

# Executive Summary



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## ES.1 INTRODUCTION

The development of the Finger Lakes Regional Sustainability Plan (the Plan) was funded through the first phase of the New York Cleaner Greener Communities (CGC) program. This statewide program announced by Governor Cuomo in 2011 is administered by the New York State Energy Research and Development Authority (NYSERDA). Through a two-phase competitive grant process, the CGC Program empowers New York’s 10 regions to lead the development of sustainability plans and implement projects that will significantly improve the economic and environmental health of the region and thereby improve the quality of life. In the first phase of the program, up to \$1 million per region was made available to develop comprehensive sustainability plans. The second phase of the CGC program will make up to \$90 million of implementation funds available for regional projects that support goals identified in the planning process.

The Plan, aligned with the Finger Lakes Regional Economic Development Council (FLREDC) Strategic Plan – *Accelerating Our Transformation* and building on existing sustainability efforts, is designed to identify a focused set of Regional Guiding Principles and Strategies for the region. This guidance represents a framework for decision making, whether it be for advancing ideas in this Plan or evaluating future policies, projects, and proposals. Using this framework, the larger Finger Lakes community can view all programs, policies and projects through a “lens” of sustainability. More importantly, the region boasts an understanding of its unique identity, developed through the Story of Place process, and therefore the “lens” is more refined and tailored to the Finger Lakes Region.

The study area for the Plan includes the following nine counties:

1. Genesee County
2. Livingston County
3. Monroe County
4. Ontario County
5. Orleans County
6. Seneca County
7. Wayne County
8. Wyoming County
9. Yates County



**Figure ES-1: Finger Lakes Study Area**

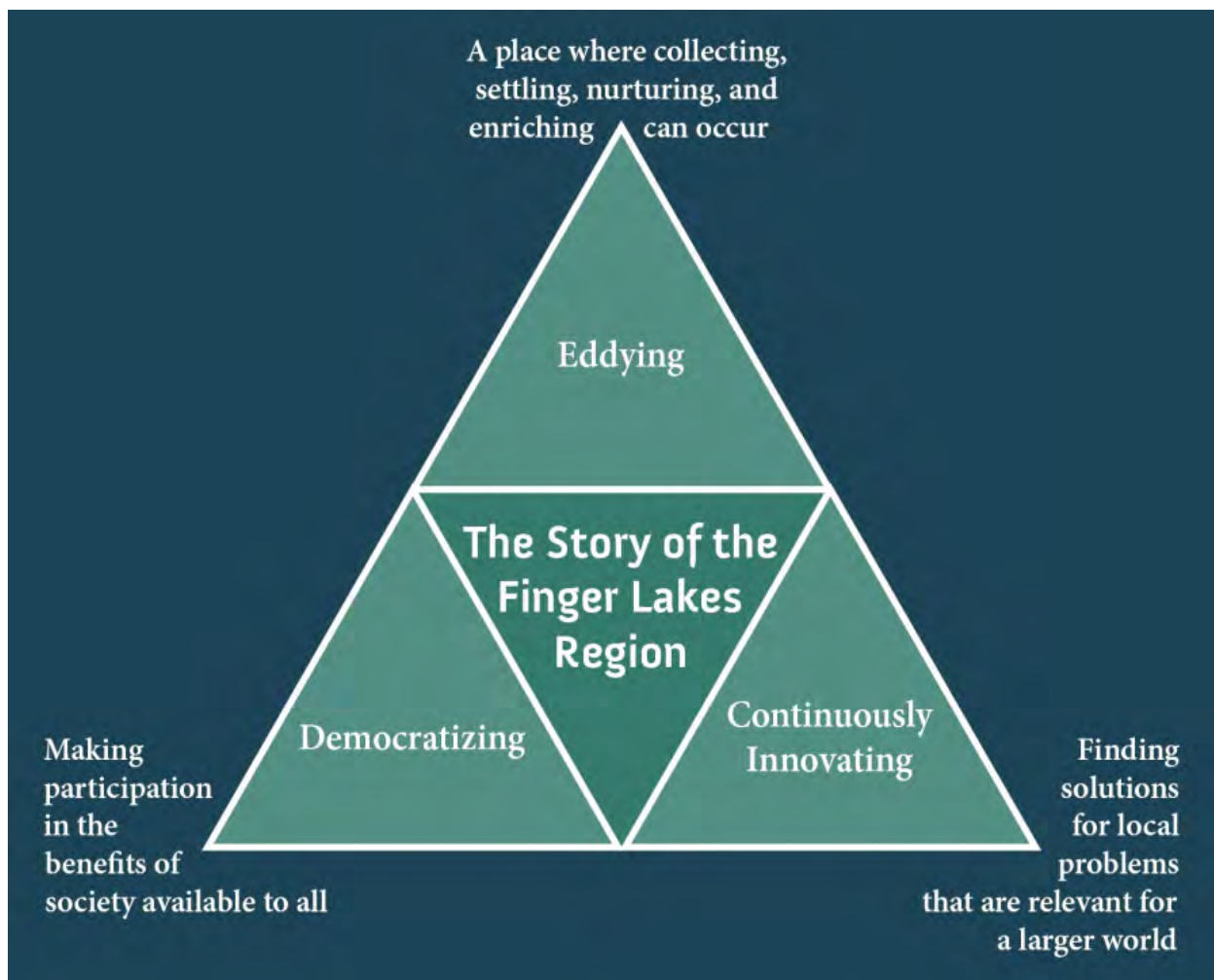
Representatives from these counties, the City of Rochester, the Genesee/Finger Lakes Regional Planning Council (G/FLRPC), and the Genesee Transportation Council (GTC), are the founding members of the Finger Lakes Regional Sustainability Consortium (Consortium). The Consortium provided oversight and directed the development of the Plan. Monroe County, on behalf of the Consortium, was awarded the funding and managed the development of the Plan.

## ES.2 STORY OF PLACE®

Communities that maintain their vitality, attract investment, and develop the capacity to adapt have three things in common:

1. They know who they are, distinctively, revealed through introspection and reflection.
2. They developed a narrative to convey the Story of Place to themselves and others.
3. They embed that narrative and uniqueness into everything they do, creating alignment between the businesses and people they attract and their fundamental essence.

The Story of Place is a systematic and participatory process that identifies and honors the unique nature of the Finger Lakes Region and the people who live there. The process begins to develop the narrative through which the region will be able to convey its Story and embed it in the Regional Sustainability Plan and future strategies. This process of discovery has also supported the establishment of a network of relationships needed for Plan implementation and developed the capacity for whole-systems thinking. It acknowledges and respects the strength of diverse and collaborative systems working alongside each other to yield multiple benefits, and healthy, resilient systems.



**Figure ES-2: Story of Place Framework**

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The narrative captures the unique essence of the region revealed through the interactions between the natural history of the land and the human histories of the different peoples who have inhabited it. The Consortium and Stakeholder Groups were introduced to and engaged in a discussion of the Story of Place during a series of

meetings. Their positive response to the region's Story is evident in their use of it to further define the project goals and identify Indicators to measure progress toward those goals.

The region's Story reveals that the Finger Lakes or the Genesee-Finger Lakes Region has functioned as a place of collection, settlement, nurturing, and dissemination of valuable innovations that have benefitted the region as well as all corners of the globe. The fertile ground of this region

made settlement possible and attractive. The combination of settlement and a continual stream of people and fresh ideas passing through contributed to its evolution to naturally function as a place where ideas and technologies came together, were enriched and developed, and then dispersed around the world to the benefit of all.

For this reason, *eddy* serves as a good metaphor for the cultural and economic dynamics that have characterized the region. A region where traders, pioneers, and inventors passing between the Atlantic coast and the continental interior have slowed down and settled out, creating a rich, stable, diverse region in the process.

The Story also reveals numerous examples of the region's contribution to the *democratization* of ideas and products from the Iroquois system and women's rights movement to the affordability and accessibility of gelatin and photography. Finally, the region has a strong history of innovation around local needs that are relevant to a larger world. This is evident from the early agricultural practices through the products of companies like Gould Pumps and French's mustard to the management practices of Wegmans.

The concept of *continuously innovating*, as evidenced through the history of Bausch and Lomb, should be used as a means to grow the capabilities and advancements needed for each successive stage.

The Story of Place echoes the region's assets as presented in the vision statement in the FLREDC Strategic Plan including renewable natural resources, a talented and educated workforce, an historic commitment to innovation and philanthropy, leadership as the state's agricultural region, international recognition as a center for optics and photonics and national leaders in per capita intellectual property and degrees in higher education.

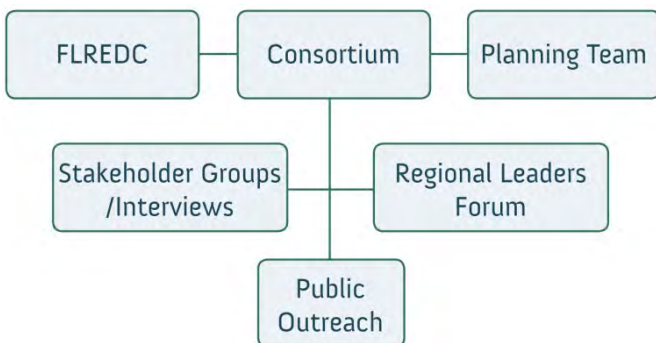
*The Story of the Finger Lakes Region reveals that the region has functioned as a place of collection, settlement, nurturing, and dissemination of valuable innovations that have benefitted the region as well as all corners of the globe.*

## ES.3 STAKEHOLDER & PUBLIC ENGAGEMENT

Through an elaborate process of engaging communities and stakeholders in the region, the Plan was developed to reflect local priorities and opportunities as well as guidance on overcoming the barriers to becoming more sustainable. Several parallel outreach efforts have taken place:

- Consortium (Executive Committee/Planning Team)
- Stakeholder Groups and Interviews
- Regional Leaders Forum
- Coordination with Regional Organizations
- Public Outreach

**Figure ES-3** shows the relationship among the different efforts.



**Figure ES-3: Coordinated Outreach Efforts**

### Consortium

The Finger Lakes Regional Sustainability Consortium (Consortium) was established to serve as the Steering Committee for the project. The founding members of the Consortium include: Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming and Yates counties, the City of Rochester, the G/FLRPC and the GTC. In

addition to these founding members, the Consortium included municipalities and representatives from the following:

- Office of Governor Andrew M. Cuomo, Finger Lakes Region
- Empire State Development and Finger Lakes Region Economic Development Council (FLREDC)
- New York State Department of Environmental Conservation (NYSDEC) Region 8

The Consortium met six times during the planning process to provide project direction and review key deliverables:

1. Project kick-off – August 2012
2. Project Execution Plan/Baseline Assessment – October 2012
3. Story of Place/Guiding Principles – November 2012
4. Story of Place/Strategies – January 2013
5. Targets Outline/Implementation Strategy – February 2013
6. Draft Plan – March 2013

A subset of the Consortium served as the Planning Team, which includes representatives from:

1. Livingston County (on behalf of Genesee, Ontario, Orleans, Seneca, Wayne, Wyoming, and Yates counties)
2. Monroe County
3. City of Rochester
4. Genesee/Finger Lakes Regional Planning Council (G/FLRPC)
5. Genesee Transportation Council (GTC)
6. Consultant Team

The G/FLRPC, retained under a professional services contract, served as Project Manager responsible for day to day contact with NYSEDA, the Consortium and the Consultant Team. The Planning Team, met eight times, provided overall guidance and direction to the Consultant Team and reviewed interim deliverables.

## Stakeholder Groups and Interviews

Six Stakeholder Groups, with approximately 500 members, were established to provide data, technical expertise and knowledge of the region to guide the development of the Plan. These groups were developed around the following NYSEERDA defined focus areas, with the topics of Climate Change Adaptation, Governance and Greenhouse Gas (GHG) Emissions addressed in each Group:

- Energy (65 members)
- Transportation, Land Use & Livable Communities (125 members)
- Materials Management (35 members)
- Water Management (75 members)
- Economic Development (107 members)
- Agriculture & Forestry (91 members)

The Stakeholder Groups had broad representation including Subject Area experts, representatives from municipal, county and state agencies, academic institutions, businesses, and non-profit organizations. The Stakeholder Groups met four times to identify their vision for a sustainable region, share their knowledge on baseline conditions and potential challenges, and provide input into the development of Indicators, Targets and Strategies.



Interviews with Stakeholders and Subject Area experts were held throughout the planning process to obtain knowledge in *Historical Perspectives* (geology, hydrology, climate, settlement, migration, land use and economic patterns); *Current Perspectives* (sustainability initiatives, cultural and social activism and initiatives); and *Future Perspectives* (envisioning and articulating what they believe the region and its peoples can and should become).

## Regional Leaders Forum

A forum of regional leaders was conducted to engage approximately 30 government, institutional and industry leaders in a discussion of existing sustainability initiatives, goals, and challenges, in an effort to understand how the Plan can support their implementation efforts.

## Coordination with Regional Organizations

Presentations were made to the following organizations to inform them of the progress of the Plan and to solicit their input on its content and direction.

