Erie County Environmental Management Council

Goldfinch - Photo by John Whitney

Annual Recommendations Report 2022

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

The Erie County Environmental Management Council (EMC) is made up of representatives from many of the cities, towns, and villages within Erie County, as well as 12 at-large members from throughout the County. The EMC's mission is to advise County government on addressing local environmental concerns, as well as serving as a liaison between the community and County government.

To that end, the EMC prepares an **Annual Recommendations Report** to advise and inform **strategic planning** and **set priorities for the allocation of resources that address environmental issues** facing Erie County. It is important to note that many of the EMC's recommendations have been implemented, and the **EMC would like to congratulate County leadership and staff for their work** in improving the environmental quality of Erie County.

In particular, the EMC wants to recognize the County's commitment to furthering priorities that focus on improved quality of life and environmental stewardship such as:

- Efforts to create **an equity-focused Community Climate Action (CCA) plan;**
- **Exceeding the 2020 greenhouse gas emission reduction goals** set in its Climate Action and Sustainability Plan for Internal Operations;
- **Supporting** sustainable transportation options such as **electric vehicle charging and expanded bicycle infrastructure;** and
- Statewide leadership in **New York's Climate Smart and Clean Energy Communities programs.**

Over the past year, the EMC has also overseen some of its own programming:

- **The eighth annual EMC Environmental Excellence Awards** (www.erie.gov/emc): These awards are designed to bring attention to municipal and not-for-profit projects that have a positive environmental impact. This year's awardees were recognized through an Earth Day press release.
- The EMC continued to advocate for **chemical-free lawns** through its healthy lawns campaign, called **"A Safe Home for the Gnomes"** (www.erie.gov/healthylawns).
- The Climate Change Task Force, a committee of the EMC, continues to work with County staff and County-wide stakeholders to develop **an equity-focused Community Climate Action Plan** (www.erie.gov/climateaction). This people-focused planning effort is intended to identify the County's highest priorities for mitigating climate change and addressing its impacts through the lens of environmental justice.

  The EMC supported this effort by sponsoring outreach events with a variety of organizations, including Johnnie B. Wiley Center, Say Yes to Education, Rural Outreach Center, and Jericho Road.

Just as Erie County demonstrated leadership through the COVID-19 pandemic, it must take the lead in addressing the structural social issues that led to the horrifying events of May 14, 2022 at Tops Market on Jefferson Avenue in East Buffalo. The EMC recognizes the **impact events like this have on County workers, our environment, and the residents of Erie County.**

Our 2022 recommendations come on the heels of this crisis **with hope for an opportunity to do more for our people and planet.** The recommendations of this report can be summarized as follows:

ENVIRONMENTAL JUSTICE:

Extend the use of the Racial Equity Impact Analysis tool currently being used as part of the County's Community Climate Action Plan (CCAP), a process to **prioritize the health and safety of vulnerable populations in disadvantaged communities** and support an **equitable and just transition to a low-carbon economy** that supports displaced workers and people of color.

CLIMATE CHANGE:

Finalize and implement the **equity-focused Community Climate Action Plans.** It is important that Erie County plan for how to mitigate and adapt to climate change while considering **the County's role in protecting those most vulnerable to the impacts of the changing climate.**

ENERGY:

Develop and support programming to **help local governments and their residents reduce energy consumption** and transition to renewable energy. Erie County should also work to **balance clean energy needs with agricultural protections.**

LAND USE:

Use County-owned properties to address sustainability issues, and implement **nature-based climate solutions** that include expanded tree plantings, fostering natural habitats for native plant species and pollinators, and **using living infrastructure on County projects where possible.**

SOLID WASTE:

Support laws and policies that **reduce single-use plastics and promote materials recovery. This includes bottle bills for** deposit or recycling **wine and liquor bottles**, as well as **Extended Producer Responsibility** (EPR) to process waste created by their products.

TRANSPORTATION:

Work with regional partners to **develop an equitable, zero emission, and multimodal public transportation system** that includes strategically implementing **Complete Streets treatments** on County roadways. We also recommend reducing transportation emissions from County operations through **vehicle electrification and flexible work options**.

WATER:

Work with regional partners **to promote living infrastructure in local watersheds**, and seek opportunities to **implement green infrastructure projects on County properties and projects**.

The EMC urges County leaders to continue to **invest in the protection and restoration of our people and environment.** Prioritizing this work is an opportunity to **improve our environment for current and future generations** and improve economic prosperity and quality of life to **foster a place where people want to grow their future.**

INTRODUCTION

The Erie County Environmental Management Council (EMC) writes a yearly recommendation report for the County, which is shared with the County Executive, Legislature, County departments, local municipalities, and the general public. Recent reports have been updated through the context of major events that have impacted the world and our nation including the COVID-19 pandemic, social unrest due to the unjust killing of Black and Brown people by law enforcement, and the more recent domestic terrorist attack on Buffalo's East Side that claimed the lives of ten County residents.

These events devastated our community and accelerated the need for the EMC to uplift environmental justice in a more direct way. Therefore, the 2022 Recommendations Report begins with an environmental justice chapter. The chapter discusses how decisions related to the environment sometimes add to the burden of neighborhoods that have historically been the target of disinvestment.

We cannot rectify these wrongs without recognizing the systems and patterns that caused these outcomes. Thus, we recommend that environmental justice be the lens through which all of the County's projects are completed moving forward.

Background:

The EMC is made up of representatives from many of the cities, towns, and villages within Erie County, as well as 12 at-large members from throughout the County. Their terms run for two years. The current two-year term began in June of 2021. A list of EMC members serving the current term is included in the sidebar.

The EMC's mission is to advise County government on addressing local environmental concerns, as well as serving as a liaison between the community and County government. To that end, the EMC prepares an **Annual Recommendations Report** to advise and inform **strategic planning and set priorities for the allocation of resources that address environmental issues** facing Erie County.

It is important to note that many of the EMC's recommendations have been implemented, and the **EMC would like to congratulate County leadership and staff for their work** in improving the environmental quality of Erie County.

In particular, the EMC wants to recognize the County's commitment to further advance priorities that focus on improved quality of life and environmental stewardship such as:

- Efforts to create an **equity-focused Community Climate Action plan**;

- **Exceeding the 2020 greenhouse gas emission reduction goals** set in its Climate Action and Sustainability Plan for Internal Operations;

- **Supporting** sustainable transportation options such as **electric vehicle (EV) charging and expanded bicycle infrastructure**;

- Statewide leadership in **New York's Climate Smart and Clean Energy Communities programs**.

The EMC also oversees some of its own programming such as **the eighth annual EMC Environmental Excellence Awards** (www.erie.gov/emc): These awards are designed to bring attention to municipal and not-for-profit projects that have a positive environmental impact. This year's awardees were recognized through an Earth Day press release.[1]

- The EMC continued to advocate for **chemical-free lawns** through our healthy lawns campaign, called **"A Safe Home for the Gnomes"** (www.erie.gov/healthylawns).

- Also, the Climate Change Task Force, a committee of the EMC, continues to work with County staff and County-wide stakeholders to develop **an equity-focused Community Climate Action Plan** (www.erie.gov/climateaction). This people-focused planning effort is **intended to identify the County's highest priorities for mitigating climate change and addressing its impacts** through the lens of **environmental justice**.

The EMC welcomes discussion about this report with County officials, department heads, and staff. We encourage leadership to share priorities outlined in this report with local officials and encourage departments and staff to provide feedback about implementing actions outlined in it.

Community Climate Change Task Force Members:

Dr. Susan Clark, Chair – State University of New York (SUNY) University at Buffalo

Jason Kulaszewski, Secretary – EMC, UB Regional Institute

David Hahn Baker – EMC

Anne Bergantz – EMC

George Besch – EMC, Designing to Live Sustainably (D2LS)

Justin Booth – GObike

Joy Testa Cinquino – Buffalo & Erie County Public Library – Central Library

Kelly Dixon – GBNRTC

Meghan Dye – Tifft Nature Preserve & Buffalo Museum of Science

Emily Dyett – Buffalo Niagara Waterkeeper

Nadya Elhalawany – WNY Youth Climate Council

Doug Funke – Citizens for Regional Transit

Rahwa Ghirmatzion - PUSH Buffalo

Clarke Gocker – PUSH Buffalo

Hannah Holden – Erie County Social Services

Darren Kempner – NFTA

Faustenia Morrow – EMC

Jon Nickerson – National Grid

Jason Paananen – City of Buffalo

Kelley St. John – City of Buffalo

Kyle Semmel – Western New York Land Conservancy

Mark Shriver – WNY Sustainable Business Roundtable

Nancy Smith – Western New York Land Conservancy

Matthew Sutton – Town of Tonawanda

John Whitney – Cornell Cooperative Extension

Sarah Wooton – Partnership for the Public Good

Brenda Young – EMC, Daemen University

Commissioner Dan Castle – Erie County Environment & Planning

Deputy Commissioner Bonnie Lawrence – Erie County Environment & Planning

Andrew McLaren – County Executive's Office

Tracy Skalski – Erie County Environment & Planning

Deputy County Executive Maria Whyte – County Executive's Office

P. Josh Wilson – Erie County Environment & Planning

2022 EMC AWARD WINNERS:

Town of Grand Island Recreational Bikeways, Hiking Trails and Blueway Trails
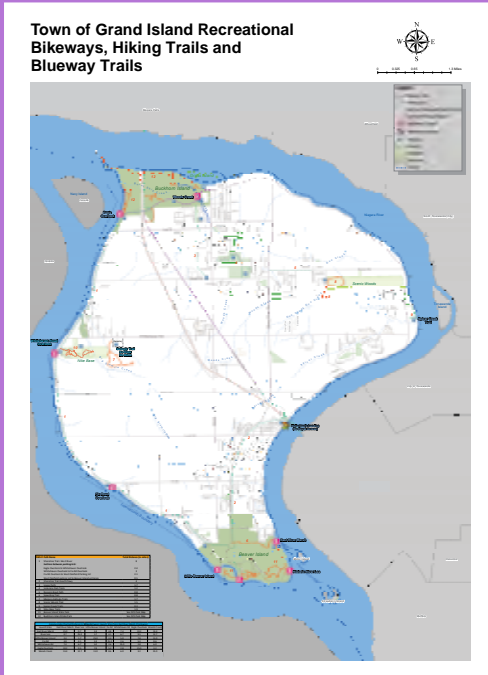
Grand Island Recreational Trail Network

The Town of Grand Island has established a network of street, bicycle, and pedestrian trails, hiking trails, and river paddle courses (Blueway Trails) to provide access to natural habitats. The result is about 30 miles of trails on land and about the same distance on the Blueway Trails. These trails also connect to national and international trail systems like the Bruce Trail in Canada, the Finger Lakes Conservation Trail, and the statewide Erie Canalway Trail (https://www.grand-island.ny.us/DocumentCenter/View/715/Bikeways-Hiking-Trails-and-Blueway-Trail-Map-PDF).

