packaging, and minimizing overconsumption.

Conduct home composting workshops and/or help to coordinate neighborhood-scale composting pilot projects.

Host a household item repair event, community garage sale, or item swap event to promote reuse and repair of older items and increase awareness of circular economy principles.

Engage volunteers to conduct a community waste audit and share the findings and recommendations for reducing waste (by volume and potential emissions reduction).

Advocacy

Advocate for local laws and zoning changes to support municipal or commercial composting programs.

Advocate for Extended Producer Responsibility laws and other legislation that creates disincentives for the manufacture/use of single-use products.

Advocate for the ban or phase-out of single-use products that generate GHG emissions and other forms of pollution.

Resources

NYS: Food Waste Diversion Program; Community Grants; Advanced Solutions and Project Support (all NYSP2I); Solid Waste Management Grant Program; State Assistance for Waste Reduction, Recycling & Household Hazardous Waste Program; Environmental Protection Fund (all NYS DEC); Community Reuse Grant; Green School Grant (both NYS Association for Reduction, Reuse & Recycling).

Federal: Environmental Education Grants; Solid Waste Infrastructure Grants (both US EPA); Solid Waste Management Grants (USDA).

Carbon sequestration and sustainable agriculture.

Programming

Advance the Western New York Land Conservancy's WNY Wildway initiative to protect and connect key forest and natural land for sequestration and wildlife corridors.

Strengthen the capacity of farms like Providence Farm Collective to support New Americans who wish to establish farms in the region, including efforts to secure farmland through purchase or long-term leases.

Develop plans and programs for urban forestry and tree stewardship in public greenspaces and other municipally-owned land, vacant properties, and private property.

Establish an intermediary organization to allow owners of farms and forest land to participate in carbon offset markets.

Engage and educate the community around the environmental and social benefits of greening activities (i.e. Open Buffalo's Urban Ecology Campus)

Advocacy

Advocate in support of New York's 30x30 plan for statewide reforestation and afforestation, and locally for projects and funding to support this initiative.

Advocate with municipal governments to revise policies to make it easier to use vacant municipally-owned properties for urban farming.

Create a regional campaign highlighting the benefits of sustainable agriculture and purchasing locally-grown food.

Resources

NYS: Fresh Connect CSA for SNAP Program; Community Gardens Soil Testing Program (both NYS Dept. of Ag. & Markets); Grant Program for Parks, Preservation, and Heritage (EPF); New York State Open Space Conservation Plan (NYS DEC).

Other: University at Buffalo Food Systems Planning & Healthy Communities Lab; Good Farmers Guild of WNY

Renewables and a resilient grid.

Programming

Promote community solar campaigns among potential participants, especially among households with low and medium incomes.

Plan and implement district heating/cooling systems and/or distributed renewable energy installations for larger community services buildings/campuses, and provide education to guests and visitors about the benefits achieved.

Explore opportunities for community-owned renewable energy projects and/or wholesale purchasing of rooftop solar systems.

Advocacy

Participate in coalitions such as NY Renews and Alliance for a Green Economy to advocate for policies and programs to enhance renewable energy deployment and grid modernization.

Join NYSERDA's Energy Equity Collaborative to help inform state action on energy with input from frontline communities.

Resources

NYS: Community Energy Engagement Program, Clean Energy Fund, NY-Sun, Clean Energy Standard, Energy Equity Collaborative; Climate Justice Fellowship (all NYSERDA); Draft New York State Energy Plan (NYS).