- Finger Lakes Regional Economic Development Council (FLREDC)
- Genesee/Finger Lakes Regional Planning Council (G/FLRPC)

## Public Outreach

A project website ([www.sustainable-fingerlakes.org](http://www.sustainable-fingerlakes.org)) was used to inform the public of meetings, to provide access to documents for review and comments, and to submit comments and strategies for incorporation in the planning effort. The website had over 1,300 unique visits, 2,300 total views and over 100 Strategy Capture Forms were submitted. The Strategy Capture Form provided an opportunity for Stakeholders, municipalities, businesses and residents to submit

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information on strategies, project ideas or specific projects for consideration in the planning process.

Over a dozen news articles and media interviews generated traffic to the project website and encouraged attendance at public meetings. Six public meetings were conducted in two rounds geographically distributed across the region. There were 170 attendees in total at the six meetings. The first round of meetings included a presentation to introduce the public to the project and review the findings of the Baseline Assessment, followed by a period to ask questions and provide comments. The second round of public meetings was an open house format with a series of display boards. Interactive stations were provided to solicit input on the Broad Strategies, Indicators and Targets.





## ES.4 PLAN ORGANIZATION

The Plan is organized into six key elements, each more focused than the previous: Vision; Regional Guiding Principles; Goals; Broad Strategies; Sub-strategies/Project Ideas; and Representative Projects. In addition, for each of the Subject Areas, Indicators and Targets have been established to track progress of plan implementation. Below is a breakdown of those categories and how they relate to one another.

### Vision

This is a single, overarching statement about the future condition or state of the region. It is the end toward which all other Plan elements are aimed.

### Regional Guiding Principles

The Guiding Principles were established at the onset of the planning process to provide guidance to the development of all other elements of the Plan.

### Subject Area Goals

Goals are similar to the Vision in that they express the desired end state, but Goals are focused on specific Subject Areas such as agriculture or economic development. A single overarching Goal was established for each Subject Area.

### Broad Strategies

These are general action-oriented statements to be accomplished in pursuit of a Subject Area's Goal.

### Sub-strategies / Project Ideas

Sub-strategies/Project Ideas relate to individual Broad Strategies but are more specific in nature, describing measurable activity. They represent innovative techniques, programs, conceptual

projects, and best practices that regional and local representatives should consider implementing to achieve the Broad Strategy. The region has numerous sustainability-related Projects that are either being studied or are already underway.

### Representative Projects

The region has numerous sustainability-related projects that are either being studied or already underway. Representative Projects are listed for each Broad Strategy to provide examples of implementation and to demonstrate support for these initiatives. Representative Projects are provided for illustration purposes only and are not intended to reflect recommendation for funding.

### Indicators and Targets

Indicators provide a comprehensive framework for tracking progress towards the Plan's overarching sustainability Goals. Targets are quantitative thresholds that the region should strive to attain through the various Strategies and Projects identified in the Plan. Using 2010 values as a baseline, Target values have been developed for three time frames: Short-Term (2020); Mid-Term (2035); and Long-Term (2050)

### Subject Area Summary Sheets

In Section 3 of the Plan, the key elements of each Subject Area can be found in the Summary Sheets at the end of their respective sections. The fold-out Summary Sheets can be used as stand-alone "cut-sheets," providing the various stakeholders involved in implementing the Plan with a large-format quick reference guide, whereas the larger document provides greater detail on a given topic. The Summary Sheets are also included in Section ES.7 of this Executive Summary.

## ES.5 VISION & GUIDING PRINCIPLES

### Vision Statement

The Finger Lakes Region will work collaboratively to honor and leverage its unique character and assets – its Story of Place – to integrate, evolve, advance, and make whole its natural, built, human, social, and financial capital, which serve as the foundations of its environment, economy, and society. The result will be a healthy, safe and affordable place to live, work and play for all residents for current and future generations.

### Regional Guiding Principles

The regional priorities or Guiding Principles were established through coordination with the Consortium, Stakeholders and the Public. The evaluation criteria used to evaluate Strategies and Projects were designed to illuminate the Regional Guiding Principles. The following table shows the relationship of the Regional Guiding Principles to the evaluation criteria:

**Table ES-1: Relationship between Regional Guiding Principles and Evaluation Criteria**

Evaluation Criteria	Regional Guiding Principles
<p>Benefits multiple Subject Areas:</p> <ul style="list-style-type: none"> <li>• Energy</li> <li>• Transportation</li> <li>• Land Use &amp; Livable Communities</li> <li>• Waste/Materials Management</li> <li>• Water Management</li> <li>• Economic Development</li> <li>• Climate Change Adaptation</li> <li>• Governance</li> <li>• GHG Emissions</li> <li>• Agriculture &amp; Forestry</li> </ul>	<ul style="list-style-type: none"> <li>• Improve accessibility, connectivity and mobility</li> <li>• Preserve, protect and improve natural resources and acknowledge the link between natural systems                             <ul style="list-style-type: none"> <li>○ air quality</li> <li>○ water quality</li> <li>○ prime farmland</li> <li>○ forests</li> <li>○ open space</li> </ul> </li> <li>• Improve public health</li> <li>• Promote robust, high quality economic growth</li> <li>• Reduce energy consumption</li> </ul>
<p>Benefits multiple Capitals:</p> <ul style="list-style-type: none"> <li>• Human</li> <li>• Social</li> <li>• Natural</li> <li>• Built/Manufactured</li> <li>• Financial</li> </ul>	<ul style="list-style-type: none"> <li>• Improve accessibility, connectivity and mobility</li> <li>• Preserve, protect and improve natural resources and acknowledge the link between natural systems                             <ul style="list-style-type: none"> <li>○ air quality</li> <li>○ water quality</li> <li>○ prime farmland</li> <li>○ forests</li> <li>○ open space</li> </ul> </li> <li>• Maintain, protect and improve the functionality and climate change/disaster resiliency of existing infrastructure systems and acknowledge the links between systems                             <ul style="list-style-type: none"> <li>○ transportation</li> <li>○ water</li> <li>○ energy</li> <li>○ communication</li> <li>○ solid waste</li> </ul> </li> <li>• Improve public health</li> <li>• Promote robust, high quality economic growth</li> <li>• Reduce energy consumption</li> <li>• Build sustainability capacity and understanding through outreach and education</li> <li>• Bring the Finger Lakes Region together through a shared identity and common goals</li> </ul>
<p>Benefits multiple communities</p>	<ul style="list-style-type: none"> <li>• Build partnerships between local governments, the private sector, regional institutions and the public</li> <li>• Bring the Finger Lakes Region together through a shared identity and common goals</li> </ul>
<p>Implementation feasibility</p>	<ul style="list-style-type: none"> <li>• Build partnerships between local governments, the private sector, regional institutions and the public</li> </ul>
<p>Consistent with planning efforts</p>	<ul style="list-style-type: none"> <li>• Respect local planning efforts and retain individual community character</li> </ul>
<p>Financial feasibility</p>	<ul style="list-style-type: none"> <li>• Promote an equitable distribution of costs and benefits</li> </ul>



## ES.6 OVERVIEW OF EXISTING CONDITIONS, OPPORTUNITIES, & CHALLENGES

The Finger Lakes Region boasts a vibrant mix of cultures, natural settings, and employment sectors. There are numerous assets that contribute to a high-quality of life and thriving tourism economy, including:

- Ample lakes and waterways
- A mix of mid-size cities, small towns, and rolling farmlands
- Low cost of living
- Extensive network of parks and greenways
- 18 colleges and universities
- Well-preserved historic neighborhoods
- Nationally-significant historic figures and sites
- Rich arts and music scene
- Numerous cultural and tourist attractions
- Premier wineries
- Well-developed infrastructure
- Thriving high-tech and medical industries.

The region has a fairly stable population of 1.2 million across its nine counties. The varied communities of the region, 190 cities, towns, and villages, are rich in history, in particular with respect to the origination and evolution of different industries. Kodak, Xerox, Jell-O, and Western Union are among several notable businesses that began in Rochester and its environs. Many of these companies still maintain a presence in the area; and some, such as Kodak, have spurred

multiple high-tech start-ups despite the company being considerably smaller than it was in the mid-20<sup>th</sup> Century. Today, the region’s strongest industry clusters are optics and imaging, higher education, energy innovation, advanced manufacturing, biotech and life sciences, tourism and the arts, and business services/software/telecommunications.

Additionally, agriculture has always been a primary industry in the region due to the remarkable fertility of the Genesee Valley and the unique micro-climates created by the Finger Lakes. While many farms have been lost over the years to development and struggling markets, there remain dozens of family farms that are the backbone of the economy in rural areas. The industry is also evolving to boast emergent markets like food production (yogurt and pasta), small-scale farmers markets, agri-tourism and even energy production.

The region is well-poised to build on recent momentum related to improving the sustainability and resiliency of its people, its ecosystems, and its economy. There has been significant investment in

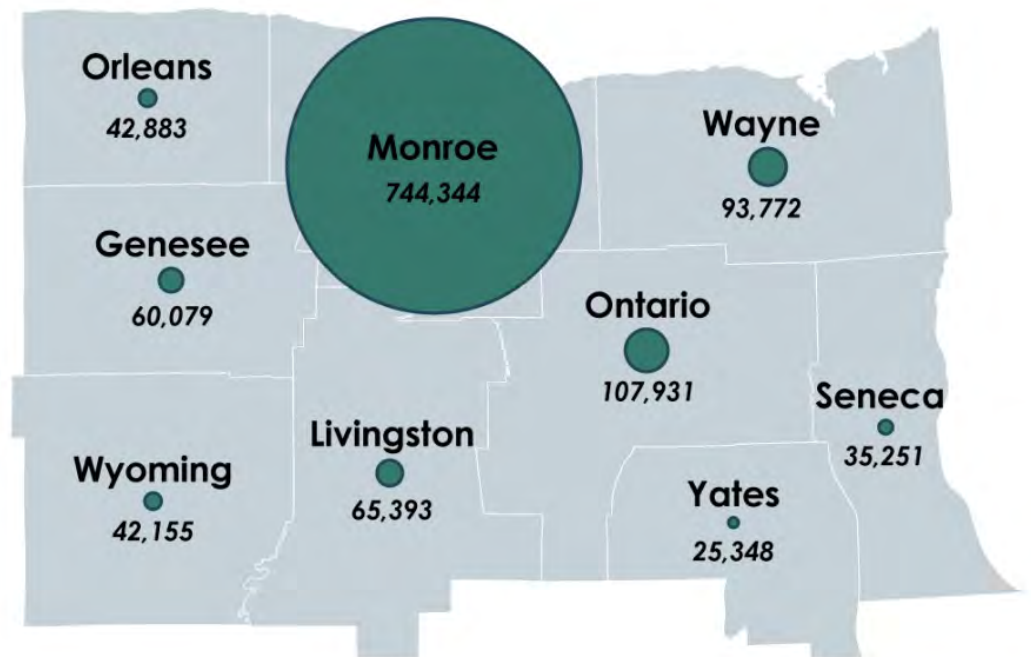


Figure ES-4: Population by County (US Census Bureau, 2010)

urban centers, both large and small, targeting distressed neighborhoods, declining industrial areas, and untapped recreational resources. Simultaneously, a rich history of innovation has ensured a long-term presence of high-tech businesses aimed at reducing energy consumption and developing creative solutions for complex systems.

Despite these assets and initiatives, there are notable challenges facing the region such as:

- Transforming an economy based on a small number of leading and outstanding manufacturing firms to an increasingly successful and knowledge-based economy
- Continuing to build partnerships among local governments, private businesses, institutions and non-profit organizations to bring the region together, both urban and rural, through a shared identity and common goals
- Access to capital/securing funding for high-impact projects
- Overcoming short-term thinking and a business climate hindered by taxation and regulation that deter investment
- Declining school district enrollment, poorly performing schools, and a mismatch between education/training and available jobs
- Aging infrastructure and demand for suburban/rural public transportation
- Urban and rural poverty.

## ES.7 SUBJECT AREA GOALS & STRATEGIES

Several factors have influenced the development of the Plan's Strategies, Indicators and Targets. The primary influencing factor is the uniqueness of the region – its Story of Place. The Story was leveraged by the Consortium and Stakeholders to guide the development of the Vision and Regional Guiding Principles, which were then used to evaluate and select the Broad Strategies. The following Summary Sheets provide additional detail for each Subject Area, highlighting the region's assets and opportunities, challenges and variables that influence the need for and success potential of the identified Broad Strategies. A couple of overarching strategies are provided within the Governance section, however, additional strategies associated with Governance are captured within other focus areas. Strategies associated with reduction in GHG Emissions are captured within the other Subject Areas. For each Broad Strategy, there are several examples of Sub-strategies or Project Ideas that indicate how the Broad Strategy could be implemented. Where available, Representative Projects are provided as examples of the types of projects that support the Broad Strategy.

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# Energy



## Subject Area Goal

Increase the generation and distribution of regional renewable energies while using energy efficient and alternative energy resources, along with conservation methods, to decrease the reliance on fossil fuels and non-renewable outside energy sources and to become a self-sustainable region.