The Habitat Project

This Black Rock Riverside Alliance project resulted in the certification of both the City of Buffalo and Erie County as National Wildlife Federation (NWF) Habitats. This work had a significant positive impact on ecosystem health, community action and education, as well as wildlife welfare. To date, there are more than 900 NWF Wildlife Habitats certified in Buffalo and Erie County,

Jason Kulaszewski presenting award to Black Rock Riverside Alliance

including parks, community gardens, private residences, schools, colleges, and businesses. Erie County is now the sixth largest NWF Community Wildlife Habitat in the country and the largest in NY State (http://brralliance.org/).

Pollution Prevention through Art

The Buffalo Zoo, Erie County Department of Environment and Planning, and Buffalo Museum of Science were the main drivers of this two-year program that involved teacher development days held at the Buffalo Zoo about the negative impact of plastic pollution and ways to create art using discarded single-use plastic. This effort led to 2,000 students in 40 schools creating works of art and writing narratives explaining the issue they were illustrating. Each year, a jury selects pieces to be displayed at a month-long exhibit at the Buffalo Museum of Science (https://www.solution2plasticpollution.com/).

WNY Student Art Work 6th-8th Grade

*EMC Annual Picnic –
Buffalo River Tour
(from left to right:
Supervisor Mary Hosler
(+ guest), Dan Castle,
Don Owens,
Sharon Bachman,
Leona Rockwood,
Don Stribick,
Bonnie Lawrence,
Josh Wilson, Rosa Gonzalez,
Heike Jacob, Marcus Rosten,
Mitch Tucker, Mayor Lynne
Ruda, Andrew Schrauth,
Brenda Young,
Jason Kulaszewski)*

EMC Tours Modern Recycling

*EMC Tours Modern Recycling: (from left to right Melissa Sze,
Brenda Young, Anne Bergantz, Andrew Schrauth, Faustenia
Morrow, Luke Krieg, Mayor Lynne Ruda, Mitch Tucker, Amy
Alduino, Jason Kulaszewski, Marcus Rosten, Sharon Bachman,
Leona Rockwood, Christopher Fry, Don Stribick, Josh Wilson,
William Kolacki, Mike Wass)*

*EMC Wastewater Treatment Facility Tour
(From left to right: Jason Kulaszewski, Jeanne Beiter,
Andrew Schrauth, Mayor Lynne Ruda, Marcus Rosten,
Brenda Young, Bonnie Lawrence, Sharon Bachman)*

A Safe Home for the Gnome Info:

The EMC continues to advance its Healthy Lawns Campaign, "A Safe Home for the Gnomes" with the spokesgnome Frederick Lawn Gnomested, aka "Freddie," who was named during a contest last year. Residents pledge to not use chemicals on their lawn and then receive a lawn sign to post on their property. Pictures of the gnome at various environmental and community sites from around the region are posted to social media and community websites.

The project has many partners, including the Cornell Cooperative Extension (CCE). Assistance through the CCE's Master Gardeners Program has proved to be vital. The EMC pursued this project because reducing the use of lawn care chemicals and increasing native plantings is something all homeowners can do. Moreover, these actions directly protect water quality, pollinators, and human health.

For example, preventing excess lawn fertilizer from entering storm sewers can reduce the likelihood of a harmful algal bloom occurring in Lake Erie. Freddie can be found at public events and is popular with kids and adults alike.

ENVIRONMENTAL JUSTICE:

Environmental justice is defined by the EPA as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. This can only be achieved when everyone enjoys the same degree of protection from environmental and health hazards and has equal access to the decision-making process to have a healthy environment in which to live, learn, and work.[2]

In Erie County, as in the rest of the nation, frontline communities such as Black, Indigenous, and People of Color (BIPOC), as well as low-income communities, bear the largest burden of climate change impacts and associated pollution. These frontline communities have historically been excluded from the environmental decision-making process and have had limited opportunities for participation, while facing much greater risks of health complications imposed by environmental hazards.[3]

For example, Erie County residents living in older housing stock are more likely to be exposed to the dangers of lead-based paints and from lead plumbing.[4] Lead has been shown to affect the development of fetuses and have behavioral and health impacts on both adults and children. Children are at particular risk of suffering long-term cognitive development effects from lead poisoning. Racially-biased income disparities in Erie County put people of color at particular risk of health threats related to lead.[5]

Additionally, these households bear a greater energy burden related to climate change. As the region sees more high heat days, those older homes allow more of that heat inside the house. Older, inefficient homes require more air conditioning to address the higher heat, and increased usage of air conditioning drives up electric costs for residents who are already experiencing financial burdens. Pair this high heat issue with a respiratory issue, such as asthma, and you add on unexpected healthcare costs. Thus, the burden of climate change becomes even greater on low-income and BIPOC households. The outcomes of these inequities are evidenced by what are known as social determinants of health (SDOH).[6]

What are social determinants of health?

Social determinants of health (SDOH) are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks. SDOH have a major impact on people's health, well-being, and quality of life. Examples of SDOH include:

- Safe housing, transportation, and neighborhoods
- Racism, discrimination, and violence
- Education, job opportunities, and income
- Access to nutritious foods and physical activity opportunities
- Polluted air and water
- Language and literacy skills

SDOH also are likely indicators of wide health disparities and inequities. For example, people who don't have access to grocery stores with healthy foods are less likely to have good nutrition. That raises their risk of health conditions such as heart disease, diabetes, and obesity — and even lowers life expectancy relative to people who have access to healthy foods.[6]

Another example are communities with functioning industrial sites, as well as remediation sites.

Racial Equity Impact Analysis

1. Are all racial/ethnic groups who are affected by the policy/practice/decision at the table?

2. How will the proposed policy/practice/decision affect each group?

3. How will the proposed policy/practice/decision be perceived by each group?

4. Does the policy/practice/decision worsen or ignore existing disparities?

5. Based on the above responses, what revisions are needed in the policy/practice/decision under discussion?

The local communities facing the greatest risks from current and former industry are Buffalo, Lackawanna, and the Tonawandas as they each have long histories of industrial activity. Within these communities, environmental hazards are often clustered. People who live adjacent to, nearby, or downwind from these sites face an increased risk of adverse health impacts. Research on toxic hazards shows that people who live near these sites are more likely to experience higher rates of various health problems including low birth weights, birth defects, immune system disorders (such as Lupus), cancers of various types, and respiratory illnesses.

Environmental hazards in Erie County not only threaten public health and environmental quality, but they also present environmental and racial justice situations that impose disproportionate impacts across the social and geographic landscape. Because the County is a major provider of social services to BIPOC and low- and moderate-income (LMI) residents, it is imperative that Erie County use the SDOH framework to identify communities and ensure environmental justice efforts are inclusive of those populations in the decision-making process related to addressing environmental hazards in the County.

Recommendations:

1. **Build upon the work of the newly established Office of Health Equity to extend the use of the Racial Equity Impact Analysis tool, which is currently used as part of the County Climate Action Planning process, to incorporate an environmental justice lens on County projects.**
   Using the example created by the Live Well Erie program, use the SDOH and direct interaction with impacted populations to ensure quality-of-life issues are being considered when allocating dollars for residential programming, and continue to provide racial equity training for all County employees and elected officials as part of the on-boarding process.

2. **Prioritize the safety and health of disadvantaged communities, control potential regressive impacts of future climate change mitigation and adaptation policies on these communities and prioritize the allocation of public investments in these areas.**
   This work should rectify the way that climate change especially heightens the vulnerability of disadvantaged communities, which bear environmental and socioeconomic burdens as well as legacies of racial and ethnic discrimination. The Climate Act requires all State agencies and authorities to prioritize reductions of greenhouse gas (GHG) emissions and co-pollutants in disadvantaged communities.
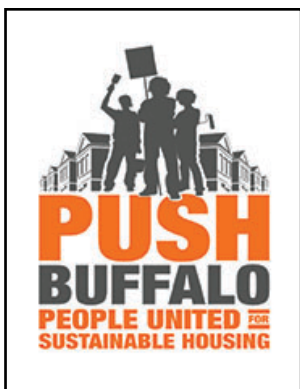
3. **Provide pathways and programs for residents to increase energy efficiency and reduce their climate footprint.**
   The County, across many of its operational areas, has deep interactions with the community – especially vulnerable populations. The County should ensure equitable engagement and distribution of resources when implementing the New York State Climate Act[7] for vulnerable populations in coordination with Live Well Erie[8], and social determinants of health.