Acronyms featured in the Community Organizations Toolkit

EPF- Environmental Protection Fund (NYS DEC)

FHWA- Federal Highway Administration

HCR- New York State Homes & Community Renewal

NYS DEC- New York State Department of Environmental Conservation

NYS DOS- New York State Department of State

NYSDOT- New York State Department of Transportation

NYSERDA- New York State Energy Research and Development Authority

NYSP2I- New York State Pollution Prevention Institute

OPRHP- New York Office of Parks, Recreation & Historic Preservation

SNAP- Supplemental Nutrition Assistance Program

USDA- United States Department of Agriculture

US DOE- United States Department of Energy

BUSINESSES

Businesses across Buffalo Niagara play a vital role in advancing climate mitigation efforts. Implementation can take many forms, from improving energy efficiency and adopting clean energy technologies to rethinking transportation, procurement, and waste practices. This toolkit outlines a range of actions businesses can take—both general strategies applicable across industries and sector-specific approaches tailored to key business types. These actions are organized around the **10 Big Climate Actions** that guide this regional plan and are accompanied by relevant funding resources to help businesses take action.

A good starting point is to join the **Western New York Sustainable Business Roundtable** (SBR). This regional network provides tools, resources, and peer support to help businesses improve performance while reducing environmental impacts. Whether a company is just beginning or already leading in sustainability, SBR offers a strong platform for collaboration and progress.

10 Big Climate Actions

- Transportation
- Industry
- Land Use & Compact Development
- Waste
- Residential
- Agriculture
- New Development
- Sequestration
- Commercial
- Power Generation

Make the region ready for zero- and low- emissions vehicles, and increase compact development and multi-modal transportation options.

General business practices

Make EV charging an integral part of employee and customer parking facilities.

Transition company-owned vehicles to zero/low emission models.

Locate facilities in higher density places served by public transit.

Develop Transportation Demand Management plans and policies that encourage employees to make use of non-vehicular commuting options using incentives such as parking cash-out programs, subsidized or pre-tax transit passes, or perks for biking, walking or carpooling to work.

For specific sectors

Automotive

Invest in technician training for high-voltage systems, diagnostics, and battery repair.

Invest in EV-specific equipment and tools.

Logistics and Fleet Operators

Plan for and implement the transition to zero- or low-emission vehicles, starting with routes most suitable for electrification.

Optimize routing and fleet operations to reduce idling and improve efficiencies.

Install or plan for EV charging - working collaboratively across sectors.

Resources

NYS: NY Truck Voucher Incentive Program; Charge Ready NY 2.0; Fleet Technical Assistance Program; EV Managed Charging Innovation Challenge (all NYSERDA).

Federal: Section 30C - Alternative Fuel Infrastructure Tax Credit; Commercial Clean Vehicle Tax Credit, Section 45W (both IRS tax credits).

Other: National Grid and NYSEG Make-Ready Programs.

Reduce emissions from buildings – homes, commercial structures, and public buildings.

General business practices

Increase energy efficiency with weatherization, LED lighting conversion, and smart technology to manage energy loads.

Engage in energy benchmarking to track (and publicly report) energy usage and GHG performance.

Conduct ASHRAE Level II or III energy audits of facilities.

Transition to clean heating and cooling, like heat pumps.

Incorporate on-site renewable energy, such as rooftop or ground-mounted solar.

For specific sectors

Developers

Integrate electrification and other net-zero elements in new construction, with high-performance insulation, windows, etc.

Construction/Contractors

Provide home and property owners with high-performance, low emission building practices, like air sealing and insulation, electrified heating/cooling/appliances.

Training and certification in green building and electrification technologies.

Financial Institutions

Cultivate financing tools that support weatherization and decarbonization solutions.

Resources

NYS: FlexTech Program; Empire Building Challenge; Commercial Existing Buildings Program; Commercial New Construction Program; Build Better Homes Program; New Green Jobs-Green New York; Empower +; NY Green Bank; On-Site Energy Manager Program (all NYSERDA).

Federal: Buildings Upgrade Prize (US DOE).

Other: Commercial Property Assessed Clean Energy (Energize NY); NY Clean Heat (administered by NYSEG and National Grid); National Grid Small Business Program; NYSEG Commercial & Industrial Rebate Program.

Cleaner and greener industry.

General business practices

Integrate on-site renewable energy (hydro-power, green hydrogen, solar, etc.) and/or thermal energy networks to power production processes.

Work collaboratively with other industrial users to share energy systems and recover and reuse/transfer resources like water and heat.

