



visioncny

Central New York Regional Sustainability Plan

Executive Summary June 2013



Executive Summary

VisionCNY provides a framework that can be used by communities in Central New York to chart a path toward a sustainable future.



The Central New York Regional Sustainability Plan (VisionCNY) was prepared by a regional consortium of communities and a planning team led by the Central New York Regional Planning and Development Board (CNY RPDB) under the auspices of the NYS Cleaner, Greener Communities (CGC) Regional Sustainability Planning Program. This statewide initiative was established by Governor Cuomo in 2011 and is designed to help regions across the State develop plans that will serve as a foundation for investments that will provide the basis for a sustainable future.

Funding for the CGC program comes from the State's Regional Greenhouse Gas Initiative (RGGI) and is administered by the New York State Energy Research and Development Authority (NYSERDA). NYSERDA, a public benefit corporation, offers objective information and analysis, innovative programs, technical expertise, and funding to help New Yorkers increase energy efficiency, save money, use renewable energy, and reduce their reliance on fossil fuels.

The CGC program is a two-phase competitive grant process. Phase I funding was provided to ten regions across the State as defined through the NYS Regional Economic Development Council Program. Funding was made available to develop regional plans through a process that allowed each region to identify a series of goals, strategies, and project recommendations to support a sustainable future. Phase II of the CGC Program is designed to provide up to \$90 million in state-wide funding awarded on a competitive basis for projects that support the implementation of regional sustainability plans. Phase II is scheduled to be launched by NYSERDA in August 2013.

The NYS Cleaner Greener Communities program is designed to guide and support actions that encourage certain policy initiatives including:

- + community-based planning;
- + comprehensive municipal land use policies;
- + coordinated infrastructure investment; and
- + promotion of sustainable growth.

visioncny: What if...

For purposes of the CGC program, NYSERDA defines sustainability as: "...living, operating, and growing more efficiently while using fewer resources ... lowering costs, creating businesses and jobs, and improving the quality of life for all residents in NYS."

The CGC program provides a vehicle for communities to partner with public and private officials for the purpose of encouraging a discussion that provides the foundation for the development of regional sustainability plans across the State. Participants in the CGC program are asked to examine the conditions of their communities and identify strategies that can be implemented to significantly improve the quality of life for the residents in their respective regions. This effort is expected to guide a range of initiatives at the State and local level in several policy areas including energy management, infrastructure, land use, environment, economic development, materials management, and climate adaptation.

This planning effort brings together representatives from local government, the business community, non-profit organizations, citizens, and other key stakeholders to discuss regional strengths and weaknesses. The effort is designed to (1) engage and encourage local participation; (2) gather information on sustainable community and economic development projects and programs already being undertaken in a region; (3) give stakeholders a central location to document and showcase the efforts already underway in their communities; (4) give public officials, community leaders, and residents the information and support that is needed to advance sustainable programs in their communities; and (5) identify opportunities for new sustainable programs and initiatives.

The purpose of this process is to create a long-term vision for a region using the collaborative input of regional stakeholders and public participants. The planning process is designed to be representative of many voices throughout a region and focused on a long-term perspective. Based upon this approach, this process will provide State and local officials the perspective needed for long-term commitments and investments in economic, social, and environmental resilience.

- + the region's current population of 791,500 increased to 1 million residents?
- + the Erie Canal National Heritage Corridor and the Loop-The-Lake Trail served as the backbone for an expanded trail network in CNY?
- + a network of Combined Heat and Power (CHP) plants is developed across the region?
- + a network of green infrastructure and stormwater management facilities is developed in CNY?
- + the region is served by a true high speed rail passenger line?
- + the amount of greenhouse gases emitted in CNY is reduced by 40%?
- + the MWB constructed a second transmission line and district energy supply from Lake Ontario?
- + the region's current per capita income of \$36,833 increased by 10% to equal the national average of \$39,980?
- + the region's electric power transmission and distribution facilities were upgraded and integrated in a smart-grid network?
- + an iconic architectural design is chosen as part of the solution to the I-81 challenge?
- + a coordinated plan is developed to integrate the region's network of conservation areas?
- + the total number of jobs in the region increased from 320,000 in 2012 to 405,000?
- + residents embraced a CNY Energy Challenge campaign?
- + the region's cultural resources and historic assets are supported by a coordinated capital campaign?
- + a network of CNG and electric car fueling stations is developed at key locations in the region?
- + 25% of the energy consumed in CNY came from renewable resources?
- + residents in CNY drove 25% fewer miles each year?
- + the total amount of land in agricultural use was increased by 25%?
- + all of the region's public lights were upgraded to LEDs?
- + a comprehensive urban infill development program is implemented in CNY?
- + a modern intermodal rail and "inland-port" is developed in the region?
- + the Save-The-Rain Campaign is expanded across the region?
- + the region had a light rail transit system?