We recommend that the County continue to develop and implement the Erie County Low-Income Program for Sustainable Energy (ECLIPSE) and United States Department of Housing and Urban Development (HUD)/Community Development Block Grant (CDBG) programs with BIPOC and low and moderate-income residents to help address sustainable housing, energy efficiency, renewable energy, electrification of transportation and building heating, food access, public transportation access, broadband, and agricultural programs. This work should complement and support existing work being done through local community-based organizations such as PUSH (People United for Sustainable Housing) Buffalo

Social Determinants of Health

Education Access and Quality

Health Care Access and Quality

Economic Stability

Neighborhood and Built Environment

Social and Community Context

Social Determinants of Health
Copyright free

Healthy People 2030

(https://www.pushbuffalo.org/), MAP (Massachusetts Avenue Project) Growing Green (https://www.mass-ave.org/), Farmer Pirates Compost (https://www.farmerpirates.com/), and others.

4. **Support training opportunities to ensure that current and formerly-employed power plant, natural gas, and carbon-based businesses' workers benefit from the transition to clean energy.**

As the dominant human services provider in the community, Erie County has a unique understanding and capacity to assure that our transition to a low-carbon community is a "just transition," done equitably, and in a way that lifts up disadvantaged communities and people of color, and limits harm to workers impacted by economic change. It is imperative to engage and support displaced workers as much as possible and early on. This means establishing continuing education, registered apprenticeships, certifications, and licensing in trades and professions for current workers and supporting companies in transitioning their workforce to building operations and maintenance, design, construction, and other clean-energy jobs. Consideration should be given to businesses and jobs not only in installation, but also in manufacturing and the entire supply chain. Engagement with displaced workers, as well as clean-energy providers, will be important in evaluating current and future workforce needs, aligning training with business demand, including by geographical area and, ultimately, developing a successful talent pipeline including the BIPOC community.[9]

Just Transition

Just Transition is a principle, a process, and a practice. The principle of just transition is that a healthy economy and a clean environment can and should co-exist. The process for achieving this vision should be a fair one that should not cost workers or community residents their health, environment, jobs, or economic assets. Any losses should be fairly compensated. And the practice of just transition means that the people who are most affected by pollution - the frontline workers and the fenceline communities - should be in the leadership of crafting policy solutions.

CLIMATE CHANGE:

Climate change is an urgent threat affecting all aspects of our economy, our well-being, and the natural world. For example, the local growing season has lengthened as a result of climate change, but with increased periods of drought, more irrigation infrastructure may be needed. Moreover, while it is anticipated that the region will experience more extreme heat waves, many of our most vulnerable residents lack air conditioning. As a result, climate change demands swift, decisive action.

The EMC is grateful for the County's leadership on climate change, and we applaud the actions the County is taking to prioritize climate change as a guiding principle for its operations and service delivery.

In 2019, New York State passed the Climate Leadership and Community Protection Act (CLCPA) or NYS Climate Act, which creates an opportunity for Erie County to align its priorities with the NYS Climate Act's goals and future funding opportunities expected to support them.

The Act includes a commitment to:

- 70% renewable energy use by 2030 and 100% zero-emission electricity use by 2040;
- Limiting statewide greenhouse gas emissions to 40% of 1990 levels by 2030 and 85% by 2050; and
- Groundbreaking equity provisions, including a mandate that at least 40% of climate-related funding streams prioritize directing benefits to vulnerable and disadvantaged communities.

Since committing to climate goals and releasing its ***Erie County Commits to Paris[11]*** report, the County has continued to implement initiatives that reduce greenhouse gas (GHG) emissions and has begun planning processes to adapt to climate change. For example, the County has been working with the University at Buffalo to develop its first Climate Vulnerability Assessment. That effort will wrap up in 2022 and will guide the County's efforts to make the community more resilient to the impacts of climate change. Moreover, the County continues to work with the Community Climate Change Task Force, a committee of the EMC, on climate change mitigation and adaptation planning. The EMC commends the leadership of the County on this incredibly important issue.

For its internal operations, Erie County has a ***Climate Action & Sustainability Plan[12]***, which was adopted without opposition by the Erie County Legislature in 2019. The plan sets more aggressive greenhouse gas reduction goals than those contained in the County Executive's 2017 Order and outlines a series of actions to achieve those goals. The County's Green Team is implementing actions in the plan, such as creating a compost facility at the Erie County Correctional Facility and advancing major energy conservation projects. A status report on this work is released annually and shared publicly on the County's sustainability website: www.erie.gov/sustainability.

The report released at the end of the last year highlighted that the County had exceeded its short-term goal of 32% reduction of greenhouse gas emissions.

Responding to recommendations in the 2021 Environmental Management Council Recommendations Report, Erie County worked with the University at Buffalo Regional Institute (UBRI), New York State Energy Research and Development Authority (NYSERDA), and New York Department of State to run a Clean Energy Academy for municipalities. Four virtual trainings were held covering topics such as renewable energy in municipal comprehensive plans, and code enforcement for photovoltaic and battery storage installations. There were more than 340 participants, including local government zoning board members, planning board members, elected officials, and staff.

Erie County is also working across the state on this issue. In 2019, Erie County spearheaded formation of the Climate Resiliency Committee for the New York State Association of Counties (NYSAC), which is a forum for New York State county governments to share strategies and coordinate their response to climate change. Erie County continues to have a leadership role with that committee, which this year has become an official standing committee of NYSAC and renamed "Climate Action."

The County's efforts and accomplishments have been acknowledged by statewide programs. New York State Energy Research and Development Authority (NYSERDA) recognized Erie County as a **Clean Energy Community**[13] because of its many energy conservation and renewable energy projects, and in 2022 the County was awarded $265,000 in competitive NYSERDA Clean Energy Community grants to implement even more projects. In fact, Erie County was the first large community to earn 5,000 points in the program and receive Tier 3 grant funding. The New York State Department of Environmental Conservation (DEC) has also recognized these achievements and late last year designated Erie County as a **Silver Certified Climate Smart Community**[14]. Silver is currently the highest level in the Climate Smart Community program, Erie County is one of only three other counties in New York State that have achieved that status.

Thermal Vulnerability and a Heat Emergency Plan

Heat and cold waves claim more lives than any other weather-related event, and despite living in a relatively cool-climate region, residents of Erie County experience vulnerability to both extreme cold and heat. Research has shown that cool-climate communities like ours are even more vulnerable to high heat events than warm-climate communities.

This is largely because many homes in our community lack air conditioning. In low-income neighborhoods, there is an abundance of older, less insulated housing, and there are many residents who have health problems that make them sensitive to heat. Urban residents in "heat islands" are especially affected, along with rural residents in low-quality manufactured housing. Through its roles in emergency response and health, the County currently has some programs in place to address extreme temperature events, including coordinating availability and outreach for cooling centers. The Climate Vulnerability Assessment (CVA) will evaluate the increasing threat of high-temperature events, map areas that are especially vulnerable, and assess the County's ability to respond. To make our community more climate resilient, the County will need to plan and build out programs and interventions to address thermal vulnerability. The County can use its information about temperature-vulnerable households developed through its health and human services roles, and work with existing federal and state weatherization programs to target vulnerable households for insulation and weather sealing projects. Other programs might include guidelines to incorporate shading into the design of public spaces, such as bus stops and sidewalks and incorporating more trees and other green infrastructure into urban spaces.

Climate Change Mitigation:

While the County has made measurable progress reducing greenhouse gas emissions, especially within its internal operations, the County has not yet made significant reductions at the community level. The EMC recognizes that the County is working with stakeholders and the community on an equity-centered Community Climate Action Plan and is doing more to assist local governments and residents. To that end, the EMC recommends that the County pursue the following climate mitigation initiatives:

1. **Continue to work with the community to finalize a comprehensive County-wide climate action plan with a focus on racial equity.**

   To meet the goals of the New York State Climate Act, the County needs a comprehensive, community-focused climate action plan to be developed with community input. This plan is being built on the foundations of the One Region Forward[15] framework to facilitate broader connections to neighboring counties. The plan will address greening our transportation systems, protection of natural carbon sinks, and renewable energy development among other topics, providing a realistic blueprint for achieving these important goals. Finally, as the dominant human services provider in the community, the County has a unique understanding and capacity to ensure that our transition to a low-carbon community is a "just transition," done equitably, and in a way that lifts up disadvantaged communities and people of color, and limits harm to workers impacted by economic change (see sidebar bottom of page 13).

   The County is well into its planning process using a Racial Equity Impact Analysis Tool to guide the working groups. Outputs from the planning process are being posted on the website **www.erie.gov/climateaction**. It is anticipated that a draft plan will be available for public review in the fall of 2022. The County is also working on deeper community engagement through community meetings and its Climate Ambassador Program. The EMC has supported the Climate Ambassador program through sponsorship of outreach events. These sponsorships have been vital in supporting partnerships with community groups.

2. **Provide direct support, assistance and coordination for local governments.**

   The County serves a convening and leadership role for local governments. Many local governments lack the resources or expertise to address climate change, and there may be opportunities for the County to efficiently address these capacity gaps. For example, using

Outreach at Borderland Music Festival

its Erie County Low-Income Program for Sustainable Energy (ECLIPSE) grant, the County can leverage its buying power for the benefit of local governments, including the purchase of green energy or helping municipalities with a Community Choice Aggregation project. The County can also provide template legislation for municipalities looking to develop local laws, helping to align County and local planning efforts. The County should continue to find opportunities to support local governments, as they did with the Clean Energy Academy mentioned above.