Optimize operations and facilities through technology (i.e. smart sensors), equipment upgrades (to Energy Star or US DOE-certified efficient models), and lean manufacturing with a GHG reduction focus.

Develop products and innovations that contribute to regional and global GHG reduction goals.

Implement carbon capture and utilization from industrial processes.

For specific sectors

Chemical and Petrochemical

Switch to low global warming potential (GWP) gases in processes.

Capture and reuse solvents to reduce leaking of volatile organic compounds (VOCs).

Implement capture systems for flare gas to allow them to be used for heat and electricity.

Manufacturing

Replace high-GWP coolants used in CNC machines, chillers, or cleanroom equipment with lower-GWP alternatives, and improve leak detection systems.

Divert or reuse manufacturing waste streams (e.g., metal shavings, scrap plastics, etc.) through recycling, reuse, or conversion.

Electrify process heating equipment.

Resources

NYS: Heat Recovery Project Development; Large Scale Thermal; NY-Sun Commercial/Industrial Incentive Program, On-Site Energy Manager Program (all NYSERDA); Sustainable Manufacturing Assessment; Supply Chain Sustainability; Green Chemistry & Emerging Contaminant Program; Small Business Environmental Assistance Program (all NYS Pollution Prevention Institute).

Federal: Industrial Training Centers, facility audits and implementation grants (US DOE).

10 Big Climate Actions

Transportation | Industry | Residential | Agriculture | Commercial | Land Use & Compact Development | Waste | New Development | Sequestration | Power Generation

A more sustainable waste stream.

General business practices

Provide recycling and organic waste stations at work sites.

Employ reusable and refillable systems to discourage single-use items.

Use sustainable packaging in products and phase out hard-to-recycle plastics.

Cultivate business and workplace norms to reuse items (supplies, containers, etc.).

Integrate procurement processes that reduce waste and packaging.

For specific sectors

Food and Hospitality

Donate surplus food to food banks.

Compost food scraps and organic waste.

Use compostable or reusable products for service.

Source food locally.

Waste Management

Expand the availability of recycling and composting services provided.

Install landfill emissions controls that capture methane.

Resources

NYS: Food Waste Assessment; Life Cycle Assessment (NYSP2I); NYS Association for Reduction, Reuse, and Recycling.

Federal: *A Guide to Conducting & Analyzing a Food Waste Assessment* (2014); Comprehensive Procurement Guidelines Program (both US EPA).

Other: FeedMore WNY; Food Shuttle of WNY; Erie County Hazardous Waste Disposal for Businesses.

Carbon sequestration and sustainable agriculture.

General business practices

Use sustainable landscaping practices at employer sites, like the integration of green infrastructure, native plants, etc.

Engage in procurement activities that prioritize local food systems and sustainable agriculture.

Provide sponsorships and philanthropic support to efforts that result in carbon sequestration (i.e. tree planting programs, land conservation).

Purchase high-quality carbon credits to offset unavoidable emissions (such as business travel), showing customers and the public a commitment to climate leadership.

For specific sectors

Agriculture

Adopt climate friendly manure management practices like manure composting, anaerobic digesters, or coverage of storage lagoons.

Incorporate feed additives to reduce enteric methane emissions.

Follow guidance of Cornell Nutrient Management Spear Program to adapt fertilizer applications.

Forestry

Practice low-impact logging and selective harvesting to help maintain continuous canopy and long-term forest production.

Resources

NYS: Climate Resilient Farming (CRF) Program (NYS Dept. of Ag. & Markets); Agriculture Energy Audit & Implementation Support (NYSERDA).

Federal: Partnerships for Climate-Smart Commodities; Conservation Stewardship Program; Rural Energy for America Program (all USDA).

Implementation Toolkit

Renewables and a resilient grid.

General business practices

Proactively plan with local utilities for service upgrades and plan for future load growth.

Integrate Demand Response technology to adjust energy use in real time and reduce load during peak periods.

Integrate energy efficiency while pursuing electrification to help offset overall electricity demand.