## Opportunities

- Various renewable/alternative energy sources that reduce dependence on fossil fuels
- Focus on sustainable demand/consumption, not just replacing fossil fuels with other sources
- Economic development—R&D, manufacturing, operations, etc., for renewable/alternative sources
- Reduced environmental impacts—cleaner air, cleaner water
- Waste-to-energy research and development (landfills, farms, etc.)
- Mutually beneficial relationship with other subject areas

## Challenges

- Balancing renewable/alternative sources with environmental/ecological impact
- Consensus between municipalities, organizations, and the public
- Securing sufficient public and private investment
- Developing incentives (financial and otherwise) for voluntary guidelines and programs
- Achieving a viable cost/benefit ratio for new energy sources
- Visual and landscape blight of different energy installations
- Developing effective public policies
- Developing technology for energy storage and distribution
- Resistance to change
- Need for reliable, technology-neutral education resources to combat misinformation

## Variables

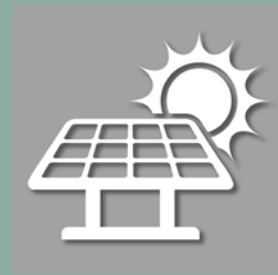
- Success of other subject areas
- Unstable energy markets
- Public perception/acceptance of various energy sources and techniques
- Success of research and development efforts

## Indicators and Targets

Indicators	Broad Strategies Measured	Baseline Value (2010)	Short-Term Target* (2020)	Mid-Term Target* (2035)	Long-Term Target* (2050)
Regional energy consumption per capita (#1A—NYSERDA Required) • <i>Electricity energy consumption per capita</i>	E1, E2, E3	186 MMBtu 31.36 MMBtu	-10% <i>tracking purposes only</i>	-25% <i>tracking purposes only</i>	-35% <i>tracking purposes only</i>
Total installed renewable energy capacity (#1B—NYSERDA Common)	E4, E5	3,495,768 MMBtu (9% total demand)	+11% (20% of total demand)	+26% (35% of total demand)	+41% (50% of total demand)
Regional energy generation per capita	E1, E4, E5	19.6 MMBtu	+ 2% (21.62 MMBtu)	+ 5% (24.86 MMBtu)	+ 9% (28.17 MMBtu)
Availability, accessibility, affordability of renewable energy	E5	Data not available**	N/A	N/A	N/A
Energy efficiency	E2	Data not available**	N/A	N/A	N/A
Percent of regional population living areas with local energy codes exceeding state requirements, and/or regulations for benchmarking and retrofitting private buildings (#8C—NYSERDA Common)	E2	0%	+ 1%	+ 3%	+ 5%

\*All % reductions or increases are related to the 2010 baseline values, not the previous target.

\*\* Recommend that this data be tracked comprehensively in the region.



# Energy

**Subject Area Goal**  
 Increase the generation and distribution of regional renewable energies while using energy efficient and alternative energy resources, along with conservation methods, to decrease the reliance on fossil fuels and non-renewable outside energy sources and to become a self-sustainable region.



## Priority Broad Strategies

Connection with criteria  
 ● Strong ● Moderate ○ Marginal

	Evaluation Criteria					
	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
<b>Broad Strategy E1—Develop, produce, and employ alternative energy (bio-energy, waste-to-energy).</b>	●	●	●	●	●	●
<b>Representative Sub-Strategies / Project Ideas</b> 1.1 Identify funding for and encourage implementation of projects that use food waste to produce energy. 1.2 Support research and development, deployment of pilot projects to validate technology and eventual commercialization of new alternative energy technology. 1.3 Educate the public and municipal officials on the benefits of alternative energy generation and address the potential negative impacts. 1.4 Develop and promote the adoption of local policies that accommodate the development of on-site and community alternative and renewable energy generation. 1.5 Encourage counties, municipalities and local districts to conduct an inventory of potential alternative and renewable production and prioritize projects for implementation.	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>• Epiphery (an “energy epiphany”)—a company developing sustainable alternatives to fossil fuels using plant-based organic materials to produce ethanol fuel, animal feed, and organic fertilizer.</li> <li>• Acceleration of Renewable Energy Technology Adoption—NYS P2I research and development project for using agriculture and food waste in the production of methane, ethanol, or biodiesel.</li> <li>• Finger Lakes Food Cluster Energy Integration Challenge—NYS P2I research and education initiative to holistically and systemically evaluate the best options for reducing the energy demand of food processors while evaluating alternative energy production, closed-loop and integrated energy systems.</li> <li>• Genesee Community Digester—planning and engineering analysis for the development of a large digester, or multiple digesters, that would accept animal waste and waste from local yogurt, cheese and food manufactures as well as other food waste from the region. (Genesee County Comprehensive Plan)</li> </ul>					
<b>Broad Strategy E2—Promote energy conservation and efficiency by developing educational programs, increasing participation in available state and federal incentive programs, and by adopting local and regional policies.</b>	●	●	●	●	●	●
<b>Representative Sub-Strategies / Project Ideas</b> 2.1 Promote and incentivize energy auditing, commissioning, and the implementation of energy conservation and efficiency measures (e.g., lighting, motor, service hot water heating, and HVAC control). 2.2 Support research and development, deployment of pilot projects to validate technology and eventual commercialization of energy efficient technologies, including net zero. 2.3 Develop and promote the adoption of codes and policies that promote energy conservation and efficiency.	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>• Genesee County Airport Terminal/ Hangar Replacement—replacement of facilities to relocate them out of the primary surface and address poor energy performance. Facilities will be designed meet a LEED Silver standard. (Genesee County Comprehensive Plan, FAA Airport Improvement Program)</li> </ul>					
<b>Broad Strategy E3— Upgrade the existing conventional energy production and distribution system in a sustainable way.</b>	●	●	●	●	●	●
<b>Representative Sub-Strategies / Project Ideas</b> 3.1 Upgrade the transmission infrastructure to reduce loss. 3.2 Increase the use of demand response programs to better manage supply and consumption. 3.3 Promote distributed generation.	<b>Representative Projects</b>					
<b>Broad Strategy E4—Develop, produce, and employ renewable energy (wind, hydroelectric, solar, and geothermal).</b>	●	●	●	●	●	●
<b>Representative Sub-Strategies / Project Ideas</b> 4.1 Support research and development, deployment of pilot projects to validate technology and eventual commercialization of new renewable energy technology. 4.2 Educate the public and municipal officials on the benefits of renewable energy generation and address the potential negative impacts. 4.3 Develop and promote the adoption of local codes and policies that accommodate renewable and alternative energy generation (community and on-site). 4.4 Encourage counties, municipalities and local districts to conduct an inventory of potential alternative and renewable production and prioritize projects for implementation. 4.5 Research the potential for and explore the use of innovative funding and financing options, including purchase power agreements (PPA), to encourage renewable energy production.	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>• Renewable Energy Generation Inventory—regional municipalities and subdivisions (fire, school districts, etc.) conduct a renewable energy generation inventory that details potential for wind, solar, biomass or other electricity production opportunities with the goal to create a list of potential projects.</li> <li>• Emerson St. Landfill Solar Power Purchase Agreement—investigate the requirements for siting a large (2 MW) solar PV generating facility on a parcel within the City of Rochester’s former Emerson St. Landfill. Upon completion, the City of Rochester would enter into a power purchase agreement (PPA) with a private vendor for the purchase of the power generated by the system.</li> <li>• Livonia Energy Park—creation of municipal park with renewable energy production capacity going back to community grid.</li> </ul>					
<b>Broad Strategy E5—Develop and implement micro-grid technology that integrates the advantages of independent local production and distribution systems with the storage and distribution capacity of a large grid.</b>	●	●	●	○	○	○
<b>Representative Sub-Strategies / Project Ideas</b> 5.1 Support research and development of pilot projects to validate technology and eventual commercialization. 5.2 Explore and develop innovative approaches to address micro-grid financing, ownership and service models.	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>• Wayne Industrial Sustainability Project (WISP)—businesses sharing and generating renewable energy with microturbines from natural gas, wind, shared thermal. (CEDS and WEDC Strategic Plan).</li> <li>• Batavia Community Hydroelectric Microgrid—provide renewable electricity to fire department and ice arena, creating a self-sufficient “place of refuge.”</li> </ul>					



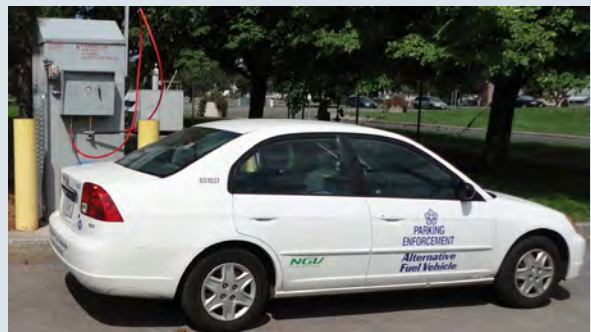


# Transportation



## Subject Area Goal

Provide an equitable transportation system that ensures safety, maximizes efficiency, addresses disaster resiliency, provides mode choice and reduces dependence on fossil fuels.



## Opportunities

- GHG emission reduction
- Improved public health through active transportation
- Outreach/promotion of available programs and services
- Increased resilience for individuals/households when multiple modes are viable for their daily needs
- Expand on recent momentum in expanding bicycle infrastructure
- Human-scaled design supports local/small businesses
- Educating policy makers and the public about transportation-land use connection

## Challenges

- Access to funding
- Minimal congestion discourages alternative modes
- Land use policies that promote auto-oriented, single-use development
- Struggling urban areas discourage people from locating in walkable/bikeable neighborhoods
- Current lack of critical mass to support transit modes beyond bus service
- Negative perception of public transit

## Variables

- Availability of federal and state funding
- Fuel costs
- Housing market demand for large lot suburban homes versus denser mixed-use development
- Changes in rail commodities market

## Indicators and Targets

Indicators	Broad Strategies Measured	Baseline Value (2010)	Short-Term Target* (2020)	Mid-Term Target* (2035)	Long-Term Target* (2050)
Total percentage of people commuting via walking, biking, transit, and carpooling (#2A—NYSERDA Required)	T1, T2, T4	15%	+2% (17% total)	+5% (20% total)	+10% (25% total)
Vehicle miles travelled per capita (#2B—NYSERDA Required)	T1, T2, T3, T4	9,472 miles	- 1%	-3%	-5%
Transportation energy consumption per capita	T1, T2, T3, T4, T5	73 MMBtu 635 gallons of gas	- 10%	-25%	-40%
% income spent on transportation	T1, T2, T4	25%	- 3%	-7%	-10%
Freight tonnage moved	T3, T4	<ul style="list-style-type: none"> <li>• 80%</li> <li>• 12%</li> </ul>	<ul style="list-style-type: none"> <li>• maintain baseline</li> <li>• maintain baseline</li> </ul>	<ul style="list-style-type: none"> <li>• maintain baseline</li> <li>• maintain baseline</li> </ul>	<ul style="list-style-type: none"> <li>• 78%</li> <li>• 14%</li> </ul>

\*All % reductions or increases are related to the 2010 baseline values, not the previous target.



# Transportation

**Subject Area Goal**  
 Provide an equitable transportation system that ensures safety, maximizes efficiency, addresses disaster resiliency, provides mode choice and reduces dependence on fossil fuels.