3. **Provide pathways and programs for residents to increase energy efficiency and reduce their climate footprint.**

   The County, across many of its operational areas, has deep interactions with the community – especially vulnerable populations. The County should ensure equitable distribution of resources when implementing the New York State Climate Act[16] for vulnerable populations in coordination with the Live Well Erie[17] framework, and social determinants of health. We recommend that the County create and uplift programs to assist residents to address sustainable housing, energy efficiency, renewable energy, electrification of transportation and building heating, food access, public transportation access, broadband, and agricultural programs by building on existing work of the Food Policy Council, the Office of Agriculture, Greater Buffalo Niagara Transportation Council, and numerous community-based organizations.

Climate Change Adaptation:

While the County should continue to work to mitigate the impacts of climate change, it should plan and respond to the inevitable impacts of climate change at the same time. Our recent experiences with COVID-19 demonstrate how threats can have large and unintended consequences and how planning and preparation, informed by the best science available, are key to protecting the community. Some things the EMC has recommended in the past to mitigate climate change, like adding bicycle infrastructure and localizing our supply chain, have also made us more resilient to the impacts from the COVID-19 pandemic, and will make us more resilient to climate change.

The County is already experiencing impacts from climate change, including more high-temperature events, increased incidence of tick-borne disease, and intrusion of invasive species. As extreme weather events increase, the occurrences of flooding, severe erosion, seiche events, as well as sedimentation and debris accumulation in stream corridors, will also increase across all communities of Erie County. This results in escalating costs for repair, remediation and replacement of public and private infrastructure and the loss of habitat. The need to adapt to climate change and build a resilient Erie County is urgent.

In 2021, using funds from the New York State Climate Smart Communities program, the County began preparation of the Erie County Climate Vulnerability Assessment (CVA). The Assessment, which will be completed in late 2022, will help the County better understand climate threats to our community and its capacity to respond to those threats. The work of the Climate Vulnerability Assessment will inform climate resilience recommendations for the larger Community Climate Action Plan.

County climate adaptation efforts must have a community focus, as well as leverage the County's primary role and significant expertise serving vulnerable populations. Many of the anticipated climate impacts, including extreme temperature events, disproportionately impact low-income people and people of color. The County's efforts should explicitly support racially equitable climate adaptation. The effort should also address concerns that, due to our ample supply of fresh water, the region may deal with an influx of "climate refugees" from other areas.


Outreach at PUSH Buffalo Climate Carnival

Regarding climate change adaptation, the EMC recommends that the County:

1. **Conduct comprehensive adaptation planning for the community, with a focus on protecting vulnerable communities.**

   The ongoing CVA project helps to identify climate threats and the County's capacity to address these threats. Per the recommendation from the EMC that the County build on the recommendations of the CVA by creating climate-threat-specific plans to address the identified threats, Erie County applied for a grant to prepare a Heat Emergency Plan. It is important that the Heat Emergency Plan, and other plans as they are created, include a focus on health and other impacts to vulnerable populations, especially people of color who will be disproportionately impacted by climate change, and should be informed by the County's experience responding to the COVID-19 pandemic. There should also be a focus on localizing supply chains to make the County more economically resilient. Adaptation planning should be conducted in close coordination with the County's public health and human services efforts, especially around the areas of thermal vulnerability and vector-borne disease.

2. **Assure climate resilience of Erie County-owned infrastructure.**

   The County maintains significant critical infrastructure, including roadways, wastewater collection and treatment, correctional facilities, buildings housing the County's staff, as well as numerous parks and forest lands. The County self-enforces a building code for its infrastructure. For new building projects, anticipating climate change and building infrastructure that is resilient will be much less expensive than rebuilding existing infrastructure later. It is recommended that the County update planning guidelines and procedures to reflect anticipated or potential impacts from climate change, in order to lower future risks and costs.
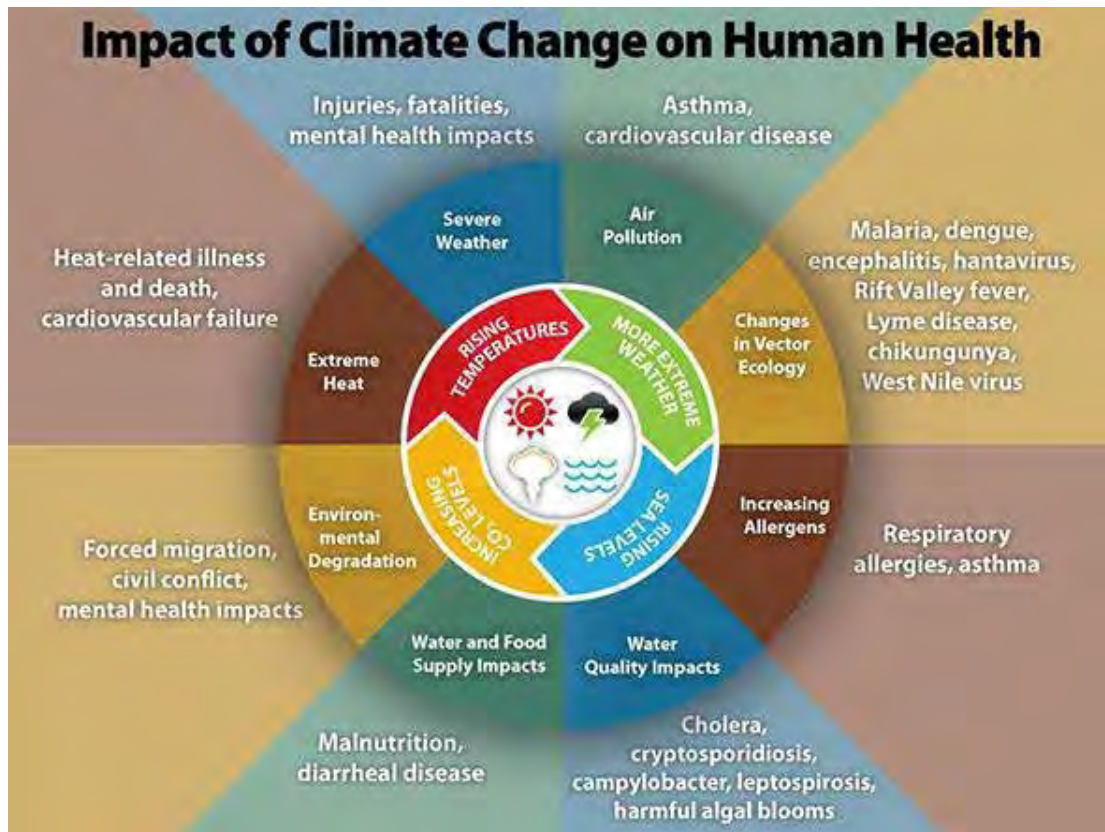
ECOSYSTEM HEALTH

Erie County has been actively involved in efforts to protect living infrastructure and enhance ecosystem health. These efforts include developing management tools such as the county-wide Natural Resource Inventory (NRI), which provides land use managers with tools for early warning and detection of biological stressors so corrective measures can be achieved in a timely and cost-efficient manner. The County works with the Lake Erie Watershed Protection Alliance (LEWPA)[18] and other partners to identify opportunities for enhancing natural habitats, including floodplains, woodlands, and wetlands along Lake Erie. The County has also helped the EMC to promote its Healthy Lawns Campaign called "**A Safe Home for the Gnomes**," which encourages reduction in lawn chemicals. Additional County initiatives include habitat restoration projects along the Buffalo River, stormwater pollution prevention education, and invasive nuisance species outreach and education.

The implementation of nature-based climate change solutions will strengthen our living infrastructure (see sidebar on page 20) and build resilience into the Western New York region. Some strategies in County projects include stabilizing shorelines and improving habitat by repurposing mature tree root wads and incorporating live native plant stakes. Shoreline modifications to create more gently sloped vegetated areas also filters and retains stormwater onsite, recharges the water table, and protects downstream habitats.

Regarding Ecosystem Health, the EMC recommends that the County:

1. **Manage and boost plantings County-wide to increase our trees and native plants.**

   This can be achieved by increasing the tree canopy within the County, partnering with municipalities to inventory street trees, and applying for grant funding for trees. This can also include planting and maintaining street trees by amending our existing inter-municipal agreements, including those related to County roadways, to include tree maintenance. The EMC recognizes that maintenance of trees is one of the most challenging aspects of this effort. Thus, the EMC recommends working with partners to establish a community endowment for this purpose.

2. **Update the drafted 2003 County Forest Management Plan.**

   This will guide proper forest management practices through sound ecological, economic, recreational, educational, and public safety considerations in anticipation of predicted climate changes.

3. **Improve natural habitat for native species and pollinators.**

   Continue to work with community partners to grow native plant species for transplant throughout the region. This can include working with partners to develop a pollinator corridor to increase pollinator densities and educate the public on the importance of pollinators for our food production, native plants, and invasive species.

Green Heron at Tifft Nature Preserve
- Photo by John Whitney

Freddie at the State Fair

A Safe Home for Gnomes

Overuse and misuse of garden chemicals can be harmful to humans, pets, wildlife, and waterbodies. Collectively, residents control about 900,000 acres of lawn in New York alone – 75% of the managed turf in the state. The good news is there are many ways to care for your lawn that avoid putting family and neighbors at risk.