Develop or make facilities Grid-Interactive Efficient Buildings (GEBs) that use technology to respond to grid signals.

Co-locate energy-intensive processes to maximize efficiency and allow utilities to focus major investments in grid enhancements.

For specific sectors

Developers

Coordinate with utilities during permitting phase to plan for electrification needs based on levels of EV-ready parking, electrified heating, and distributed energy.

Logistics and Fleet Operators

Work to cluster logistics and EV fleet charging operations close together and consider shared charging infrastructure.

Hospitals and Universities

Plan for and implement district wide strategies, such as micro-grids, district heating/cooling, etc.

Resources

NYS: Brownfield Opportunity Areas Program (NYS DOS)**;** WNY Hydropower (NYPA); Grid Modernization Program; Real Time Energy Management Program; NY-Sun Commercial & Industrial Incentives; Energy Storage Program; NY Grid CONNECT idea exchange (all NYSERDA); Build Public Renewables Act (NYS/NYPA).

Federal: Qualifying Advanced Energy Project Tax Credit 48C (IRS); Grid Resilience Utility & Industry Grants; Smart Grid Grants; Grid Innovation Program; Transmission Facilitation Program (all US DOE); Empowering Rural America (USDA)

Other: National Grid & NYSEG – Interconnection Support & Demand Management.

Acronyms featured in the Business Toolkit

ASHRAE- American Society of Heating, Refrigerating and Air-Conditioning Engineers

CNC- Computer Numerical Control

IRS- Internal Revenue Service

NYPA- New York Power Authority

NYS DOS- New York State Department of State

NYSERDA- New York State Energy Research and Development Authority

NYSEG- New York State Electric & Gas (electric, gas utility)

NYSP2I- New York State Pollution Prevention Institute

SBR- Western New York Sustainable Business Roundtable

USDA- United States Department of Agriculture

US DOE- United States Department of Energy

US EPA- United States Environmental Protection Agency

RESIDENTS AND HOUSEHOLDS

Residents and households across the region play a vital role in advancing climate solutions through the choices they make every day. This section highlights practical actions individuals can take to reduce their carbon footprint—whether through energy use, transportation habits, food choices, or home improvements.

In addition to personal choices, residents can drive wider change by getting involved in their communities. From joining local sustainability efforts to advocating for clean energy, public transit, and green infrastructure, civic participation is a powerful tool for making progress. This section outlines ways residents can contribute to community-led climate solutions and help shape a more sustainable and resilient Buffalo Niagara.

10 Big Climate Actions

- Transportation
- Industry
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Make the region ready for zero- and low- emissions vehicles, and increase compact development and multi-modal transportation options.

Individual/household actions

Shop at local businesses in neighborhoods instead of big box stores.

Walk or bike for short trips and errands. Add a bike basket, cargo rack, or trailer to be able to carry more on a bike, reducing the need for car trips.

Take the bus or train to work and to run errands.

Explore options for purchasing a zero- or lower-emission vehicle when purchasing/replacing a vehicle is necessary.

Keep sidewalks clear of snow and ice during winter to support pedestrian safety.

Community/civic involvement

Advocate to local government for Complete Streets policies and compact, mixed use development strategies that prioritize infill and public transit.

Advocate for local and county governments to adopt Smart Growth policies and protect farmland and natural areas by limiting development at urban/suburban peripheries when avoidable.

Get involved with community groups and campaigns that advocate for multi-modal transportation systems and support public transit services.

Ask employers to install EV charging stations and bike racks; encourage local governments to adopt site design requirements requiring these amenities.

Resources

NYS: NYS Drive Clean Rebate, for new EVs (NYSERDA).

Federal: Clean Vehicle Tax Credit (for new, used EVs) (US DOE); Alternative Vehicle Refueling Property Tax Credit, for EV charging (IRS).

Other: Reddy Bikeshare.

Reduce emissions from buildings – homes, commercial structures, and public buildings.

Individual/household actions

Sign up for a home energy audit—these are available free of charge to many homeowners—and consider how to implement some of the recommendations.