The Plan at a Glance

Community representatives organized the plan around several major public policy issues including energy, infrastructure, land use, environment, economic development, materials management, and climate adaptation.



Paper Mill Island, Baldwinsville, NY

Planning Process

The preparation of the Central New York Regional Sustainability Plan was initiated in July 2012 under the direction of the CNY RPDB, representing a consortium of municipalities across the five-county region. This consortium served as the governing body for the entire planning process, which took place over a period of twelve months and concluded in June 2013. This community-led planning process involved extensive research and data gathering, public outreach, a consensus-building process, and coordination with the Central New York Regional Economic Development Council (CNY REDC).

To assist with the preparation of the plan, the CNY RPDB assembled a team of technical consultants that was led by O'Brien and Gere Engineers and included AWS Truepower, Barton & Loguidice Engineers, CDH Energy, Earth Sensitive Solutions, HB Solutions, and Terrapin Bright Green. In addition, the CNY RPDB formed a VisionCNY Technical Advisory Committee which consisted of twenty-five individuals representing a broad range of community interests in Central New York. Organizations represented on the committee include Onondaga County, Oswego County, CenterState CEO, National Grid, the Syracuse Center of Excellence in Energy and Environmental Systems, King + King Architects, Bristol-Myers Squibb, Syracuse University, the State University of New York College of Environmental Science and Forestry, Colgate University, Morrisville State College, Bergmann Associates, and the Villages of Hamilton, Skaneateles, and Solway.

To guide the planning process, the CNY RPDB held a series of bimonthly meetings throughout the program year. These policy level meetings were coordinated with staff and technical consultant meetings that were held with the VisionCNY Technical Advisory Committee. To complement this effort, the CNY RPDB organized a series of focus group meetings across the region with county and municipal officials, key agency staff, and other community representatives. In addition, three presentations were made to the CNY REDC.

To supplement these meetings, the CNY RPDB solicited input directly from the public through the project's website at visioncny.org. This interactive website featured several components including sections which allowed visitors an opportunity to learn more about the region, take a poll, and share their thoughts about VisionCNY. In addition to the use of this social media tool, traditional public meetings were held in October and December 2012. Overall, approximately 350 people participated directly in the public outreach campaign.

A Vision for Regional Sustainability

Based upon NYSERDA guidelines and public input, the planning team developed a regional sustainability plan for Central New York that advances a long-term vision for the region that:

- + encourages a reasonable increase in the region's population;
- + enhances economic development, community vitality, and environmental stewardship;
- + promotes the wise use of the region's energy resources; and
- + supports the State's long-term goals of reducing GHG emissions.

To achieve this vision, the planning team developed a set of principles to guide the development of the general goals, strategies, and project recommendations that were incorporated into the plan. These guidelines include:

- + using community resources efficiently and adopting a long-term view of needed investments that includes social and environmental costs;
- + consideration of the long-term impact of all community initiatives with the understanding that economic health, environmental quality, and community well-being are interdependent;
- + the need to protect and restore air, water, and land to preserve biological diversity, environmental health, and a natural resource base for future generations;
- + the recognition that partnerships among local, regional, and state government, businesses, residents, and all community stakeholders are necessary to achieve a sustainable community; and
- + building community awareness, responsibility, involvement, and education as key elements of successful policies, programs, and projects.

Technical Approach

Based upon NYSERDA guidelines, the regional plan is divided into seven major program focus areas: energy management, infrastructure, land use, environment, materials management, economic development, and climate adaptation. Issues addressed in the infrastructure section are transportation, water and sewer facilities, telecommunication, and energy production and transmission facilities.

Using federal, state, and other data sources, the planning team conducted a baseline assessment of existing conditions in CNY. This assessment provided the basis for the development of a broad goal for each public policy area addressed in the plan along with a series of specific targets or metrics which can be used

to measure the region's progress toward economic growth and community sustainability. Targets were set with discrete milestones in the year 2030 and 2050. Collectively, each metric and target constitutes an "indicator" of sustainable development.