In 2017, the Erie County Environmental Management Council, with assistance from the Cornell Cooperative Extension, began "A Safe Home for The Gnomes" campaign to reduce the amount of chemicals used on area lawns and improve community health (www.erie.gov/healthylawns). Pledge to protect your family, pets, wildlife, and waterbodies by having a pesticide-free lawn when you eliminate insecticides, herbicides (weed-killers, "weed and feed"), fungicides, and other chemical pesticides and receive a free lawn sign to let your neighbors know that your lawn is healthy and safe: http://erie.cce.cornell.edu/gardening/-erie-county-healthy-lawns-campaign.

Natural Resources Inventory

A Natural Resource Inventory (NRI) identifies and describes important naturally occurring resources within a community, watershed, or region. It provides the basis for land conservation planning, allows natural resource information to be included in local planning and zoning, and provides communities with a strong foundation for informed decision-making.

For communities considering techniques for protecting natural resources, a NRI is a necessary tool for developing priorities.
Explore this tool at www.erie.gov/nri

Living Infrastructure

Living infrastructure refers to the network of natural systems and engineered systems, such as storm and wastewater practices, that affect ecological processes including the hydrological and nutrient cycles. Creating a robust living infrastructure strengthens a region's resilience to climate change.

Robust living infrastructure fulfills the following conditions:
- Harbors and supports indigenous flora, fauna, migratory species, and pollinators
- Conserves and replenishes fresh water and protects and restores fertile soils
- Connects people to nature
- Employs strategies to eliminate or regulate impacts to climate, water cycles, nutrient flows, natural hazards, and pests.

Semi-Palmated plover at Tifft Nature Preserve
- Photo by John Whitney

ENERGY

The EMC commends the County's leadership on energy conservation and development of renewable energy resources. In particular, the County's commitment to utilize 100% renewable energy for its electric operations by 2030 stands out as an ambitious and important goal, demonstrating the County's willingness to lead by example. Also deserving of recognition is Erie County's designation as a Clean Energy Community in 2019, continued leadership in that program through 2022, and implementation of an energy performance contract that included about $7 million of energy-efficiency projects at more than 25 County-owned buildings. These projects reduced greenhouse gas (GHG) emissions by more than 15% across the County's building stock. The addition of renewable solar energy on County property also reduced GHG emissions by nearly 220 metric tons, or what 465 acres of mature forest sequester in a year.

Renewable Energy Goals

Goal	Scope	Source
100% renewable energy in County buildings by 2030	Internal Operations	Erie County
70% renewable energy by 2030	Community-wide	NYS Climate Act
100% clean energy by 2040	Community-wide	NYS Climate Act

Even with this progress, for the County to meet its goals[19] and the renewable energy requirements of the **New York State Climate Act**[20], there will need to be an increased focus on energy efficiency and supply for the community. Poor quality housing, high utility bills, and energy burden afflict many low-income residents. Moreover, addressing low-income community energy needs supports the County's anti-poverty and health goals. Currently, the County has programs that address community energy for some populations, including those administered by the Home Energy Assistance Program and the Community Development Block Grant program, but the County's Paris goals require a broader approach. For this reason, the EMC is very excited to see the County embark on the Erie County Low-Income Program for Sustainable Energy project (ECLIPSE; see sidebar page 22), and we encourage the County to push forward with strong community energy programs.

Regarding Energy, the EMC recommends that the County:

1. **Support local municipalities and their residents to ensure responsible renewable energy development that includes input from vulnerable populations and protects regional agricultural and natural resources in light of an accelerated renewable energy siting process.**

   It is important that the County assertively advocate for renewable energy (solar, wind, hydroelectric, geothermal, and biofuels) developments. Advocacy should prioritize the interest of low-income and minority County residents, whose voices are almost never heard in discussions about renewable energy projects although they are most impacted by climate change. The County should engage these residents in renewable energy siting discussions and work to dispel misinformation about renewable energy development.

   This should be a priority as the recently enacted NYS Accelerated Renewable Energy Growth and Community Benefit Act, which created a new Office of Renewable Energy Siting (ORES), creates an urgent need for towns and villages to enact local renewable energy laws. Without County support, local laws could risk allowing unfettered development that would damage important forests, headwaters, wetlands, and farmlands. It is important that the County support a community education campaign aimed at local governments to support local renewable energy laws that balance the need for renewable energy development with important agricultural and other land use protections as this new state law takes effect.

   The recently completed Municipal Energy Academy is a great first step in achieving this goal, however the EMC continues to hear about the need for more regional coordination and education related to renewable energy siting. Lesson 1 of the One Region Forward Learning Series provides a great overview of the new siting process.[21]

2. **Leverage contracting capacity and first-hand experience/expertise to support municipal energy efforts.**

   The County has gained significant energy-related experience through its work with energy performance contracts, electric vehicle infrastructure, LED lighting, green procurement, and renewable energy development. It is recommended that the County share its expertise and experience about green energy and energy efficiency opportunities with local governments. Additionally, we recommend that the County uplift and support organizations already doing work in this arena such as the **University at Buffalo Regional Institute (UBRI)[22], People United for Sustainable Housing (PUSH) Buffalo[23]**, and others.

NYSERDA

Clean Energy Communities Program

Local governments in New York State can use the Clean Energy Communities program to implement clean energy actions, save energy costs, create jobs, and improve the environment. In addition to providing tools, resources, and technical assistance, the program recognizes and rewards leadership for the completion of clean energy projects. The program is competitive and is currently in its second round. For more information, visit: https://www.nyserda.ny.gov/All-Programs/Programs/Clean-Energy-Communities/How-It-Works.

3. **Develop community programs to address energy efficiency, renewable energy, and energy burden.**

   Historically, the County has had a limited but important role in addressing community energy use. To address community-wide Paris Climate goals, it is critical the County have a focused effort on community energy at a broad level, coordinated with existing New York State programs. The EMC strongly supports the ECLIPSE program's focus on developing a community energy program (see sidebar below). The EMC also recommends the County support education for businesses and residents about existing programming through participation in NYSERDA's Clean Energy Communities Campaigns for community solar, home energy efficiency, clean heating and cooling, and electric vehicles. Public education should leverage existing contact with the community through the County's human services work, Climate Action Planning efforts, and should uplift existing community networks to facilitate information dissemination. Where applicable, the County should provide information and materials to help residents and business owners navigate this somewhat complicated landscape.

Erie County Low-Income Program for Sustainable Energy Project (ECLIPSE)

Erie County's Departments of Environment and Planning, Social Services, and Public Works are working on a NYSERDA-funded project to create a community-scale energy program to spur local energy-related economic development, increase use of green energy in the community, and reduce energy cost burden and improve access to renewable energy for moderate- and low-income households. ECLIPSE is researching several models, including Community Choice Aggregation and Community Distributed Generation, to achieve these goals.

The project kicked off a feasibility study in the spring of 2022 and will begin to implement a community energy program in 2023.
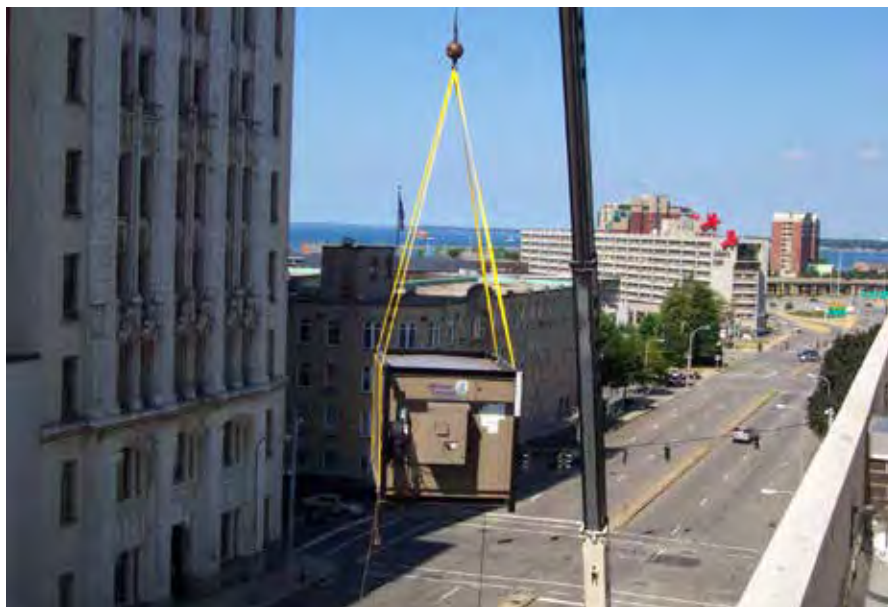
Rath Building Mechanical Renovations

LAND USE AND COUNTY LAND

Land use decisions have both an immediate and long-term impact on the quality of the air we breathe, the water we drink, and the way in which we live, work, commute, and recreate. As a home rule state, local municipalities in New York have control and authority in their jurisdictions to make rules and decisions concerning a wide range of land use issues. These decisions affect the total health of the entire Western New York (WNY) bioregion. Despite this, there are opportunities for Erie County to advance land use practices that will lead to greater stability and resiliency for our communities. For example, the County reviews local planning/zoning actions and often provides recommendations to the local municipality.

Erie County also manages approximately 11,000 acres of land that are in the cities, towns, and villages throughout Erie County. With its far-reaching land portfolio, the County not only has the duty to administer responsible land use decisions that support and enhance good stewardship practices, but it also has a powerful opportunity to demonstrate how land use practices can further enhance ecosystem health, which will lead to greater resiliency for the Western New York region from both the effects of climate change and crisis-level events.

The EMC again commends Erie County for creating a Deputy Commissioner of Recreation position in the Department of Parks, Recreation & Forestry, which serves as the point of contact for community groups to partner with the Department. Leveraging partnerships has resulted in excellent Parks projects in the past and is even more important now with the economic impact of the pandemic. Moreover, Erie County is implementing its updated Parks Master Plan, which includes best practices like low-mow, no-mow, and natural regeneration areas in the Parks. The Parks Department has also recently established a wildflower pilot program to encourage pollinator opportunities in the Parks.