## Priority Broad Strategies

Connection with criteria  
 ● Strong ● Moderate ○ Marginal

	Evaluation Criteria					
	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
<b>Broad Strategy T1—Provide for and promote alternative modes of transportation.</b>	●	●	●	◐	●	◐
<b>Representative Sub-Strategies / Project Ideas</b> 1.1 Enhance and expand the bicycle and pedestrian infrastructure to close gaps and create connections between destinations. 1.2 Assess and, as necessary, adjust public transportation services to accommodate needs, demand, and market potential. 1.3 Collaborate with large employers, agencies, and municipalities to promote Transportation Demand Management (TDM) strategies, including emphasizing the environmental and health benefits of active transportation. 1.4 Promote and implement Safe Routes to School (SRTS) programs. 1.5 Evaluate the feasibility of broad car-sharing and bike-sharing programs. 1.6 Evaluate the feasibility for Bus Rapid Transit (BRT), light rail, or fixed transit service serving major employers/destinations.	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>GTC Regional Trails Initiative update.</li> <li>Establish a Center City Circulator Service (Rochester) to serve daily commuters, visitors &amp; tourists (GTC LRTP 2035).</li> <li>Construct the Rochester Intermodal Station for interregional rail &amp; bus services at the site of the current Amtrak station (GTC LRTP 2035).</li> <li>Increase marketing and promotion of the Greater Rochester Regional Commuter Choice Program (roceasyride.org).</li> <li>Continue to conduct Active Transportation Summits to educate about &amp; encourage active transportation options.</li> </ul>					
<b>Broad Strategy T2—Promote livability corridors.</b>	●	●	●	◐	●	◐
<b>Representative Sub-Strategies / Project Ideas</b> 2.1 Develop and implement a transportation technical assistance program to inform local planning and zoning boards about the need to support development that fully considers and integrates transportation needs. 2.2 Identify and implement demonstration projects that fully consider and integrate transportation needs (e.g., transit supportive, walkable).	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>Support Main Street revitalization projects that will emphasize local community engagement within their business attraction &amp; revitalization efforts as well promoting center-based development. (G/FLRPC CEDS, FLREDC Strategic Plan, GTC LRTP 2035)</li> <li>Keuka Lake Waterfront project—consists of a mixed-use redevelopment of a 14.7-acre brownfield site at the north end of Keuka Lake &amp; adjacent to historic Penn Yan. (FLREDC Strategic Plan)</li> </ul>					
<b>Broad Strategy T3—Leverage transportation system assets to encourage economic development.</b>	◐	◐	●	◐	●	●
<b>Representative Sub-Strategies / Project Ideas</b> 3.1 Educate the public and key stakeholders in the region about the importance of freight transportation. 3.2 Develop efficient connections between modes of freight transportation. 3.3 Preserve and improve access to the freight transportation system for existing and emerging industries. 3.4 Develop and promote recreational and cultural tourism projects.	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>Extend Erie Canalway Trail for 30 miles between towns of Lyons &amp; Port Byron through the Montezuma National Wildlife Refuge. (FLREDC Strategic Plan)</li> <li>Construct a recreation trail that highlights the natural resources of Canandaigua Lake &amp; will include access points, signage and waterway connections. (FLREDC Strategic Plan)</li> <li>Lyons Freight Village/Industrial Park—multi-modal, multi-business facility that will allow regional businesses to utilize the most cost effective transportation option for importing or exporting. (G/FLRPC CEDS, GTC Freight &amp; Goods Movement Study)</li> <li>Determine feasibility of improvements noted in Seneca Army Depot Industrial Rail Facility Concept Plan. (G/FLRPC CEDS, GTC Freight &amp; Goods Movement Study)</li> <li>Rebuild and repair Genesee &amp; Wyoming Railroad rail line between Dansville and Mt. Morris to improve access to and encourage development of Dansville properties. (G/FLRPC CEDS, GTC Freight &amp; Goods Movement Study)</li> </ul>					
<b>Broad Strategy T4—Maintain and improve the functionality, safety and efficiency of the existing transportation infrastructure.</b>	◐	◐	●	◐	●	◐
<b>Representative Sub-Strategies / Project Ideas</b> 4.1 Continue investment policies that prioritize preservation and maintenance projects. 4.2 Advance access management as part of rehabilitation and reconstruction projects. 4.3 Identify and implement Complete Streets recommendations where appropriate. 4.4 Improve the functionality of intersections and interchanges to increase safety, reduce delay and improve mobility. 4.5 Identify and implement Transportation System Management and Operations (TSMO) projects in the areas of technology, coordination and demand.	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>Replace the Portage Bridge on Norfolk Southern's Southern Tier rail line to eliminate a major weight &amp; speed restriction. (GTC LRTP 2035, GTC Freight &amp; Goods Movement Study, FLREDC Strategic Plan)</li> <li>NYS Route 96 Corridor, Victor, Ontario County—link traffic signals on the Route 96 corridor with the Regional Traffic Operations Center (RTOC) through fiber optic &amp; wireless means. (GTC LRTP 2035)</li> <li>Technology Initiatives Driving Excellence (TIDE) for Regional Transit Service—continue the implementation of TIDE to improve operational efficiency &amp; customer service. (GTC LRTP 2035)</li> </ul>					
<b>Broad Strategy T5—Promote the development and adoption of alternative fuels and power sources.</b>	◐	◐	●	◐	◐	◐
<b>Representative Sub-Strategies / Project Ideas</b> 5.1 Support research and development, deployment of pilot projects to validate technology and eventual commercialization of alternative fuel vehicle technology. 5.2 Promote the awareness of alternative fuel technology and encourage their adoption in public and private fleets. 5.3 Increase availability and geographic coverage of alternative fueling stations using electricity, hydrogen, bio-fuel, CNG, ethanol, LNG, or propane (including truck stop electrification facilities).	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>Install alternative fuel charging stations at service areas along the Thruway.</li> <li>Bio-Gas Powered Fuel Cell and Hydrogen Development Research—Golisano Institute for Sustainability to research potential for bio-gas from landfills and anaerobic digesters to power stationary fuel cells.</li> <li>Increase the number of truck stop electrification (TSE) facilities. (GTC LRTP 2035)</li> </ul>					



# Land Use and Livable Communities



## Subject Area Goal

**Increase the sustainability and livability of the Finger Lakes region by revitalizing the region's traditional centers, concentrating development in areas with existing infrastructure and services, and protecting undeveloped lands from urban encroachment.**



## Opportunities

- Protection of farmland and rural/scenic character
- Revitalization of cities, villages, and rural hamlets
- Cost savings on infrastructure and service delivery
- Reverse disinvestment in existing neighborhoods, infrastructure
- Pendulum beginning to swing back to desire for authentic, close-knit, walkable communities
- Human-scaled design supports local/small businesses, diversity of housing and cultural amenities, transportation options
- More equitable/efficient/sustainable tax structures
- Educating policy makers and the public about transportation-land use connection

## Challenges

- Home rule limits effectiveness of regional planning
- Inefficient land use pattern results in high energy consumption and high cost of maintaining infrastructure/services
- Land use policies that promote auto-oriented, single-use development
- Competing priorities of adjacent communities
- Struggling urban areas discourage people from locating in walkable/bikeable neighborhoods
- Access to funding for comprehensive plans, zoning codes, design standards, etc.
- Conventional development costs are largely externalized and thus overlooked in favor of short-term benefits
- Development pressure threatens long-term viability of farms needed for sustainable food system

## Variables

- Fuel costs
- Land values based on evolving housing demand and tax structures
- Demographic trends
- State/federal funding dedicated to local/regional planning initiatives
- Local land use policies

## Indicators and Targets

Indicators	Broad Strategies Measured	Baseline Value (2010)	Short-Term Target* (2020)	Mid-Term Target* (2035)	Long-Term Target* (2050)
Per capita land consumption (#3A—NYSERDA Required)	LU1, LU3	0.25 acres	maintain baseline	-3%	-5%
Rate of poverty in population centers	LU1, LU2, LU4	22%	maintain baseline	-3%	-5%
Proportion of residents living in existing population centers	LU1, LU2	36%	maintain baseline	+ 2% (38%)	+ 4% (40%)

\*All % reductions or increases are related to the 2010 baseline values, not the previous target.



# Land Use and Livable Communities

**Subject Area Goal**  
 Increase the sustainability and livability of the Finger Lakes region by revitalizing the region's traditional centers, concentrating development in areas with existing infrastructure and services, and protecting undeveloped lands from urban encroachment.



## Priority Broad Strategies

Connection with criteria  
 ● Strong ● Moderate ○ Marginal

		Evaluation Criteria					
		Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
<b>Broad Strategy LU1—Create healthy, safe and sustainable communities.</b>		●	●	●	◐	●	◐
<b>Representative Sub-Strategies / Project Ideas</b> <ol style="list-style-type: none"> <li>Increase the number of communities with new/updated Comprehensive Plans and zoning that incorporate climate change considerations and sustainability.</li> <li>Use local academic institutions to raise public awareness of the value and importance of sustainability.</li> <li>Invest in projects with green infrastructure to promote habitat restoration, improve water quality and reduce erosion.</li> <li>Develop a comprehensive system of sidewalk and trail networks and traffic calming measures linking major destinations and prioritizing human activity over traffic.</li> <li>Encourage creative strategies, such as farmers markets and small local markets, to provide access to affordable, healthy foods.</li> <li>Dedicate public safety resources to promote safe neighborhoods.</li> </ol>	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>Lyons to Port Byron Canalway Trail—extend Erie Canalway Trail along a 30-mile segment between Lyons and Port Byron, improving continuity of the trail system. (FLREDC Strategic Plan)</li> <li>FoodLink Food Hub—increased capacity in food processing, storage and distribution to improve regional food supply to institutions and local corner stores. (FLREDC Strategic Plan)</li> <li>Rochester Public Market—enhancements to the public market, strengthen ties to region's farmers, increases access to healthy foods for City resident. (FLREDC Strategic Plan)</li> <li>GardenAerial Project—create an “eco-district” with landscaping along the gorge in Rochester's High Falls neighborhood. Project includes landscaped pedestrian bridges overlooking High Falls, trail extensions, public education and community engagement.</li> <li>Community Green “Living Classroom” and curriculum development—educational outreach for K-12 students with hands on exposure to sustainability.</li> </ul>						
<b>Broad Strategy LU2—Revitalize existing centers and prioritize the value of place making.</b>		●	◐	●	◐	●	◐
<b>Representative Sub-Strategies / Project Ideas</b> <ol style="list-style-type: none"> <li>Encourage the adaptive reuse and/or historic preservation of existing buildings.</li> <li>Take advantage of state brownfield programs to remediate brownfields.</li> <li>Adopt zoning regulations and design standards to support infill development and create better places.</li> <li>Encourage “buy-local” campaigns to help support local businesses.</li> <li>Adopt a ‘fix it first’ policy for infrastructure investment.</li> <li>Consider public sector land banking, demolitions, land assembly, real property tax incentives and improved access to credit and capital to encourage private sector investment in centers.</li> <li>Invest in improvements to the public realm (streetscapes, plazas, parks) in strategic areas to promote private sector investment.</li> <li>Invest in the development, promotion and preservation of cultural, artistic and historic assets.</li> </ol>	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>Midtown Redevelopment and Tower—mixed, office, residential, hotel and retail space. Includes reestablishing the traditional street grid and the adaptive reuse of Midtown Tower as a cornerstone of downtown revitalization. (FLREDC Strategic Plan)</li> <li>Penn Yan/ Keuka Lake Waterfront Development—mixed –use redevelopment of a former brownfield into 170,000 square feet of retail, office, restaurant, residential and hotel uses at the northern end of Keuka Lake, adjacent to the historic village of Penn Yan. (FLREDC Strategic Plan)</li> <li>Finger Lakes Museum—redevelopment of a former elementary school in Branchport and construction of additional facilities to establish a destination museum focusing on the environmental and cultural story of the Finger Lakes region. (FLREDC Strategic Plan)</li> <li>I-Square—redevelopment of vacant and under-utilized lands in Irondequoit into a mixed use “town center” development. (FLREDC Strategic Plan)</li> <li>Eastman Business Park—redevelopment of 1,200 acres (former Eastman Kodak facility) in the City of Rochester and Monroe County as a national center of manufacturing and commerce.</li> <li>Former Vacuum Oil Refinery Brownfield Clean-up and Redevelopment—brownfield remediation and redevelopment of 28 acre site on the Genesee River in the City of Rochester with waterfront public acres, recreation and open space, mixed use commercial redevelopment and transportation improvements.</li> <li>Smart Genesee Zoning Reform Pilot Project –comprehensive planning and development of model land use regulations to promote sustainable principles, mixed-uses, walkable neighborhoods, farmland protection and environmental sustainability. (Genesee County Comprehensive Plan)</li> </ul>						



# Land Use and Livable Communities

## Priority Broad Strategies, continued

Connection with criteria  
 ● Strong ● Moderate ○ Marginal

Evaluation Criteria

Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
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<b>Broad Strategy LU3—Support and preserve rural centers and the character of rural areas.</b>	●	●	●	●	●	●
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Representative Sub-Strategies / Project Ideas	Representative Projects
3.1 Implement land use tools such as purchase of development rights (PDR), transfer of development rights (TDR), conservation easements and other incentives to preserve agricultural lands, open spaces corridors, cultural and historic assets and natural features. 3.2 Inventory lands and parcels of significant ecological and/or scenic value (hillsides, forested lands, shorelines), and prioritize and coordinate with local land conservancies to protect highest value lands. 3.3 Educate the public about the ecological and economic value of natural systems for sustainability and resiliency. 3.4 Educate policy makers about true fiscal costs of development, including operations and maintenance.	<ul style="list-style-type: none"> <li>Canandaigua Lake Water Trail—recreational trail to highlight the natural resources of Canandaigua Lake and promote active living. (FLREDC Strategic Plan)</li> <li>Promotion and protection of Canandaigua Lake—watershed improvements, such as new wetlands, stormwater management techniques and measures to control stream bank erosion to protect rural resources; also includes watershed education programs and a Watershed Program Manager. (Funded: CFA 2011)</li> <li>Strategy for a Sustainable Keuka Lake—updates to the Keuka Lake Watershed Land use Planning Guide to develop model land use regulations, training and public outreach; creation of a water quality internship program; mapping of important resources and an agricultural assessment. (Funded through CFA 2011)</li> </ul>

<b>Broad Strategy LU4—Encourage diversity of our communities to bring about a greater mixture of uses, people, ages and incomes.</b>	●	●	●	●	●	●
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Representative Sub-Strategies / Project Ideas	Representative Projects
4.1 Develop specific vision plans for community centers, focused on good urban design and access to parks, transportation choices, cultural assets, jobs and services to develop “complete communities.” 4.2 Work with non-profit housing organizations to provide programs, such as home repair assistance, tool libraries, housing education and energy-efficiency programs to enable lower-income homeowners to stay in their homes and maintain them in good condition. 4.3 Update municipal Comprehensive Plans, adopt flexible zoning regulations and encourage “Universal Design” to accommodate mixed uses, affordable housing, seniors and youth programs to encourage diversity. 4.4 Eliminate funding and regulatory barriers that constrain the ability to do mixed-use development. 4.5 Support programs, such as home-care, respite care and assistance with home modifications that facilitate aging in place. 4.6 Invest in strong local school systems to attract and retain young families.	<ul style="list-style-type: none"> <li>Senior and affordable housing projects—27 projects funded throughout the region through 2011 CFA.</li> </ul>

### Subject Area Goal

Increase the sustainability and livability of the Finger Lakes region by revitalizing the region’s traditional centers, concentrating development in areas with existing infrastructure and services, and protecting undeveloped lands from urban encroachment.





# Materials and Waste Management



## Subject Area Goal

Decrease the generation of waste, increase the recovery and reuse of materials currently in the discard stream, manage materials using a highest-and-best-use framework, and create economic opportunities and improved environmental stewardship as a result.