Using the baseline assessment as a foundation and the goals and targets as guidelines, the planning team worked closely with its community representatives, focus group participants, and the general public to identify a variety of actions that can be undertaken by public and private sector partners to implement the plan. For each focus area, broad strategies are presented and broken up into two categories including short-term opportunities and long-term initiatives. Short-term opportunities are designed to direct attention to work already underway in Central New York or to efforts that can be implemented in the next five years. Long-term initiatives are more broadly-based and undertaken over an extended time horizon. To supplement these strategies, a list of projects is presented. It is important to note that the ideas presented in the plan represent a partial list of suggestions which were considered during the planning process and were chosen in a qualitative manner for inclusion in the plan based on the extent to which they meet several sustainable goals including:

- + consistency with VisionCNY and other regional and local plans, including the CNY REDC Strategic Economic Development Plan 2012–2016;
- + support of reasonable population, job and income growth in the region;
- + significant GHG reductions and efficient energy use;
- + existing project sponsorship and readiness for implementation;
- + replicable in communities across the region;
- + leveraging of public and private sector investment;
- + geographic balance of representation; and
- + strengthening of the region's resiliency.

The goals, strategies, and recommendations incorporated in VisionCNY are representative of a comprehensive planning process that took place over a period of 12 months. To be effective, communities across the five-county region must remain focused and use this planning effort as the basis to determine what actions must be taken to help ensure a sustainable future for Central New York.

Challenges and Opportunities

A cornerstone of VisionCNY is the goal, targets, strategies, and project recommendations which have been developed for each policy area addressed in the plan.



Upstate Golisano Children's Hospital

VisionCNY represents a comprehensive plan that communities can use to help chart a path to a sustainable future. To help organize the plan, a very broad goal has been established for each policy area along with a set of five measurable targets or community indicators.

Building on this framework, a set of ten strategies is presented for each policy area. These strategies represent initiatives which have been recommended by community representatives for both immediate implementation and long term consideration in the region. It is important to note that many worthy suggestions were made throughout the planning process. Most of these suggestions are incorporated in the plan; recommendations that are not presented have been recorded and they will receive consideration in the months and years ahead as work on implementation of the plan progresses.

Each policy area includes a set of twenty project recommendations which represent concrete ideas for local stakeholders to consider as they work to advance sustainable principles in Central New York. Generally, these projects are in some stage of development and were chosen, in part, for incorporation in the plan based on a qualitative assessment that took into consideration several factors including the projects' readiness, likely impact on population increase, per capital income and job growth, improvements in the management of energy resources in CNY, green-house gas reductions, community resiliency, environmental stewardship, and improved quality of life. In applying this qualitative assessment, a project impact rating is presented from low to high or direct and indirect for each project activity. For purposes of this effort, it is recognized that at this stage of planning process the rating system is subjective and designed more to generate community discussion than to provide a precise measurement of community impact.

To assist in the review of VisionCNY, key information is presented in a series of tables which summarize the goal, targets, strategies, and project recommendations for each policy area in accordance with the following goals which have been established for VisionCNY.

Energy Management

Goal: Improve the region's energy management by increasing the efficiency of residential and commercial buildings, curtailing energy demand, increasing the use of local clean energy sources in place of fossil fuels, and accelerating the development of advanced energy technologies.

Infrastructure

Goal: Provide regional infrastructure that reduces greenhouse gas emissions, revitalizes existing communities, improves quality of life, strengthens targeted industry concentrations, and improves competitiveness.

Land Use

Goal: Manage the region's economic and physical development through the efficient and equitable use of its land to conserve its natural and cultural resources and revitalize its urban cores, main streets and existing neighborhoods.

Environment

Goal: Conserve and protect the quality of the region's water, air, land and

wildlife resources without compromising its ability to meet current and future resource-dependent needs.

Economic Development

Goal: Support the growth of a diverse economic base that will provide employment opportunities for a broad cross section of citizens in the region.

Materials Management

Goal: Improve the environmental performance and the economic development and job creation potential of the region's material management systems by reducing the production of waste and increasing materials reuse, recycling and energy recovery.

Climate Adaptation

Goal: Adapt successfully to a changing climate and improve the resilience of the region's communities, infrastructure and natural systems.



Onondaga Lake Park

Implementation

VisionCNY is a comprehensive plan that has been carefully calibrated to meet the needs of communities across the five-county region. The document represents a short-term, action-oriented guide and a long-term strategy that can be used to help ensure that the region can meet the needs of future generations.