Another project to uplift is recent work with the Erie County Industrial Development Agency (ECIDA) that advances the redevelopment of the former Bethlehem Steel site into a shovel-ready business park renamed Renaissance Commerce Park. This project seeks to clean up a brownfield and bring it back to productive use as an employment center at the urban core of the region. The redevelopment of urban brownfield sites prevents sprawling commercial development in the region and creates employment opportunities, which are easily accessible to urban residents.

Nature-based Solutions

Nature-based solutions to climate change, sometimes called "natural climate solutions," involve conserving, restoring, or better managing ecosystems to remove carbon dioxide (CO_2) from the atmosphere. Examples include allowing forests to regrow, restoring coastal wetlands, and switching to restorative agricultural practices, such as cover crop rotation, which support healthy soils. These ecosystems reduce climate change by capturing CO_2 from the air and sequestering it in plants, soils, and sediments. They also provide a wide range of other important benefits, such as cleaner air and water, healthier economy, and increased biodiversity.[24]

61 Smith Street RES Tree Plantings

Male Monarch Butterfly
- Photo by John Whitney

New England Asters in field of Canada Goldenrod
- Photo by John Whitney

Mushrooms on Decaying Log at Knox Farm State Park
- Photo by John Whitney

Regarding Land Use and Erie County Land, the EMC recommends that the County:

1. **Invest in and use Erie County's land portfolio for developing and implementing natural solutions and sustainable land use decisions to address the growing impact of climate change, the COVID-19 pandemic, and the extinction crisis.**

    Erie County maintains a large portfolio of properties across diverse landscapes, including agricultural, forest, beach, waterfront, high elevation, suburban, and urban settings. This biodiversity places Erie County in a prime position to demonstrate best land use practices such as nature buffers, no- or low-mow areas, use of meadows/forests, rather than lawns, for large expansive "unused" land on County properties, greenspace set-asides, and forestry management, as well as introduce nature-based solutions (see sidebar page 24) to climate change, such as tree plantings, native plantings, pollinator plantings, and the creation of wetlands at developing green infrastructure.

2. **Use Erie County's land portfolio to develop and implement a regional approach to sustainability.**

    The COVID-19 pandemic has revealed how our socio-economic system can be severely disrupted by a crisis-level event. These types of disruptions can be especially devastating for the poor and underserved communities throughout the Western New York region.

    However, with its land portfolio, Erie County has an excellent opportunity to lead the sustainability movement in Western New York. The County is encouraged to explore and develop a regional approach to sustainability. For example, by creating an agribusiness park in the Town of Evans, Erie County will model sustainable approaches to growing, manufacturing, and production, demonstrate how to secure and protect agricultural, natural, and sensitive lands from development, work with municipalities to ensure the proper location of large-scale utility-grade energy generating systems, and improve and protect water quality by working with municipalities to ensure the entirety of our waterways are monitored and protected. This includes testing of retention and detention ponds, monitoring invasive species growth in the ponds, testing and treatment of overflows, and, evaluating regional sprawling development's effect on local watersheds.

Important Partners and Resources

There are many excellent area organizations, entities and plans that support sustainable land use.
The County already works with them on a regular basis, and they play an important role in land use projects.

- **Buffalo Niagara Waterkeeper: https://bnwaterkeeper.org/**
- **Erie County Soil and Water Conservation District: https://www.ecswcd.org/**
- **Lake Erie Watershed Protection Alliance: www.erie.gov/lewpa**
- **Agricultural and Farmland Protection Plan: www.erie.gov/agriculture**
- **Cornell Cooperative Extension of Erie County: http://erie.cce.cornell.edu/**
- **Erie County Climate Action and Sustainability Plan: www.erie.gov/casp**
- **Erie County Parks and Forestry Management Plans: https://www2.erie.gov/environment/2018-parks-master-plan-update-0**
- **WNY Regional Sustainability Plan: http://www.regionalcouncils.ny.gov/sites/default/files/2018-04/Western-NY-CGC-Plan-Report.pdf**
- **One Region Forward: http://www.oneregionforward.org/**

TRANSPORTATION

Transportation is the largest source of greenhouse gas emissions in Erie County. Fortunately, with control of 1,200 miles of roadway, the County exerts more control over transportation than any other source of emissions. Over the past few years, the County has made significant progress on transportation, and the EMC commends Erie County for its role in:

- Membership in the **GO Buffalo Niagara Transportation Management Association**[25], which encourages Erie County employees to utilize low-emission transportation options;
- Participation in the **Greater Buffalo Niagara Regional Transportation Council's Regional Bicycle Master Plan**[26] and other **Moving Forward 2050**[27] regional transportation plan initiatives;
- Negotiation of a contract with one of the unions that includes options for telework and a compressed workweek;
- Installation of 14 public electric vehicle charging stations in County parks and at SUNY Erie and three chargers for County fleet vehicles;
- Modernization of the County fleet, including lease of nine electric vehicles and several hybrid SUVs and trucks for both the Parks Department and the Sheriff Office, which replaced gas-powered vehicles; and
- Support of Niagara Frontier Transportation Authority (NFTA)'s bus electrification efforts.

When COVID-19 quarantine measures took effect in Erie County, the community had a chance to witness what our cities and towns would look like with fewer cars. Air quality improved, streets were quieter, emergency rooms saw fewer accidents, and many residents took up alternative forms of transportation. Sales of bicycles climbed, and neighborhoods became more walkable. For many residents, this created more awareness of the unintended, often negative consequences of our dependence on cars, and the need for alternative forms of transportation.

The traditional model for reducing transportation-related greenhouse gasses is to reduce the number of vehicle miles travelled, increase fuel efficiency, and power transportation with renewable energy. Often, vehicle electrification is held up as the dominant approach. Electric vehicles fueled by green energy certainly address climate change, and electric cars, trucks, and buses play an important role in the transition to a low carbon economy. But, fundamentally, the EMC believes that the County should emphasize creating Complete Streets (see sidebar page 27) that serve pedestrians, bicycles, buses, and more. Moreover, the EMC sees that it needs to build out a robust system of public transportation, and that we will have missed an opportunity if we focus on electrifying our existing transportation system without creating communities that are less centered around cars. We commend the County for their work to include alternative work options such as telework and compressed workweek schedules.

Citizens for Regional Transit Outreach at Juneteenth Festival

We need a more effective and reliable multi-modal public transportation system that provides equitable access to jobs, housing, and an improved quality of life for all of our residents, including low-income residents, people of color, and the other-abled.

What Are Complete Streets?
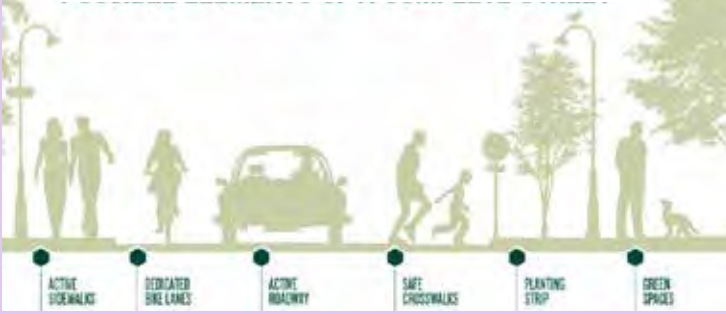
Complete Streets are streets for everyone. They are designed and operated to prioritize safety, comfort, and access to destinations for all people who use the street, especially people who have experienced systemic underinvestment or whose needs have not been met through a traditional transportation approach. Complete Streets make it easy to cross the street, walk to shops, jobs and schools, bicycle to work, and move actively with assistive devices. They also allow buses to run on time and make it safe for people to walk or move actively to and from train stations.

There is no singular design prescription for Complete Streets; each one is unique and responds to its community context. A Complete Street may include: sidewalks, bike lanes (or wide paved shoulders), special bus lanes, comfortable and accessible public transportation stops, frequent and safe crossing opportunities, median islands, accessible pedestrian signals, curb extensions, narrower travel lanes, roundabouts, and more.

A Complete Street in a rural area will look quite different from a Complete Street in a highly urban area, but both are designed to balance safety and convenience for everyone using the road.[28]

Furthermore, valuable public space is devoted to roadways and parking because cars require much more space than other transportation modes. As we update our transportation systems, reducing use of cars will allow us to reclaim this public space. Development must also be oriented around all modes of transportation, including pedestrian, bicycle, and public transit. To this end, we urge the County to be a leader in the community by siting its operations to facilitate low-impact modes of transportation.

Finally, our transportation infrastructure must be green infrastructure, designed to contribute to our resilience to climate change and designed to protect our waterways from stormwater impacts. Green roadways with trees and plantings can help absorb the impact of storm events, reduce urban heat, and protect biodiversity. Roadways with permeable (porous) pavement and features like bioswales absorb stormwater, reduce impacts on waterways, and help address the County's watershed management goals.