Reduce personal/household energy use; turn off the lights, turn down the hot water heater, look for Energy Star appliances when making replacements.

Get in touch with the WNY Clean Energy Hub to explore options for financial support for home weatherization and clean heating and cooling upgrades.

Homeowners can replace older, drafty doors and windows, add insulation in walls and ceilings, and consider switching to an electric heat pump system for heating and cooling.

Community/civic involvement

Organize community campaigns around clean energy heating/cooling sources.

Get involved and stay attuned with NYS and Federal programs aimed at supporting energy transition for housing.

Join your local Climate Smart Communities Task Force and pursue activities/policies that prioritize decarbonization and energy efficiency at municipal facilities.

Contact state and local legislators in support of policies and projects that provide new/additional resources for building decarbonization and energy efficiency.

Resources

NYS: Empower+; Comfort Homes; Clean Heating & Cooling Heat Pumps; Residential Energy Assessments; Appliance Upgrade Program (All NYSERDA); Weatherization Assistance Program (US DOE via HCR).

Federal: Energy Efficient Home Improvement Credit, Section 25C; Heat Pump & Insulation Tax Credits; High-Efficiency Electric Home Rebate (US DOE, IRS).

Other: NY Clean Heat Program (National Grid, NYSEG); WNY Clean Energy Hub - assists with NYSERDA incentives for individuals/households.

Cleaner and greener industry.

Individual/household actions

Opt to purchase products that are produced using sustainable materials (including recycled content) and methods that reduce pollution and use energy efficiently; identify and buy from brands that voluntarily meet higher environmental standards.

Choose investment funds and banks that target investments toward environmentally-conscious businesses and away from businesses and industries that generate the most environmental harm.

Extend the life of products by conducting maintenance and repairs to reduce the emissions and waste associated with producing new ones, especially for products with higher environmental impacts.

Community/civic involvement

Write letters to state and federal legislators encouraging regulations.

Participate in community meetings and campaigns focused on reducing pollution and GHG emissions from industrial facilities.

Take part in citizen science activities to monitor and report environmental conditions across municipalities and the region to help understand the impacts of industry and hold polluters accountable.

Resources

Other: Company/product certifications for sustainable practices - ISO 14001, SA 8000, or B Corp; Consumer advocacy/education groups - American Council for an Energy-Efficient Economy, Industrial Innovation Initiative; WNY Clean Air Coalition - local advocacy campaigns.

10 Big Climate Actions

Transportation | Industry | Residential | Agriculture | Commercial | Land Use & Compact Development | Waste | New Development | Sequestration | Power Generation

A more sustainable waste stream.

Individual/household actions

Start composting organic waste at home or opt-in to municipal composting programs/pilots.

Prioritize purchasing good-quality items that won't need to be replaced soon after purchase; avoid overconsumption, especially of products with a high 'environmental footprint.'

Purchase clothes and other durable items that have been produced using sustainable methods.

Carry your own reusable water bottle, coffee mug, and silverware to reduce the need for single-use products.

Purchase a home water filter to eliminate single-use water bottles.

Community/civic involvement

Advocate to the local government for curbside pickup of organic waste for composting and encourage friends and neighbors to do so, as well.

Contact state lawmakers in support of Extended Producer Responsibility policies.

Encourage employers and institutions (i.e., schools, churches) to adopt purchasing policies that limit the use of single-use packaging and to participate in composting programs.

Resources

NYS: New York State Association for Reduction, Reuse, and Recycling; Cornell Cooperative Extension of Erie & Niagara Counties; Recycle Right New York.

Other: Farmer Pirates - composting programs; The Tool Library; Erie County Recycling Coach app; Sunnking - e-waste recycling.

Carbon sequestration and sustainable agriculture.

Individual/household actions

Purchase locally grown food from grocery stores, farmers markets, farm stands, or a weekly subscription program from a local farm, known as Community Supported Agriculture.

Purchase food products that are certified organic or grown with other, verifiable sustainable farming methods.