## Opportunities

- Shift perception from “waste management” to “sustainable materials management”
- Energy production for small scale operations and the larger grid
- Product packaging advancements
- Increased composting, both large and small scale
- Change perception of waste to recognize various reuse and recycle outcomes
- Collaboration with agricultural and industrial operations

## Challenges

- Reduce the lifecycle impacts across the materials supply chain
- Lack of local or regional waste tracking systems
- Prioritizing investment in reduction, reuse, recycling and composting over disposal
- Mitigating impacts of imported waste
- Inspiring sustainable choices—greatest impacts come from collective decisions of households

## Variables

- Fluctuating levels of imported waste
- Technologic advances for reuse/recycle/disposal of materials
- Transportation/fuel costs

There is significant alignment between the strategies identified for Materials and Waste Management, Water Management, and Agriculture and Forestry. Refer to other subject areas for additional strategies that may benefit Materials and Waste Management.

## Indicators and Targets

Indicators	Broad Strategies Measured	Baseline Value (2010)	Short-Term Target* (2020)	Mid-Term Target* (2035)	Long-Term Target* (2050)
Total solid waste generated (#4A—NYSERDA Common) <sup>***</sup> <ul style="list-style-type: none"> <li>• Total per capita</li> <li>• Total for region</li> </ul> <i>By category:</i> <ul style="list-style-type: none"> <li>• Municipal Solid Waste</li> <li>• Industrial Non-Hazardous Waste</li> <li>• C&amp;D Debris</li> <li>• Bio-Solids</li> <li>• Tires</li> </ul>	MM1	6.95 tons 8,455,238 tons	-15%	-25%	-35%
Solid waste diverted (i.e., not landfilled or exported) per capita (#4B—NYSERDA Common)	MM2, MM3, MM4	Data not available <sup>**</sup>	35% reduction of total solid waste generated (1st Indicator)	50% reduction of total solid waste generated (1st Indicator)	55% reduction of total solid waste generated (1st Indicator)

\*All % reductions or increases are related to the 2010 baseline values, not the previous target.

\*\* Baseline data currently not available. It is recommended that in the short-term, a method to collect this data be developed.

\*\*\*The baseline calculation noted here is higher than the GHG emissions calculations since it also includes construction and demolition waste.





# Materials and Waste Management

**Subject Area Goal**  
 Decrease the generation of waste, increase the recovery and reuse of materials currently in the discard stream, manage materials using a highest-and-best-use framework, and create economic opportunities and improved environmental stewardship as a result.



## Priority Broad Strategies

Connection with criteria  
 ● Strong ● Moderate ○ Marginal

		Evaluation Criteria					
		Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
<b>Broad Strategy MM1—Reduce the amount of solid waste generated in the region.</b>		●	●	●	●	◐	◐
<b>Representative Sub-Strategies / Project Ideas</b>	<b>Representative Projects</b>						
1.1 Develop innovative approaches to: 1) reduce packaging, 2) incorporate sustainable materials in packaging, and 3) develop reusable packaging. 1.2 Develop innovative approaches to source reduction policy incentives. 1.3 Explore feasibility of banning disposal of food scraps and yard trimmings.	<ul style="list-style-type: none"> <li>Solid waste generation reduction assistance for Finger Lakes businesses—the New York State Pollution Prevention Institute (NYSP2I) will provide sustainable production assistance, green product and process development assistance, and sustainable supply chain assistance to companies across the Finger Lakes region to reduce environmental footprint, manufacturing costs and increase process efficiencies.</li> </ul>						
<b>Broad Strategy MM2—Increase the percentage of materials reused (upcycled), recycled, and composted within the region.</b>		●	◐	●	●	◐	●
<b>Representative Sub-Strategies / Project Ideas</b>	<b>Representative Projects</b>						
2.1 Reuse efforts should include the development and enhancement of materials exchange programs. 2.2 Recycling efforts should include expanding and enhancing existing programs, increasing recycling infrastructure, and further developing local markets. 2.3 Composting efforts should include a region-wide system to capture pre- and post-consumer food scraps, encouragement of on-site and backyard composting, and appropriate applications for composting and digestion of biosolids and other organic discards with potential energy recovery opportunities. 2.4 Encourage building deconstruction and subsequent material reuse and recycling, as opposed to building demolition. 2.5 Develop innovative approaches to material diversion policy initiatives.	<ul style="list-style-type: none"> <li>Revised curbside pick-up program—Provide proper bins for recyclable and compostable materials, also increasing efficiency in vehicle fleet.</li> <li>Limit Your Waste Challenge—A community challenge limiting families to one trash bag per week, encouraging families to limit their waste through recycling, composting, and decreasing overconsumption.</li> <li>Sustainable Rochester 20/20—Revitalization of Rochester’s 36 residential neighborhoods; applying sustainable construction and design standards comprehensively to all projects, involving reuse and sustainable deconstruction.</li> </ul>						
<b>Broad Strategy MM3—Address financial barriers through new revenue and business models.</b>		●	●	●	◐	◐	◐
<b>Representative Sub-Strategies / Project Ideas</b>	<b>Representative Projects</b>						
3.1 Development of a “green fee” system to provide a reliable source of revenue to help fund SMM programs. 3.2 Encourage carbon credit policies which focus on “highest and best use” of materials from a carbon reduction standpoint. 3.3 Address low tipping fees which do not include all externality costs. 3.4 Tax packaging which is not reusable, recyclable, or compostable. 3.5 Implement Pay-As-You-Throw programming. 3.6 Develop financing opportunities for pilot projects that validate new discard reduction and diversion technology, as well as the benefits of implementation.							
<b>Broad Strategy MM4—Promote comprehensive sustainable materials management education, awareness, and research services.</b>		◐	◐	●	●	◐	●
<b>Representative Sub-Strategies / Project Ideas</b>	<b>Representative Projects</b>						
4.1 Utilize the expansion of SMM markets and initiatives to create collaborative services and economic development opportunities. 4.2 Leverage, support, and promote regional organizations that provide research and education around efficient materials use, reduction of discards, and energy efficiency.	<ul style="list-style-type: none"> <li>Pre- and post-consumer organics management education programs—Programs for both public and businesses sectors to learn about proper organic waste management practices.</li> <li>Material generation and disposal reporting system for non-residential sectors—Web-based software system for non-residential waste generators to report data on materials they generate and dispose of off-site. (CNY Regional Sustainability Plan)</li> </ul>						



# Water Management



## Subject Area Goal

Improve and protect the water environment with respect to quality, quantity, and availability; promote and understand the value of our water reservoirs, watercourses, and built infrastructure; maximize the social, economic, and ecological potential of our water resources toward equitable sharing of their benefits for both the short and long terms.



## Opportunities

- Maximizing water's benefits in a way that ensures its preservation
- Preserving natural state of wetlands and other waterbodies mitigates storm impacts
- Deepen the knowledge of Region's water resources
- Equitable distribution of costs and benefits of water resources
- Rewarding developers for enhanced designs that mitigate impacts
- Increase in tourism with increased quality of waterbodies
- Greater municipal cooperation
- Balancing water needs of agricultural operations with minimizing residential development in rural areas

## Challenges

- Mitigating impacts and removal of invasive species
- Poorly-designed development and agricultural operations that increase runoff and pollutants in waterbodies
- Watershed boundaries and river/stream corridors rarely coincide with political boundaries
- Promoting a better understanding of the value of the water environment to encourage respect of a resource that can easily be taken for granted
- Need to maintain and improve existing infrastructure to ensure system integrity

## Variables

- Erratic weather as it relates to replenishing waterbodies and water table
- Competing interests in St. Lawrence Seaway
- Highly-mobile society constantly threatens to introduce new invasive species
- Market forces for other resources impact demand for and quality of water
- Changing pollutants challenge capabilities of water treatment facilities

There is significant alignment between the strategies identified for Materials and Waste Management, Water Management, and Agriculture & Forestry. Refer to other subject areas for additional strategies that may benefit Water Management.

### Indicators and Targets

Indicators	Broad Strategies Measured	Baseline Value (2010)	Short-Term Target* (2020)	Mid-Term Target* (2035)	Long-Term Target* (2050)
Water demand per capita (per 1,000 people) by sector (#5A—NYSERDA Common) <ul style="list-style-type: none"> <li>• Total withdrawals fresh</li> <li>• Public supply fresh</li> <li>• Domestic from public supply</li> <li>• Irrigation total fresh</li> </ul>	W1, W4, W5	0.866 Mgal/day <ul style="list-style-type: none"> <li>• 0.677 Mgal/day</li> <li>• 0.097 Mgal/day</li> <li>• 0.084 Mgal/day</li> <li>• 0.008 Mgal/day</li> </ul>	maintain baseline   tracking purposes only 	-10%   tracking purposes only 	-15%   tracking purposes only 
Total number of impaired waters (#5B – NYSERDA Common)	W1, W2, W3	49 impaired waters	-10%	-15%	-25%
% of beach water quality samples exceeding state thresholds	W1, W2, W3	17%	- 2% (15%)	-4% (13%)	-7% (10%)
Number of impaired waters with established total maximum daily load requirements	W1, W2, W3	5 (3 as of 2010) % of state mandated maximum	maintain baseline	-40% (3)	-80% (1)
Concentrations of pollutants in the Finger Lakes <ul style="list-style-type: none"> <li>• Total phosphates</li> <li>• Total nitrogen</li> </ul>	W1, W2, W3	<ul style="list-style-type: none"> <li>• 13.5 µg/L—90%</li> <li>• 0.4 mg/L—4%</li> </ul>	50% of State-mandated maximums at each lake	40% of State-mandated maximums at each lake	25% of State-mandated maximums at each lake

\*All % reductions or increases are related to the 2010 baseline values, not the previous target.





# Water Management

## Subject Area Goal

Improve and protect the water environment with respect to quality, quantity, and availability; promote and understand the value of our water reservoirs, watercourses, and built infrastructure; maximize the social, economic, and ecological potential of our water resources toward equitable sharing of their benefits for both the short and long terms.



Connection with criteria  
 ● Strong ● Moderate ○ Marginal

		Evaluation Criteria					
		Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
<b>Broad Strategy WM1—Inventory, monitor and educate to create a better understanding of the region’s water resources.</b>		●	●	●	●	●	●
<b>Representative Sub-Strategies / Project Ideas</b> 1.1 Develop a Natural Resources Inventory (NRI) to identify high priority water resources and prioritize protection and natural resource projects. 1.2 Continue to implement monitoring programs over time and use this data in education and outreach efforts. 1.3 Quantify the current state of the water balance in the Finger Lakes Region (e.g., repository of rainfall/runoff data models).	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>Wayne County Comprehensive Shoreline Management Project—Elevation site assessment and task analysis of built environment and development of cost estimates for repairing and relocating facilities. Will serve as the basis to modify comprehensive plans.</li> </ul>						
<b>Broad Strategy WM2—Promote regional standardization of regulations and management.</b>		●	●	●	○	●	●
<b>Representative Sub-Strategies / Project Ideas</b> 2.1 Continue to support the development, update and implementation of watershed management plans. 2.2 Provide training and technical resources to support local government in the implementation of land use regulations to protect water resources and mitigate flooding. 2.3 Promote community vision planning to focus development in existing centers and preserve open space.	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>Preparation of a Strategy for a Sustainable Kueka Lake—Advance the Kueka Lake Watershed Land Use Planning Guide by developing resources for municipalities, including model laws, land use training and public outreach; creation of a water quality internship program; watershed, zoning, infrastructure and viewshed mapping; an agricultural assessment; and will update the Planning Guide for the Kueka Lake Land Use Leadership Alliance. (FLREDC Strategic Plan, Yates County Hazard Mitigation Plan)</li> </ul>						
<b>Broad Strategy WM3—Preserve existing ecosystem services and promote green infrastructure to reduce reliance on grey infrastructure.</b>		●	●	●	●	●	●
<b>Representative Sub-Strategies / Project Ideas</b> 3.1 Encourage net zero pervious surfaces. 3.2 Provide financial incentives to increase green infrastructure or reduce the amount of stormwater runoff. 3.3 Explore use of natural systems for wastewater treatment. 3.4 Improve on-site wastewater treatment systems. 3.5 Support invasive species management programs. 3.6 Promote the implementation of best management practices for water quality (e.g., highway and agriculture). 3.7 Implement stream and riparian restoration projects identified in watershed management plans.	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>Implement the recommendations of the Great Lakes Compact—The interstate compact among the U.S. states of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania and Wisconsin that details how the states manage the use of the Great Lakes Basin’s water supply.</li> <li>Rochester Museum and Science Center (RMSC) Green Innovations—Create a single high profile and accessible location where developers, municipal planners, and the general public can see several different green infrastructure practices in action and be educated in their function and implementation.</li> <li>Genesee Community Digester Project—A large digester, or multiple digesters, that would accept animal waste from multiple farms while combining it with the waste from local food manufactures and other food waste from the region. The project would reduce the risk of well water contamination due to current land application of farm and food manufacturing waste, while providing an additional source of renewable energy. This project could be located in the site of the old Town of Batavia Landfill, a former Superfund site. Funding is needed for planning, a complete engineering analysis, and site work. (Genesee County Comprehensive Plan)</li> </ul>						
<b>Broad Strategy WM4—Through water conservation, ensure adequate timing and flow of water in streams, rivers, lakes and aquifers for sustainable use for people, industry, energy and nature.</b>		●	●	●	○	●	○
<b>Representative Sub-Strategies / Project Ideas</b> 4.1 Support organizations that can improve water-related energy practices. 4.2 Decrease energy usage by water-related utilities. 4.3 Generate renewable energy from used water. 4.4 Promote and educate businesses and residents on water reuse and reducing water use.	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>Williamson WWTP Improvements—The Town of Williamson installed solar panels to lower dependency on non-renewable energy sources at the town-owned wastewater treatment plant. This project was an implementation measure of the Town’s sustainability plan that is designed to lower operating costs and reduce the town’s carbon footprint. In addition the town installed 1,200 square feet of green roof and water storage to recycle rainwater for non-potable uses.</li> </ul>						
<b>Broad Strategy WM5—Maintain and improve the functionality and efficiency of the water supply and wastewater infrastructure systems.</b>		○	●	●	●	●	●
<b>Representative Sub-Strategies / Project Ideas</b> 5.1 Develop, implement, and update asset management programs. 5.2 Continue to implement improvements in infrastructure systems to reduce water loss in transport.	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>Cultivate industry partnerships with wastewater treatment plants—Explore the possibility of forming public/private partnerships to manage this infrastructure.</li> <li>Genesee Street Water Transmission Main Replacement Project—Replace 5,000 linear feet of cast iron water supply pipe that serves the entire Village of Clyde. (FLREDC Strategic Plan)</li> </ul>						



# Economic Development



## Subject Area Goal

Transform the economic landscape through embedding the region's uniqueness (the Story of Place), the Five Capitals\*, and resiliency into all policy and investment decisions.