Regarding Transportation, the EMC recommends that the County:

1. **Work with regional partners to develop an equitable, zero-emission, multi-modal transportation system (including points beyond Erie County's borders).**

   The County should work with the Niagara Frontier Transportation Authority (NFTA), the Greater Buffalo Niagara Transportation Council, electric utilities, and other community partners to expand metro services through zero-emission regional light rail services and other enhanced public transportation options like Bus Rapid Transit. We support continuing to add electric vehicle infrastructure at County facilities and public libraries, including rural locations, to encourage the adoption of electric vehicle use. Finally, County transportation investments should have an emphasis on infrastructure for bicycling, walking, and other modes of transportation. To this end, the County should work with municipalities to honor local Complete Streets policies when implementing County roadway projects, and adhere to Complete Streets methods on all County roadway projects including implementation of the **Greater Buffalo Niagara Transportation Council's Regional Bicycle Master Plan**.[29] For more information about implementation of varying Complete Streets treatments please refer to the One Region Forward Learning Series.[30]

2. **Support local communities as they transition to a green, low-carbon transportation system.**

Many roadways in Erie County are controlled by local governments. The County should support local governments, share design, policy and implementation guidance for green measures, such as implementation of Complete Streets, guidelines and model legislation for LED street lighting, Smart Cities technology, electric vehicle infrastructure, and equitable access to transportation. The County should work with local governments to locate jobs and services in locations that are accessible to public transit, and other alternative transportation modes. The County should also continue to work with Greater Buffalo Niagara Regional Transportation Council, NFTA, New York State, local governments, and community stakeholders to assure that transportation investments are coordinated and emphasize accessibility, equity, public transit, and Complete Streets goals. Finally, the County should work with local communities to promote sustainable work arrangements for their staff that reduce commuting travel.

3. **Continue to reduce transportation emissions from County operations.**

Although the County has leased and purchased several electric and hybrid vehicles, we encourage the County to set goals and create policy to replace the County's fleet of gas-powered vehicles with electric-powered, and to lead the community on this issue. This will greatly reduce County greenhouse gas emissions and may also reduce fuel and maintenance costs. Some existing heavy-duty vehicles might be suitable for electric retrofits, and new heavy-duty electric vehicles are becoming more available and economical. Sheriff's patrol cars may be a particularly good opportunity because of their high idling rates, and leading manufacturers are now providing purpose-made patrol cars with hybrid electric drivetrains. Although there are currently supply chain issues with electric vehicles, the County should prepare for the transition by continuing to install electric vehicle charging stations. Finally, many County employees are reimbursed for extensive use of personal vehicles for their work, at a cost of more than $1 million per year. The EMC recommends that the County reduce emissions from reimbursed personal vehicle travel. Solutions could include providing electric vehicle (EV) chargers in staff parking areas, increased reimbursement for EV drivers, and offering EV fleet vehicles for staff use.
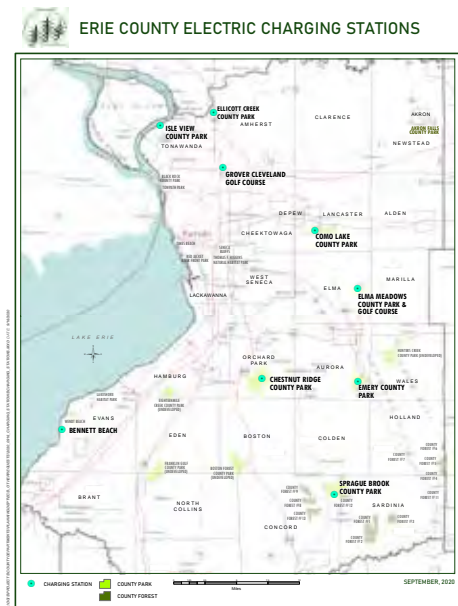

Erie County Parks Electric Van

WASTE

The waste produced from people's everyday choices, otherwise known as Municipal Solid Waste (MSW), can result in a number of negative environmental and health impacts. Organic waste, such as food and yard waste that is sent to a landfill creates methane gas, which is an even more potent greenhouse gas than carbon dioxide. Single-use plastics that end up in litter can become microplastics in our drinking water. Household hazardous waste (HHW), which in- cludes products with warning labels such as "flammable," "toxic," or "corrosive," and includes pesticides, solvents, and fuel, are often disposed of in an unsafe manner. This includes pouring them down the drain, on the ground, into storm sewers, or in some cases, putting them out with the regular trash. Improper disposal of HHW pollutes the environment and poses threats to human health, including water contamination or even physical injury to sanitation workers.

New York State has made recent strides in curbing certain impactful waste streams in order to reduce environmental litter and waste going to landfills. On January 1, 2022, the two new regu- lations went into effect:

- The **Expanded Polystyrene Foam Container and Polystyrene Loose Fill Packaging Ban** mandates that no food service provider or store will be allowed to sell or distribute dispos- able food service containers that contain expanded polystyrene foam, also known as Styro- foam. This ban also covers packing peanuts, but prepackaged food is exempt.

- The **NYS Food Donation and Food Scraps Recycling Law** requires businesses and institutions that generate an annual average of two tons or more of wasted food per week must donate excess edible food and recycle all remaining food scraps if they are within 25 miles of an organics recycler (composting facility, anaerobic digester, etc.). It is likely that as compost facilities are established, this requirement will be expanded.

Erie County is also actively working to ad- dress waste both in its own operations and in the community. For example, the County is composting food waste at the Alden Cor- rectional Facility and is beginning to expand that compost program to receive food waste from other County buildings. The County is also working with municipalities through the Erie County Solid Waste Management Board to promote waste reduction, reuse, recycling, and composting to residents. For example, the County produced a video about home composting using Earth Machine composters, which are available through the County's an- nual composter and rain barrel sale.[30]

Even with outreach and education, reducing solid waste through municipal collection and disposal services is an ongoing challenge for local municipalities due to resident confu- sion about how to manage household waste streams, and the lack of composting facilities for yard and food waste.
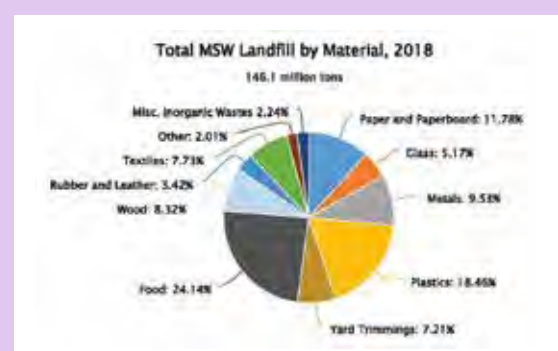
Municipal Solid Waste (MSW)

More commonly known as trash or garbage — consists of everyday items we use and then throw away, such as product packaging, grass clippings, furniture, clothing, bottles, food scraps, newspapers, appliances, paint, and batteries. Food waste is the single most com- mon material landfilled and incinerated in the United States, comprising 24 and 22 percent of landfilled and combusted municipal solid waste, respectively.

Household Hazardous Waste Collection Day in Brant

Changing markets have interrupted the U.S. recycling system resulting in less materials being accepted for recycling and instead going into landfills. This has led to public confusion on what is recyclable and why certain items are no longer accepted. In response, Erie County and the local Solid Waste Management Boards are promoting the use of **RecycleCoach**, a phone app that provides users with customized updated pickup schedules and guidance on recycling the right way.

Erie County also works to address household hazardous waste. Erie County's HHW Program provides for safe disposal of hazardous chemicals and materials. In 2021, this program was expanded and now includes both single-day events and a voucher program that allows residents to dispose of these materials year-round at a facility in Tonawanda.

Electronic waste, or e-waste, is not considered household hazardous waste. However, e-waste contains hazardous material that is stable while in use but can become a risk when the product reaches end-of-life and is not disposed of properly. NYS consumers are required to recycle many electronic waste items, such as computers, computer peripherals, televisions, small-scale servers, and small electronic equipment, through a municipal or private e-waste recycler. Though the County does not hold e-waste recycling events in general, it continues to provide education and outreach to consumers on how to dispose of e-waste properly.

Regarding this issue, EMC recommends that the County:

1. **Support laws and policies that reduce single-use waste and promote materials recovery.**
   For example, support efforts at the County and State levels to promote Extended Producer Responsibility. See sidebar on page 31.

Producer uses recycled materials to manufacture products and market

Retailer sells product

EPR

Producer is responsible to collect, process, recycle and dispose of the packaging and product

Consumer buys and uses product

Extended Producer Responsibility (EPR)

Is a mandatory type of product stewardship that includes, at a minimum, the requirement that the manufacturer's responsibility for its product extends to post-consumer management of that product and its packaging. There are two related features of EPR policy: (1) shifting financial and management responsibility, with government oversight, upstream to the manufacturer and away from the public sector; and (2) providing incentives to manufacturers to incorporate environmental considerations into the design of their products and packaging. Source: NYS Product Stewardship Council.

2. **Support materials recovery by adding glass wine and liquor bottles to the New York State Bottle Bill.**

   The bill has successfully reduced roadside litter by 70 percent. Adding wine and liquor bottles to the Bottle Bill should have a great impact on the entire recycling industry. When glass is collected as part of the "single stream" recycling programs used by most municipalities, it mostly gets broken and contaminates the plastic and paper that can be recycled and also damages the machinery that sorts the collected recyclables.

3. **Expand education and outreach programs.**

   This could include creating a chemical disposal/reduction education program for existing County programs and use existing County methods of communication, such as electronic newsletters, the website, social media, emails, and press releases to educate the public on how to reduce their chemical use. Topics could include proper storage and disposal, reducing pesticide use, label reading, and safe alternatives. The county could also promote existing programs and sponsor repair cafes where household items are fixed for reuse.

EMC Members on a Recycling Tour

Waste Management Hierarchy

Most Preferred

Least Preferred

Source Reduction & Reuse

Recycling / Composting

Energy Recovery

Treatment & Disposal

USEPA developed this **waste management hierarchy** because no single waste management approach is suitable for managing all materials in all circumstances.

WATER

Available clean water is necessary for all life including biological processes, industrial production, home life and landscapes, navigation, and recreation. It is a driver of sustainability and economic prosperity. In Erie County, we live on a Great Lake and water is plentiful, but it should not be taken for granted.