Eat more vegetarian meals and reduce red meat consumption.

Request a street tree on your street and help maintain it, or plant trees on property that you own.

If you own farmland or forested land, explore options for conservation easements.

Community/civic involvement

Volunteer with groups like ReTree WNY to help plant and care for new street trees; get involved with efforts to promote the NYS 30x30 initiative locally or across the state.

Request your local government to add street trees in areas where they are scarce; request street trees on your own street.

Encourage your local school board to participate in 30% New York State Initiative to increase the percentage of foods purchased locally/regionally.

Join your local government committees, such as a Conservation/Environmental committee or Climate Smart Communities Task Force and pursue activities and policies that prioritize sequestration and sustainable ag.

Resources

NYS: Double Up Food Bucks NYS (Field & Fork Network); Climate Smart Communities (NYS DEC).

Other: Western New York Land Conservancy; ReTree WNY; University at Buffalo Food Systems & Healthy Communities Lab; Cornell Cooperative Extension; Providence Farm Collective - Farm Incubator Program.

Renewables and a resilient grid.

Individual/household actions

Renters and homeowners can enroll in a community solar program.

Homeowners can install rooftop or balcony solar energy systems and battery storage at their homes.

Run appliances like dishwashers and clothes washers/dryers at non-peak hours; upgrade to Energy Star models when appliances need to be replaced.

Participate in voluntary demand response programs offered by utilities to reduce energy use during peak hours; smart thermostats and appliances can help with this.

EV owners can explore options for vehicle-to-grid power supply during power outages and extreme weather events.

Community/civic involvement

Support community campaigns around purchasing renewable energy; encourage neighbors, friends, and family members to enroll in community solar programs.

Provide comments in support of renewable energy development and grid upgrades during public comment periods for state and local energy-related programs and policies.

Get involved in community efforts to build microgrid or community-scale renewable energy projects to provide electricity for participants.

Participate in public planning processes and submit comments in support of grid modernization and renewable energy development.

Resources

NYS: Community Solar Marketplace; NY-Sun Residential Incentives; Energy Storage Incentives (all NYSERDA).

Federal: Residential Clean Energy Credit, Section 25D, for solar, battery storage (IRS).

Other: ECLIPSE Community Solar (Erie County DEP); Demand Response Program; Time of Use Pricing (both National Grid, NYSEG).

Acronyms featured in the Residents and Households Toolkit

HCR- New York State Homes & Community Renewal

Erie County DEP- Department of Environment and Planning

IRS- Internal Revenue Service

NYS DEC- New York State Department of Environmental Conservation

NYSEG- New York State Electric & Gas Corporation

NYSERDA- New York State Energy Research and Development Authority

US DOE- United States Department of Energy

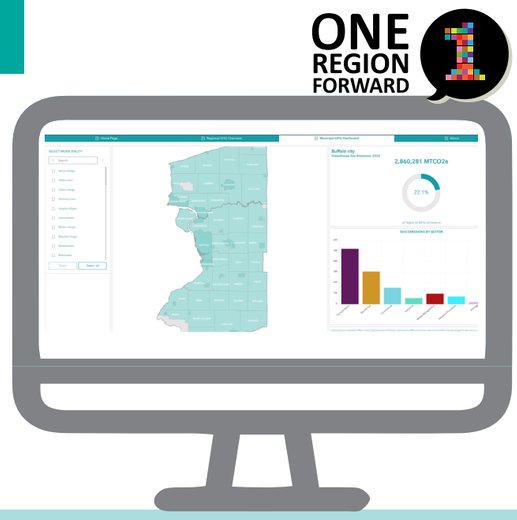
RESOURCES

RESOURCES

Learn more about the region's greenhouse gas emissions and access local emissions summaries for local municipalities in Buffalo Niagara.

BUFFALO NIAGARA'S GHG INVENTORY DASHBOARD

ONE REGION FORWARD



VISIT OUR WEBSITE TO SEE THE INTERACTIVE BUFFALO NIAGARA GHG INVENTORY DASHBOARD

Scan here to visit an interactive website with more details on the GHG emissions in your community.