\*Human, Social, Natural, Built/Manufactured, Financial



## Opportunities

- Embed the Story of Place into the region's decision-making framework
- Strong relationships between communities and colleges/universities
- Build on momentum established by FLREDC Strategic Plans to promote regional thinking
- Build economic foundation on unique attributes rather than economic trends
- Develop local solutions that will benefit places beyond our boundaries
- Wealth of educational institutions serve as incubators of ideas/innovation
- Highly-skilled labor force

## Challenges

- Need cautious approach to “hot sectors” and economic trends
- Moving beyond conventional models based exclusively on financial bottom line
- Current economic climate often leads to short-sighted policies and solutions
- Continuing to transition from a small number of large manufacturing firms to multiple small-scale businesses
- Concentration of poverty and continued disinvestment in urban areas
- Extremely mobile society results in high competition with other regions, states, and countries

## Variables

- Trendy sectors at the national / global scale
- Unstable financial sector and access to capital
- State government and state economy-related impacts

## Indicators and Targets

Indicators	Broad Strategies Measured	Baseline Value (2010)	Short-Term Target* (2020)	Mid-Term Target* (2035)	Long-Term Target* (2050)
Housing + Transportation Affordability Index—% of income spent on transportation (#6A—NYSERDA Required)	ED1, ED2, ED3, ED4, ED5	52%	- 1% (51%)	- 2% (50%)	- 4% (48%)
Jobs created by sector (#6B – NYSERDA Common) • Government • Private • Agriculture • Unclassified	ED1, ED2, ED3, ED4, ED5	532,997 jobs (total) • 90,180 jobs • 436,199 jobs • 6,122 jobs • 496 jobs	+ 10%***	+ 12.5%	+ 15%
Successful commercialization of technologies and associated jobs	ED1, ED2	Data not available**	N/A	N/A	N/A
Increased venture capital investment	ED1, ED2	Data not available**	N/A	N/A	N/A
Jobs created by sector • Food manufacturing • Alternative energy • Materials science	ED1, ED2, ED3, ED4, ED5	• 6,972 jobs • Data not available** • Data not available**	maximum 5% decrease N/A N/A	+ 5% N/A N/A	+ 10% N/A N/A

\*All % reductions or increases are related to the 2010 baseline values, not the previous target.

\*\* Baseline data currently not available. It is recommended that in the short-term, a method to collect this data be developed.

\*\*\*Reflects the approximate growth rate expressed by the FLREDC goal of 50,000 jobs by 2016. However, the 2011 baseline data used by FLREDC (691,000 jobs) differs significantly from the 2010 baseline data used in this Plan (532,997 jobs).



# Economic Development

## Subject Area Goal

Transform the economic landscape through embedding the region's uniqueness (the Story of Place), the Five Capitals\*, and resiliency into all policy and investment decisions.

\*Human, Social, Natural, Built/Manufactured, Financial



## Priority Broad Strategies

Connection with criteria  
 ● Strong ● Moderate ○ Marginal

	Evaluation Criteria					
	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
<b>Broad Strategy ED1—Embed the framework of this plan into all planning, execution and measurement activities throughout the region.</b>	●	●	●	●	○	●
<b>Representative Sub-Strategies / Project Ideas</b> 1.1 Expand representation in regional and municipal planning entities to include expertise from all five Capitals (Financial, Human, Social, Natural & Built). 1.2 Incorporate the indicators and targets identified in this plan into the tracking and reporting of all investments. 1.3 Develop project evaluation forms that contain the complete project criteria used in this plan for all projects applying for economic development support and funding.	<b>Representative Projects</b>					
<b>Broad Strategy ED2—Identify, recruit and support entrepreneurial enterprises that have the potential to innovate consistent with the Story of Place, add value to all five Capitals (Financial, Human, Social, Natural &amp; Built) and have broad commercialization potential.</b>	●	●	●	●	●	◐
<b>Representative Sub-Strategies / Project Ideas</b> 2.1 Promote and identify funding for regional organizations that encourage and support entrepreneurship, technology transfer and small businesses focused on sustainability issues. 2.2 Increase collaboration between educational institutions, and existing businesses to support innovation of products and services aligned with the Finger Lakes Regional Sustainability Plan.	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>Finger Lakes Business Accelerator Cooperative—interconnected network of business support services and incubation facilities, spanning all nine counties. (FLREDC Strategic Plan)</li> <li>Seneca AgBio Green Energy Park—a cluster of companies that convert agricultural byproducts and waste into biofuels and biomaterials. (FLREDC Strategic Plan)</li> <li>NY-BEST Commercialization Center—a consortium of companies and universities aimed at facilitating the creation and deployment of the next generation of energy storage technologies. (FLREDC Strategic Plan)</li> <li>Regional Sustainable Innovation Fund—funding to catalyze the deployment of new, innovative, sustainable technologies and products designed and manufactured by New York State companies</li> <li>Integrating the sustainable production and innovation entrepreneurial ecosystem of the region—“Connect the dots” between existing funding initiatives so that unseen opportunities can materialize for the benefit of the regional and state economy.</li> </ul>					
<b>Broad Strategy ED3— Invest in critical infrastructure to foster economic expansion and advance sustainable initiatives (access, function, resiliency).</b>	●	◐	●	●	●	◐
<b>Representative Sub-Strategies / Project Ideas</b> 3.1 Develop regional condition, capacity and vulnerability assessments and inventories for all critical infrastructure. 3.2 Accelerate the development and adoption of independent, local networks of critical infrastructure (communications, energy, water, wastewater, micro-grid, etc.). 3.3 Invest in ecological resource-related projects that enhance ecological systems, improve water access, retain water quality, and increase water safety.	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>Mill Seat Landfill bioreactor—install innovative methane-to-energy systems that will extend the lifespan of the landfill.</li> <li>Lyons Industrial Park development (highway, rail, possible water access), multi modal transportation and logistics site. (GTC Regional Freight Plan)</li> <li>Replace the Portage Bridge on Norfolk Southern’s Southern Tier rail line to eliminate a major weight &amp; speed restriction. (GTC LRTP 2035, GTC Freight &amp; Goods Movement Study, FLREDC Strategic Plan)</li> </ul>					
<b>Broad Strategy ED4—Expand and align training and education initiatives to target strategic sectors and meet the needs of existing and emerging industries.</b>	◐	◐	●	●	●	◐
<b>Representative Sub-Strategies / Project Ideas</b> 4.1 Connect private industry with the educational system to stimulate early awareness and interest in manufacturing and agriculture career opportunities and align programs to deliver qualified candidates. This includes the development of education and re-training networks to enable displaced or under-employed workers to fill strategic regional employment needs.	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>Golisano Institute for Sustainability at RIT—program embodying the principles of sustainability in product development. (FLREDC Strategic Plan)</li> <li>Multiple Pathways to Middle Skills Jobs—a partnership to create seamless career pathways for secondary education students and post-secondary unemployed workers. (FLREDC Strategic Plan)</li> <li>Finger Lakes Community College Viticulture and Wine Technology Facility—designed to help meet the urgent and growing demands for skilled workers by the region’s vineyards. (FLREDC Strategic Plan)</li> </ul>					
<b>Broad Strategy ED5—Protect, enrich and market the unique natural, cultural, agricultural, and destination assets of the region.</b>	○	○	●	●	●	●
<b>Representative Sub-Strategies / Project Ideas</b> 5.1 Develop, network, and promote the region’s growing wine, culinary, agricultural, and food microenterprises. 5.2 Strengthen and support the development of the Finger Lakes’ diverse water resources and recreational tourism opportunities, allowing greater access and promoting year-round use.	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>Value-Added, Direct-to-Market Grants Program—provide funding that enables farms to build new structures, buy equipment, renovate buildings, and access working capital. (FLREDC Strategic Plan)</li> <li>Little Theatre Renovation—improvements that will preserve the theater as premier venue for independent/foreign films. (FLREDC Strategic Plan)</li> <li>Finger Lakes Boating Museum—waterfront improvements and construction of Museum and Visitors Center on Seneca Lake in Geneva. (FLREDC Strategic Plan)</li> </ul>					



# Climate Change Adaptation



## Subject Area Goal

Improve performance and resiliency of community assets (buildings and infrastructure systems, natural systems, and agriculture and business systems) under normal and extreme conditions.



## Opportunities

- More dynamic community centers and other local assets
- Ample intellectual, social, financial, natural, and economic resources
- Stronger relationships and networks resulting from community investment and resiliency pursuits
- Using educational institutions for research/education related to improved systems
- Re-purposing historic buildings to increase density and improve service delivery
- Leveraging assets and sharing resources across municipal borders

## Challenges

- Improving resiliency of food supply
- Continued debate over causes of and responses to climate change
- Funding sources for infrastructure and systems investments
- Supplying services and resources in an emergency to rural areas
- Home rule creates inefficiencies and logistical challenges for inter-municipal coordination

## Variables

- Potential increase in extreme weather events
- Food supply affected by variable temperatures, drought, and extreme weather events
- Available resources and capacity of local governments

### Indicators and Targets

Indicators	Broad Strategies Measured	Baseline Value (2010)	Short-Term Target* (2020)	Mid-Term Target* (2035)	Long-Term Target* (2050)
The degree to which climate change and adaptation is discussed within required hazard mitigation plans (#7C—NYSERDA Common)	CC4	0 out of 9 county plans	9 out of 9 county plans	9 out of 9 county plans	9 out of 9 county plans
Reduction in agricultural economic losses attributable to temperature, drought, flooding	CC4	Data not available**	N/A	N/A	N/A
Reduction in number of residents put at risk from loss of critical infrastructure services for more than one day	CC1, CC2, CC4	Data not available**	N/A	N/A	N/A

\*All % reductions or increases are related to the 2010 baseline values, not the previous target.

\*\* Baseline data currently not available. It is recommended that in the short-term, a method to collect this data be developed.



# Climate Change Adaptation

## Subject Area Goal

Improve performance and resiliency of community assets (buildings and infrastructure systems, natural systems, and agriculture and business systems) under normal and extreme conditions.



Connection with criteria  
 ● Strong ● Moderate ○ Marginal

		Evaluation Criteria					
		Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
<b>Broad Strategy CC1—Enhance mutual aid and support among neighboring communities, counties, and regions to share, develop, and create capabilities, resources, and special assets.</b>		●	●	●	●	●	●
<b>Representative Sub-Strategies / Project Ideas</b> 1.1 Continue to develop and provide education and training, for municipal officials and first responders. 1.2 Develop processes to identify and share critical resources (e.g., listing of willing and trained medical personnel, strategic location of special response equipment for easy deployment).	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>Resilient Communications and Emergency Response—use Eco-IT and renewable energy systems tied to back-up power generation.</li> <li>Finger Lakes Climate Change Adaptation Leadership and Resilience Council—provide a 12-month process that aligns regional stakeholders and yields a pragmatic and defined outcome for continuing research, education, and training on climate change adaptation.</li> </ul>						
<b>Broad Strategy CC2—Upgrade existing assets and modify municipal and business practices to better withstand extreme conditions.</b>		●	●	●	●	●	◐
<b>Representative Sub-Strategies / Project Ideas</b> 2.1 Upgrade existing facilities (e.g. utilities, buildings, transportation infrastructure) to ensure their availability and accessibility during extreme conditions and reduce resource use. 2.2 Research, develop and evaluate innovative approaches to regenerate natural systems to improve the performance of built systems.	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>Wayne County Comprehensive Shoreline Management Program— Elevation site assessment and task analysis of built environment and development of cost estimates for repairing and relocating facilities. Will serve as the basis to modify comprehensive plans.</li> <li>New York Green’s “Green Genesee Road Map” pilot project—a blueprint for sustainable land use and development practices that should be replicated for other counties throughout the region.</li> <li>Plan Bv7—a sustainable approach to water level regulation in Lake Ontario and the St. Lawrence River that will take steps to restore the shoreline habitats of the lake and river.</li> </ul>						
<b>Broad Strategy CC3—Create self-sufficient “places of refuge” in each community / neighborhood for critical resources, shelter and aid under normal and extreme conditions.</b>		●	●	●	●	●	◐
<b>Representative Sub-Strategies / Project Ideas</b> 3.1 Provide on-site critical services that include energy production, water and wastewater treatment, and solid waste treatment/processing (especially organic waste), as well as food, medical and emergency services. 3.2 Link on-site critical services to the regional centralized systems (e.g., electricity grid) to offset community/municipal costs, and provide new sources of revenue.	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>Batavia Community Hydroelectric Microgrid—provide renewable electricity to fire department and ice arena, creating a self-sufficient “place of refuge.”</li> </ul>						
<b>Broad Strategy CC4—Create localized networks for critical services (e.g., local food sources, micro-grids for energy, water, sewage, solid waste treatment, district heating, etc.) to complement existing centralized systems (at a larger scale than the “places of refuge”).</b>		●	●	●	◐	●	◐
<b>Representative Sub-Strategies / Project Ideas</b> 4.1 Create and deploy localized networks in rural as well as urban and suburban settlements, using local inputs. 4.2 Develop market and financial mechanisms to use localized networks as a new revenue source for participants/providers.	<b>Representative Projects</b>						



# Governance



## Subject Area Goal

Strive to achieve a more sustainable region and more vibrant communities through the promotion and establishment of stronger inter-municipal relationships and planning.