Mike Zarbo conducting Stream Visualization Assessment Protocol

Impacts to water quantity and quality make it a resource that requires conservation and protection in order to sustain its availability for use. Water is connected and integral to land use, transportation, and ecosystem management, which makes it particularly susceptible to impacts from how we plan, operate, and manage our developed/built and natural environments. Water is affected by a variety of residential, recreational, and commercial practices – and by both point source and non-point source pollution. Some examples include undersized wastewater facilities, combined sanitary sewer overflows, failing septic systems, contaminated stormwater runoff, industrial production through discharges of chemicals and heated water from manufacturing, pesticides, excess nutrients, and pathogens from agricultural runoff, and more. There are numerous pollution sources to consider throughout our watershed.

Septic systems (or on-site waste treatment systems) have not received their due attention as sources of nonpoint source pollution. While specific testing has not been completed at the system level, water quality testing has shown that nutrient and pathogen levels impairing New York streams and waterbodies are found in areas where there are septic systems and especially clusters of septic systems. For this reason, Erie County is working with LEWPA on education and outreach to septic system owners to reduce nonpoint source pollution to regional waterbodies. The education program seeks to reduce pollution at the source and prolong the useful life of septic systems by promoting proper maintenance of septic systems. In addition, the Erie County Health Department is beginning a program to pump out septic systems and test wells for low-income households, as well as assist with repair/replacement. The collaboration of these two programs is an example of working toward a common goal to protect both public health and environmental health.

Climate change is compounding impacts to **water quality and quantity**.[32] More frequent intense storms are causing extremely heavy rainfall events that increase soil erosion and movement of pollutants. Weather patterns are predicted to become more variable, which could include periods of drought followed by **wet weather**.[33] Heavy rainfall after a period of drought can reduce water infiltration and increase runoff, flushing accumulated pollutants and sediments, which lead to increased turbidity and **contaminant concentrations in waterbodies**.[34] These extreme pollution events, coupled with warmer water temperatures, may result in water fouling events such as harmful algal blooms with direct health consequences.

Climate change is also expected to cause **periods of drought**.[35] In Erie County, there are both residences and agriculture operations that depend on local groundwater supplies, not Lake Erie. Drought and lack of aquifer recharge can leave rural landowners without an adequate water supply. It is important that communities, particularly rural communities, adapt and plan for resiliency to ensure a clean and steady supply of water in a changing climate.

Appropriate use of land and understanding upstream and downstream connections to natural ecosystems is critical to conserving and protecting water resources. Best practices should be incorporated into land use for green infrastructure, riparian buffers, and conserving forests near water sources. Improving absorption and water filtration will help to prevent devastating downstream flooding and erosion.

Promoting a cultural shift in thinking about how we manage our lives for the protection and sustaining of our water resources is paramount. Education is key to making change. Several organizations are hard at work in Erie County to educate the public, private business, and government on water issues; and they are assisting with programs and projects to implement best water protection and conservation practices to ensure clean available water. It is important that they continue their work and receive County support.

Regarding water, the EMC recommends that the County:

1. **Continue to support the Lake Erie Watershed Protection Alliance (LEWPA) in preparing a Nine-Element Watershed Management Plan for the Lake Erie and Niagara River watershed region**.

   A Nine Element Watershed Management (9E) plan is a type of clean water plan that details a community's water quality concerns and a strategy to address these concerns. The 9E plans are developed by people who live and work within the watershed with support from local and state agencies. The nine minimum elements are intended to ensure that the contributing causes and sources of nonpoint source pollution are identified, that key stakeholders are involved in the planning process, and that restoration and protection strategies are identified that will address the water quality concerns.

Green Infrastructure

Green infrastructure is a group of stormwater management and treatment practices designed to infiltrate and/or reuse stormwater using soils and vegetation, rather than pipes and storage structures. Common green infrastructure approaches include porous pavement, green roofs, trees, tree boxes and infiltration planters, rain gardens, vegetated swales, pocket wetlands, vegetated median strips, cisterns, reforestation, and protection and enhancement of riparian buffers and floodplains.

Riparian Buffers

Riparian buffers are strips of vegetation (trees, shrubs or grass) located next to streams or other waterbodies. By planting vegetation along streams, space is created between the water and upland land uses, which helps protect the water quality and stream habitat. Riparian buffers provide the benefit of:

· stabilizing streambanks,

· erosion and sediment control,

· habitat and food for wildlife and pollinators,

· shade for streams, filtration of nutrients and other pollutants in runoff, and reducing the impact from floods by **increasing water infiltration**.[36]

Bullfrog - Photo by John Whitney

LEWPA 9E planning will assess approximately 10 percent of regional streams to see where direct issues are located. Projects to be identified in the waterways or the watershed could include green infrastructure, living shorelines, stabilizations, buffer planting, agricultural best management practices, land protection, or testing for and repairing failing septic systems. The 9E plan is required by some grant funding programs and having the plan will also potentially provide more project funding opportunity for Erie County and LEWPA.

Union Pleasant Rain Barrel 2022

2. **Leverage State and Federal Funding to Prioritize Water Quality Investments**
   There are several potential funding sources that may be advancing in the next 12 months, including the passed State Environmental Bond Act and the Federal Infrastructure Investment and Jobs Act. County projects utilizing these programs should prioritize water quality investments where eligible and focus on holistic approaches to meeting the needs of the watershed.

3. **Promote the concept of Living Infrastructure in comprehensive planning and decision-making**
   Partner with other organizations, such as UB Regional Institute, Buffalo Niagara Waterkeeper, and One Region Forward, to promote the municipal use of the concept of Living Infrastructure in comprehensive planning and decision-making to mitigate the impacts of increased stormwater runoff through trainings and workshops.

4. **Promote and implement green infrastructure practices**
   Erie County should continue to seek green infrastructure opportunities at its facilities and continue to assist Municipal Separate Storm Sewer communities in implementing green infrastructure projects. Outreach field day events and/or presentations should be organized to showcase such projects to municipalities, stakeholders, and the public.

5. **Use best management practices on County road ditches**
   Revamp the Erie County Highway Department's procedures for cleaning, reshaping, and vegetating road ditches to meet the municipal stormwater maintenance requirements for reducing soil erosion, improving visibility and safety, and reducing future maintenance. This effort should build upon Erie County Soil and Water Conservation District's hydroseeding initiative, which partners with Erie County Highway to vegetate cleaned road ditches.

LIST OF WATER QUALITY ORGANIZATIONS
Local Partner and Environmental Groups Include:

- **Buffalo Niagara Waterkeeper:** https://bnwaterkeeper.org
- **Buffalo Sewer Authority:** https://buffalosewer.org
- **Erie County Cornell Cooperative Extension:** http://erie.cce.cornell.edu/
- **Erie County Soil and Water Conservation District:** https://www.ecswcd.org
- **Erie County Division of Sewerage Management:** https://www.erie.gov/dsm
- **Erie County Water Quality Committee:** http://ecswcd.org/html/ecwqc.html
- **Lake Erie Watershed Protection Alliance:** www.erie.gov/lewpa
- **Tonawanda Creek Watershed Committee:**
  https://www.facebook.com/pages/Tonawanda-Creek-Watershed- Committee/139510572866742
- **WNY Stormwater Coalition:**
  https://www2.erie.gov/environment/index.php?q=western-new-york-stormwater-coalition

CONCLUSION

Just as Erie County has shown leadership through the COVID-19 pandemic, it must take the lead to address social structural issues that led to the horrifying events of May 14, 2022 at Tops Market on Jefferson Avenue. **The EMC recognizes the impact events like this have on County workers and our environment including the people of Erie County**. Our 2022 recommendations come on the heels of this crisis with **hope for an opportunity to do more for our people and planet**.

The recommendations of this report can be summarized as follows:

Environmental Justice:
Extend the use of the Racial Equity Impact Analysis tool currently being used as part of the County's Community Climate Action Planning process to **prioritize the health and safety of vulnerable populations in disadvantaged communities** and support an **equitable just transition to a low-carbon economy** that supports displaced workers and people of color.

Climate Change:
Finalize and Implement the **equity-focused Community Climate Action Plan**. It is important that Erie County plan for how to mitigate climate change and address the effects of climate change, while considering **the County's role in protecting those most vulnerable to the impacts of the changing climate**.

Energy:
Develop and support programming to **help local governments and their residents reduce energy consumption** and transition to renewable energy. Erie County should also work to balance clean energy needs with agricultural protections.

Land Use:
Use County-owned properties to address sustainability issues and implement **nature-based climate solutions** that include expanded tree plantings, fostering natural habitats for native species and pollinators, and **using living infrastructure on County projects where possible**.

Solid Waste:
Support laws and policies that **reduce single-use plastics and promote materials recovery. This includes bottle bills for** deposit or recycling **of wine and liquor bottles**, as well as **Extended Producer Responsibility** to process waste created by their products.

Transportation:
Work with regional partners to **develop an equitable, zero-emission, and multi-modal public transportation system** that includes strategically implementing **Complete Streets treatments on County roadways**. We also recommend reducing transportation emissions from County operations through **vehicle electrification and flexible work options**.

Water:
Work with regional partners **to promote living infrastructure in local watersheds** and seek opportunities to **implement these living and green infrastructure projects on County properties and projects**.

The EMC urges County leaders to continue to **invest in the protection and restoration of our people and environment**. Prioritizing this work is an opportunity to **improve our environment for the current and future generations** and improve economic prosperity and quality of life to **foster a place where people want to grow their future**.

ENDNOTES

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