This Greenhouse Gas Inventory is part of the **2024 Regional Greenhouse Gas Inventory** for the Buffalo Niagara Region (Erie & Niagara Counties) that was prepared as a part of the scope of the region's grant from the US Environmental Protection Agency (EPA) Climate Pollution Reduction Grant (CPRG) program. The inventory is part of **One Region Forward (1RF)**, a broad-based, regional planning initiative led by the Greater Buffalo Niagara Regional Transportation Council that seeks to promote sustainable forms of development in land use, transportation, housing, energy and climate, and food access. Analysis and production of the GHG Inventory was produced by the **University at Buffalo Regional Institute** through its role supporting One Region Forward with planning, engagement, and technical analysis.

GBNRTC

University at Buffalo Regional Institute
School of Architecture and Planning

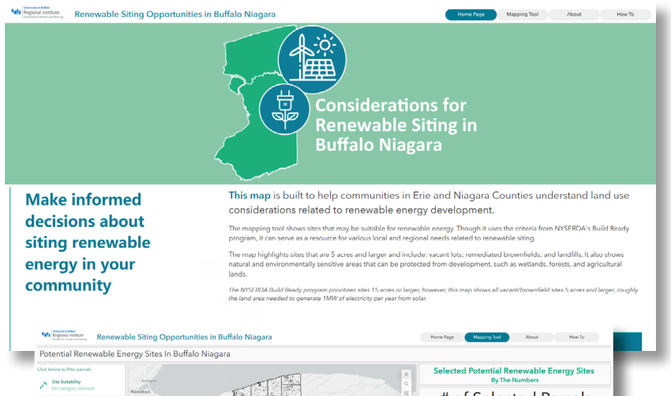
Visit our 1RF website for more information: www.oneregionforward.org

More tools to support the clean energy transition in Buffalo Niagara

RENEWABLE ENERGY SITING IN BUFFALO NIAGARA

VISIT THE INTERACTIVE DASHBOARD ABOUT RENEWABLE ENERGY SITING IN BUFFALO NIAGARA

An interactive online map to help communities in Erie and Niagara Counties understand land use considerations related to renewable energy development.



Scan here to visit the interactive website

DATA SOURCES AND NOTES

PAGE 4

1. 2024 GHG Inventory Methods: This GHG inventory focuses on emissions from activities and energy consumption within each municipality in Erie and Niagara Counties. This includes both direct and indirect emissions. This approach avoids double-counting of emissions between municipalities and focuses on emissions that can be attributed to and therefore acted upon by each municipality.

   Emissions were estimated using NYS DEC's 2015 *New York Community and Regional GHG Inventory Guidance*. These methods follow federal and international protocol for GHG inventories as prescribed by the International Council for Local Environmental Initiatives. Please read our methods document for a full description of the data and methods used to estimate municipal GHG emissions.

   For more background on the regional GHG inventory and detailed information on the methods and data sources used for each emissions sector, please go to:

   https://experience.arcgis.com/experience/0d1c77d6083c43dabbbf4d64b8a1a148/page/About

   A summary of the methods and data sources used to estimate emissions from each sector is also included in the CCAP "Data Sources and Notes" section, pages 170-173.

PAGE 6

2. Estimating Future Emissions: Regional GHG projections are forecasted by extrapolating existing trends in GHG emissions reductions, observed by comparing the 2010 and 2024 regional GHG inventories, with supplemental data on trends and projections related to electric vehicles, grid emissions factors, renewable energy, and more.

   These trends vary by sector. See notes on the impacts of each climate action for more. NYS DEC Statewide GHG Emissions data (1990-2022) is used to estimate statewide trends from 1990 to 2010 which are applied to the "No Action" scenario projections.

   Sources: *WNY Regional Sustainability Plan*, 2013, 2010 GHG Inventory Roll-Up for Buffalo Niagara; UBRI analysis of various sources, 2025; NYS DEC, 2024