## Opportunities

- More equitable, efficient and sustainable tax structures
- Educating policy makers and the public about the connections between transportation and land use
- To incorporate sustainability into technical training for local officials

## Challenges

- Municipal Home Rule tends to limit the effectiveness of regional planning
- Land use policies promote auto-oriented, single-use development
- Competing priorities of adjacent communities
- Outdated, or lack of, comprehensive plans and other long range planning documents

## Variables

- Availability of funding for regional and local planning initiatives
- Political will

### Indicators and Targets

Indicators	Broad Strategies Measured	Baseline Value (2010)	Short-Term Target* (2020)	Mid-Term Target* (2035)	Long-Term Target* (2050)
Number of communities with Comprehensive Plans less than 5 years old	G1	31 communities (16%)**	+ 4% (20%)	+ 18% (35%)	+ 48% (65%)
Number of Climate Smart Communities	G1	3 communities (2%)**	+ 23% (25%)	+ 48% (50%)	+ 73% (75%)

\*All % reductions or increases are related to the 2010 baseline values, not the previous target.

\*\* The Finger Lakes Region includes 190 cities, towns and villages that have decision making authority at the local level.



# Governance

## Subject Area Goal

Strive to achieve a more sustainable region and more vibrant communities through the promotion and establishment of stronger inter-municipal relationships and planning.



## Priority Broad Strategies

Connection with criteria  
 ● Strong ● Moderate ○ Marginal

		Evaluation Criteria					
		Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
<b>Broad Strategy G1—Promote the development of local and regional sustainability initiatives to serve as a dynamic means of supporting the goals of the Regional Sustainability Plan across all Subject Areas.</b>		●	●	●	●	◐	●
<b>Representative Sub-Strategies / Project Ideas</b> 1.1 Increase participation in the Climate Smart Communities program. 1.2 Incorporate sustainability measures into local and regional level planning documents, such as comprehensive plans, farmland and agriculture protection plans, stormwater and watershed management plans, transportation plans and economic development plans. 1.3 Create municipal sustainability offices or entities at the local, county and/or regional level to provide stewardship over this Plan. 1.4 Provide training and technical resources to municipal officials and local boards to promote more sustainable policies and decision making.	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>Town of Perry Comprehensive Planning Approach—Develop an integrated farmland protection plan and energy policy in conjunction with the comprehensive plan, incorporating the recommendations of the farmland protection plan and energy policy into the comprehensive plan.</li> <li>Wayne County Lakeshore Management Project—This project will utilize LIDaR imaging and GIS analysis to identify areas most at risk of severe weather events. It will allow for the creation of climate adaptation plans and enable municipalities to modify land use laws to incorporate climate change criteria for new development.</li> </ul>						
<b>Broad Strategy G2—Encourage regional cooperation and coordination.</b>		◐	◐	●	◐	◐	◐
<b>Representative Sub-Strategies / Project Ideas</b> 2.1 Incorporate major findings and recommendations from the Regional Sustainability Plan into decision-making on the part of the Finger Lakes Regional Economic Development Council (FLREDC), regional authorities, counties and municipalities. 2.2 Encourage cooperation and better coordination of planning and zoning across municipal boundaries to achieve consistent development patterns and protect the natural and built environment.	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>Finger Lakes Regional Sustainability Plan—Undertake revisions to, and implement the recommendations, of the Finger Lakes Regional Sustainability plan on an ongoing basis.</li> <li>Finger Lakes Climate Change Adaptation Leadership and Resilience Council—This project is aimed at aligning regional leadership and resources toward research, education and training to solve local problems; and develop processes to identify and share critical resources.</li> </ul>						



# Agriculture



## Subject Area Goal

Increase the viability, accessibility, and ecological contribution of farms, while decreasing waste and dependence on external inputs.



## Opportunities

- Stronger connections with urban markets
- Mostly family-owned farms—better suited to sustainable models
- Environmental protection through farmland design and practice
- Rise of local farmers markets
- Slow food / locavore / organic movements
- Strategic land use policies and programs

## Challenges

- Rising costs
- Rapidly-evolving technologies
- Development pressure (slow-paced sprawl)
- Aging farm owners
- Succession planning
- Public perception and nuisances

## Variables

- Availability of capital
- Quality workforce
- Consumption patterns and consumer tastes
- National / global markets
- Erratic weather

There is significant alignment between the strategies identified for Materials and Waste Management, Water Management, and Agriculture & Forestry. Refer to other subject areas for additional strategies that may benefit Agriculture.

## Indicators and Targets

Indicators	Broad Strategies Measured	Baseline Value (2010)	Short-Term Target* (2020)	Mid-Term Target* (2035)	Long-Term Target* (2050)
Acres of agricultural land in non-agricultural use	A1, A3, A5	155,968 acres	maintain baseline	maintain baseline	maintain baseline
Direct farm sales per capita (as a percent of at home food expenditures)	A1, A5	0.49%	+ 1.5% (2%)	+ 4.5% (5%)	+ 9.5% (10%)
Use of external inputs	A5	10.7%	- 0.6% (10.1%)	- 1.8% (8.9%)	- 2.9% (7.8%)
Diversity of production (Shannon's Diversity Index)	A2, A4, A5	6.97	7.00	7.00	7.00

\*All % reductions or increases are related to the 2010 baseline values, not the previous target.





# Agriculture

## Priority Broad Strategies

Connection with criteria

● Strong ● Moderate ○ Marginal

### Evaluation Criteria

	Evaluation Criteria					
	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
<b>Broad Strategy A1—Support the continued development of an efficient and productive regional food system.</b>	●	●	●	●	●	●
<p><b>Representative Sub-Strategies / Project Ideas</b></p> <ol style="list-style-type: none"> <li>1.1 Support the expansion of regional processing and distribution facilities, and/or other facilities that add value to regional food products.</li> <li>1.2 Increase food security for individuals and households at risk of hunger.</li> <li>1.3 Increase regional farms' sales to regional institutional buyers.</li> <li>1.4 Increase regional farms' direct sales to consumers through such means as multi-farm community supported agriculture programs and increased access to local food retailers.</li> </ol>	<p><b>Representative Projects</b></p> <ul style="list-style-type: none"> <li>• Headwaters Food Hub—processing and logistics facility to support the regional food system by managing supply chain logistics, aggregation, distribution, and sales of local, sustainable, source-identified foods from a network of partner farms, including their own, and from local food producers.</li> <li>• Finger Lakes Food Processing Cluster Initiative—leveraging the Jobs and Innovation Accelerator Grant from US Economic Development Agency and SBA and NYS to support this coordinated initiative that provides assistance, training, and collaborative partnerships. Project is underway.</li> <li>• Regional Multi-Farm CSA Development—development and promotion of CSA-consumer website.</li> </ul>					
<b>Broad Strategy A2—Increase adoption of distributed bio-energy production technologies to increase production of renewable energy from farm and forest products and product waste.</b>	●	●	●	●	●	●
<p><b>Representative Sub-Strategies / Project Ideas</b></p> <ol style="list-style-type: none"> <li>2.1 Advance the availability and affordability of scalable plug-and-play bio-energy production systems, and provide standards for selling excess power into the grid.</li> <li>2.2 Assist farm operators in analyzing energy demand, as well as opportunities for efficiency and potential energy production.</li> <li>2.3 Establish local policy frameworks and incentives for community-scale bio-energy production and distribution.</li> <li>2.4 Develop purchase agreements for the sale of bio-energy produced by the agricultural and forestry sectors to the power grid.</li> </ol>	<p><b>Representative Projects</b></p> <ul style="list-style-type: none"> <li>• Farm Energy Sustainability Plans—energy analysts and farm service providers review loads, timing, motor efficiencies, lighting and fuel use to find demand efficiencies. Plans may also review potential for on-site renewable energy production, including biogas, wind, solar, and biofuels.</li> <li>• Seneca AgBio Green Energy Park—Agricultural and Renewable Energy Program with projects including grape waste processing, grapeseed oil production, and biodiesel production. Project currently delayed.</li> </ul>					
<b>Broad Strategy A3—Reduce the conversion of quality farmland.</b>	●	●	●	●	●	●
<p><b>Representative Sub-Strategies / Project Ideas</b></p> <ol style="list-style-type: none"> <li>3.1 Support the creation and implementation of municipal farmland protection plans.</li> <li>3.2 Improve regulatory context for purchase, lease and/or transfer of development rights.</li> <li>3.3 Increase use of underutilized grasslands for livestock production.</li> <li>3.4 Expand or create opportunities to engage existing and new farmers in succession planning efforts.</li> </ol>	<p><b>Representative Projects</b></p>					
<b>Broad Strategy A4—Support farm-scale diversity of product types, both in-season and across seasons, and support the establishment and growth of a diversity of operations with regard to size, market, and operation type.</b>	●	◐	●	●	●	◐
<p><b>Representative Sub-Strategies / Project Ideas</b></p> <ol style="list-style-type: none"> <li>4.1 Develop models to assist in the management of farm-scale diversity for small and medium sized operations.</li> <li>4.2 Strengthen opportunities for producing, marketing and exporting specialty agricultural products.</li> <li>4.3 Support research and development initiatives regarding environmental markets and other incentives related to carbon sequestration and water quality improvement.</li> </ol>	<p><b>Representative Projects</b></p> <ul style="list-style-type: none"> <li>• Finger Lakes Small Business Expansion Fund—Creation of a \$1.15 million investment pool targeting seven companies in identified key industries (including the Once Again Nut Butter processing facility) geographically distributed throughout region.</li> </ul>					
<b>Broad Strategy A5—Educate the non-farming community about the economic, environmental, and social impacts that the agricultural sector has on the region.</b>	◐	◐	●	●	●	●
<p><b>Representative Sub-Strategies / Project Ideas</b></p> <ol style="list-style-type: none"> <li>5.1 Support efforts to document the economic impact of agriculture and forestry throughout the region.</li> <li>5.2 Expand access to service programs specifically oriented toward small farms.</li> <li>5.3 Create or expand opportunities to build a regional food identity focused on the Finger Lakes Region.</li> </ol>	<p><b>Representative Projects</b></p> <ul style="list-style-type: none"> <li>• Conference Sessions—continue efforts to educate economic development stakeholders on agricultural issues through sessions at the Local Government Workshop.</li> <li>• Agricultural Events—support regional agricultural initiatives such as the Wyoming County Dairy Institute, Agri-Palooza, and Celebrate-Ag. (G/FLRPC CEDS)</li> <li>• Dairy Profit Teams—NYFVI grant helped fund pilot program where dairy farmers get one-on-one attention with a group of industry consultants in all different areas to help efficiently and cooperatively offer solutions tailored to individual issues.</li> <li>• Livingston County Annual Decision-Makers' Tour of Agriculture—Increasing exposure between planning/zoning commissioners and farm operators.</li> </ul>					

**Subject Area Goal**  
 Increase the viability, accessibility, and ecological contribution of farms, while decreasing waste and dependence on external inputs.





# Forestry



## Subject Area Goal

Increase the viability, accessibility, and ecological contribution of forests, while decreasing waste and dependence on external inputs.

## Opportunities

- Preservation of region's historic character
- Environmental protection through forest land design and practice
- Alternative energy sources
- Strategic land use policies & programs

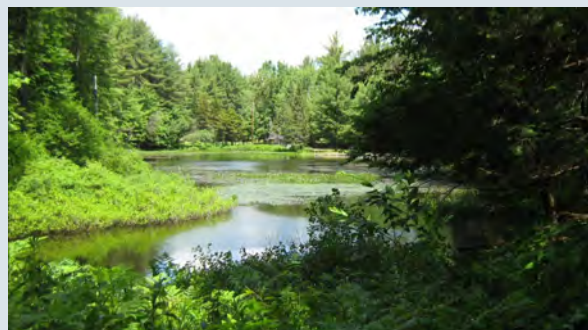
## Challenges

- Rising costs
- Limitations of government structures to adequately protect forests
- Development pressure
- Lack of public understanding of value

## Variables

- Availability of capital
- National / global markets
- Erratic weather

There is significant alignment between the strategies identified for Materials and Waste Management, Water Management, and Agriculture & Forestry. Refer to other subject areas for additional strategies that may benefit Forestry.



## Indicators and Targets

Indicators	Broad Strategies Measured	Baseline Value (2010)	Short-Term Target* (2020)	Mid-Term Target* (2035)	Long-Term Target* (2050)
Ratio of percent of forests by tree size class <ul style="list-style-type: none"> <li>• Small</li> <li>• Medium</li> <li>• Large</li> </ul>	F3	<ul style="list-style-type: none"> <li>• 16%</li> <li>• 21%</li> <li>• 63%</li> </ul>	maintain baseline	maintain baseline	maintain baseline
Amount of biomass in live trees	F1, F2, F4	60,937,524 short tons	+ 5%	+ 10%	+ 15%
Number of forest interior indicator bird species (survey blocks containing at least three indicator species)	F2	21 survey blocks	49 survey blocks	144 survey blocks	240 survey blocks
Invasive Species Index (custom index tracking three species: European woodwasp, hemlock woolly adelgid, and emerald ash borer)	F2, F3	8.5	maintain baseline	6.5	4
Wildfire occurrences	F3	3,885 wildfires	-5%	-10%	-15%

\*All % reductions or increases are related to the 2010 baseline values, not the previous target.



# Forestry

**Subject Area Goal**  
 Increase the viability, accessibility, and ecological contribution of forests, while decreasing waste and dependence on external inputs.



## Priority Broad Strategies

Connection with criteria  
 ● Strong ● Moderate ○ Marginal

		Evaluation Criteria					
		Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
<b>Broad Strategy F1—Support efforts to increase equitable forest recreation opportunities and urban forestry/green infrastructure initiatives.</b>		●	●	●	●	●	◐
<b>Representative Sub-Strategies / Project Ideas</b> 1.1 Promote community adoption of the four standards to become a Tree City USA. 1.2 Encourage the use and sharing of a standardized community tree inventory database.	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>Wayne County Comprehensive Shoreline Management Project—Elevation site assessment and task analysis of built environment and development of cost estimates for repairing and relocating facilities. Will serve as the basis to modify comprehensive plans.</li> </ul>						
<b>Broad Strategy F2—Support watershed, riparian, shoreline, and habitat protection and restoration efforts to increase resiliency and diversity of the native species ecosystems, delicate watersheds, and critical habitats.</b>		◐	◐	●	●	●	●
<b>Representative Sub-Strategies / Project Ideas</b> 2.1 Encourage stronger landscape connectivity and forest management rehabilitation practices that can support adaptation and increase resilience of individual species and nature systems at the landscape level (2,500-acre units). 2.2 In partnership with Finger Lakes Partnership for Regional Invasive Species Management (FL-PRISM), continue to support programs at all levels of government to combat invasive pests and diseases like the emerald ash borer. 2.3 Provide near-term funding for NYSDEC Forest Resource Assessment and wildlife action plans. 2.4 Encourage landowners to participate in NY CREP and similar programs to receive compensation for protecting/restoring natural features.	<b>Representative Projects</b>						
<b>Broad Strategy F3—Educate the general public, landowners/industry professionals, and decision-makers regarding the relationships between watershed land uses, forest management, water quality protection and rural economic viability, and forest sustainability issues.</b>		●	◐	●	●	◐	◐
<b>Representative Sub-Strategies / Project Ideas</b> 3.1 Continue to support and encourage participation by County Soil and Water Conservation Districts (SWCD) in the NYSDEC/Natural Resources Conservation Service (NRCS) Environmental Quality Incentives Program (EQIP) Forestry Initiative. 3.2 Support the efforts of and partner with advocacy organizations that provide outreach and education on forest and land management issues (e.g., The Nature Conservancy Central & Western NY, Rochester Regional Group of the Sierra Club). 3.3 Support retention and recruitment of sustainable timber harvesters.	<b>Representative Projects</b>						
<b>Broad Strategy F4—Encourage the valuation of ecological services provided by regional forest resources.</b>		●	◐	●	◐	◐	◐
<b>Representative Sub-Strategies / Project Ideas</b> 4.1 Expand and refine standardized methods of quantifying carbon flow in and out of forest resource carbon pools to allow for expanded, meaningful participation in carbon offset markets; Encourage forestry carbon offset programs with eligible activities including avoiding clearing, sustainable forest management, and reforestation. 4.2 Encourage landowner participation in the NYS Real Property Tax Law 480-a Program, and advocate for changes to forestry tax laws to encourage stewardship.	<b>Representative Projects</b> <ul style="list-style-type: none"> <li>New York Green’s “Green Genesee Road Map” pilot project—a blueprint for sustainable land use and development practices that should be replicated for other counties throughout the region.</li> </ul>						

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## ES.8 IMPLEMENTATION

This Plan is intended to support the Finger Lakes Region in becoming increasingly sustainable, improving the economic and environmental health of the region, and thereby improving the quality of life. To ensure its success, the following implementation initiatives have been identified:

- Identify and empower a Regional Plan Coordinator
- Educate and promote the Plan and its benefits
- Encourage citizens, businesses, institutions, and governing bodies to embed the Plan framework into all planning and investment-related decisions

### Regional Plan Coordinator

The Plan is not a deliverable – it is a living, evolving document that must be endorsed by the Consortium and FLREDC, implemented, re-evaluated, and continuously updated to remain relevant and valuable. A Regional Plan Coordinator needs to be identified to be the steward of the Plan. It is recommended that the Genesee/Finger Lakes Regional Planning Council (G/FLRPC) serve in this role to:

- Inform and provide assistance to its member counties, municipalities within those counties, and the Genesee Transportation Council (GTC) as they implement strategies and assess progress
- Determine an appropriate structure and schedule to evaluate the Plan’s progress and provide periodic updates
- Determine an appropriate structure and schedule to continue to engage subject area Stakeholder Groups to prioritize Sub-strategies, identifying projects for implementation, researching potential funding sources and stakeholders and serving as project champions
- Maintain and enhance the project website, [sustainable-fingerlakes.org](http://sustainable-fingerlakes.org)

- Coordinate with the FLREDC to ensure alignment between the Plan and updates to the FLREDC Strategic Plan

### Education and Promotion

It is also recommended that a variety of organizations and approaches will be used to continue to educate and promote the Sustainability Plan including but not limited to:

- Greentopia, a week-long festival focused on a raising awareness about sustainability
- County agencies or boards, including Environmental Management Councils
- Rochester Institute of Technology (RIT) Golisano Institute for Sustainability and the Center for Integrated Manufacturing Studies (CIMS)
- New York State Pollution Prevention Institute (NYSP2I) headquartered at RIT
- Rochester Young Professionals Group
- Center for Environmental Initiatives

### Embed Plan Framework into Planning and Investment Decisions

Most importantly, the Finger Lakes Regional Sustainability Plan is intended to inspire citizens, businesses, institutions, and governing bodies. This document is intended to be used as a framework to help the region discover, understand, and continue to build-upon that which makes it unique. By embedding this framework into all planning and investment-related decisions, an improvement to the region’s economic and environmental health, and therefore overall quality of life, can be realized.

Therefore, every reader of this document should consider how their community, business or project relates to the Finger Lakes Regional Sustainability Plan. The following page should be used as a quick reference for the Framework that will guide the implementation of the Plan.

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# Plan Framework for Implementation

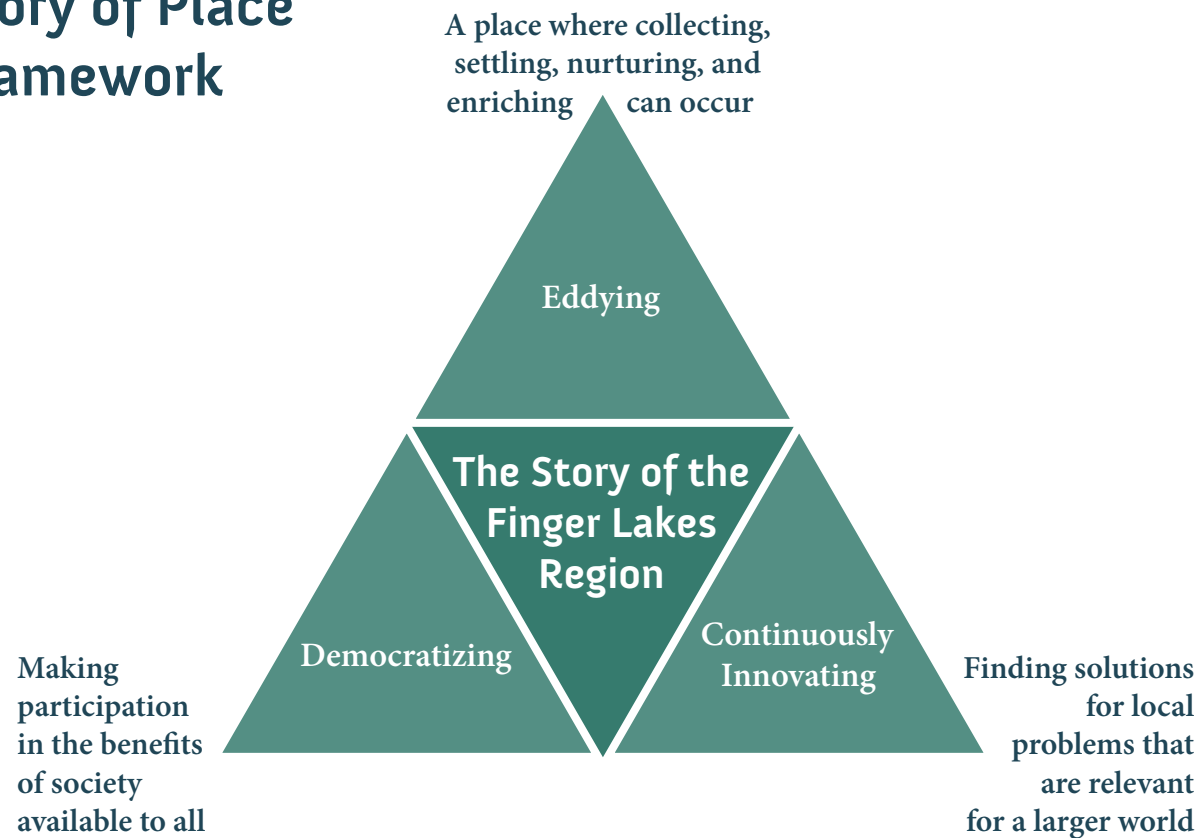


## Vision Statement

The Finger Lakes Region will work collaboratively to honor and leverage its unique character and assets—its Story of Place—to integrate, evolve, advance, and make whole its natural, built, human, social, and financial capital, which serve as the foundations of its environment, economy, and society. The result will be a healthy, safe and affordable place to live, work and play for all residents for current and future generations.



## Story of Place Framework



## Subject Area Goals

	<p><b>Energy</b>—Increase the generation and distribution of regional renewable energies while using energy efficient and alternative energy resources, along with conservation methods, to decrease the reliance on fossil fuels and nonrenewable outside energy sources and to become a self-sustainable region.</p>	<p><b>Economic Development</b>—Transform the economic landscape through embedding the region’s uniqueness (the Story of Place), the Five Capitals*, and resiliency into all policy and investment decisions. (*Human, Social, Natural, Built/Manufactured, Financial)</p>
	<p><b>Transportation</b>—Provide an equitable transportation system that ensures safety, maximizes efficiency, addresses disaster resiliency, provides mode choice and reduces dependence on fossil fuels.</p>	<p><b>Climate Change Adaptation</b>—Improve performance and resiliency of community assets (buildings and infrastructure systems, natural systems, and agriculture and business systems) under normal and extreme conditions.</p>
	<p><b>Land Use and Livable Communities</b>—Increase the sustainability and livability of the Finger Lakes region by revitalizing the region’s traditional centers, concentrating development in areas with existing infrastructure and services, and protecting undeveloped lands from urban encroachment.</p>	<p><b>Governance</b>—Strive to achieve a more sustainable region and more vibrant communities through the promotion and establishment of stronger inter-municipal relationships and planning.</p>
	<p><b>Materials and Waste Management</b>—Decrease the generation of waste, increase the recovery and reuse of materials currently in the discard stream, manage materials using a highestand- best-use framework, and create economic opportunities and improved environmental stewardship as a result.</p>	<p><b>Greenhouse Gas Emissions</b>—Reduce greenhouse gas emissions from both large-scale and small-scale sources and both point and non-point sources, utilizing a variety of strategies within each Subject Area outlined in this Sustainability Plan.</p>
	<p><b>Water Management</b>—Improve and protect the water environment with respect to quality, quantity, and availability; promote and understand the value of our water reservoirs, watercourses, and built infrastructure; maximize the social, economic, and ecological potential of our water resources toward equitable sharing of their benefits for both the short and long terms.</p>	<p><b>Agriculture/Forestry</b>—Increase the viability, accessibility, and ecological contribution of farms and forests, while decreasing waste and dependence on external inputs.</p>

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