Connective Corridor at Marshall Street and University Avenue, Syracuse

In evaluating the purpose of this comprehensive planning effort, it is important to note that the region has a collective strength and sufficient assets to help ensure the successful implementation of the plan. These resources include several important criteria including:

- + CNY is a cohesive, well-established region. The region's major transportation network, employment base, commuting patterns, media market, and primary cultural and civic institutions serve to unify its diverse communities, promote a sense of regional identity, and foster collaboration across jurisdictional boundaries.
- + CNY has significant organizational capacity and a successful track record of cooperation. It is well-served by its five member counties which operate under a county-executive or county-manager form of government. Each county has professionally-staffed planning, economic and community development, and transportation departments. Most have functioning county-based energy or sustainability advisory committees or full-time coordinators.
- + CNY has a number of regional organizations that provide services and coordinate project implementation across jurisdictional boundaries in the region. These organizations include National Grid, the Onondaga County Water Authority, the Metropolitan Water Board, and the CNY Regional Transportation Authority. Other organizational resources include Onondaga Community College, CenterState CEO, the Manufacturers Association of CNY, Syracuse Metropolitan Transportation Council, CNY Regional Planning and Development Board, CNY Technology Development Organization, Syracuse Center of Excellence, and the regional offices for the NYS Departments of Environmental Conservation, Transportation, Economic Development, and Labor.
- + CNY communities have recently prepared plans which support the goals of VisionCNY. Examples include the CNY Regional Economic Development Council's *Strategic Economic Development Plan 2012-2016*, the Onondaga County Sustainability and Climate Action Plans, the Oswego County Energy Efficiency Plan, the joint City of Auburn and Cayuga County Energy *Comprehensive Sustainable Energy and Development Plan*, the *Madison*

County Strategic Economic Development Plan, SMTC's University Hill Transportation Study, and the Syracuse Sustainability Plan. In addition, a number of counties and municipalities are preparing or have already completed greenhouse gas inventories, including Onondaga, Oswego, and Madison Counties, the Cities of Syracuse, Oswego, Cortland, and Auburn, the Towns of DeWitt and Preble, and the Villages of Fayetteville, Skaneateles, and Cazenovia.

- + CNY has many examples of sustainability projects already completed or underway. Examples cover the range of the plan's focus areas and include solar PV and other renewable energy systems installed by Onondaga and Oswego Counties, the Cities of Syracuse, Oswego, and Auburn, and the Towns of DeWitt and Preble; the ongoing cleanup of Onondaga Lake; the Connective Corridor and Near West Side Initiative in the City of Syracuse; the Madison County Agriculture and Renewable Energy Park; the Cayuga County Regional Biodigester; and the Port of Oswego East Terminal Connector Project. Successful implementation of these projects builds momentum and local capacity to undertake new projects identified in VisionCNY.

In addition to these strengths, communities face a number of challenges as they strive to attain a sustainable future. These challenges include the state of the national economy, changes in technology, aging infrastructure, demographic shifts, and limited financial resources. Given these challenges, it is difficult for communities to adopt a longer-term planning horizon which is needed to properly evaluate the financial and community benefits of strategies and projects recommended in the plan.

Despite these challenges, the planning team is strongly recommending that the region move aggressively toward the use of resources which will be made available to implement the plan including Phase II funding through the State's Cleaner, Greener Communities program. Consideration should also be given to NYSERDA programs such as FlexTech, Existing Facilities, New Construction and Industrial Process Efficiency which provide incentives for local government, commercial and industrial, and non-profit customers. The New York Power Authority administers a number of energy programs that benefit municipalities and other public entities. National Grid, NYS Electric & Gas, and Rochester Gas & Electric provide rebates and other incentives for energy conservation, infrastructure, and economic development projects.

Through the NYS Regional Economic Development Council CFA capital grant initiative, other programs can be accessed to help implement the plan. These resources include the Department of State Local Waterfront Revitalization Program,

the Environmental Facilities Corporation Green Innovation Grant Program, and Empire State Development's Capital Grant and Main Street Program. Federal support is available through programs such as the Environmental Protection Agency (EPA) Smart Growth Implementation Assistance Program, the Economic Development Administration (EDA) Global Climate Change Mitigation Incentive Fund Program, and the United States Department of Agriculture (USDA) Rural Energy for America Program.

Moving forward, CNY's stakeholders must acknowledge the challenges before them and focus on the implementation of key strategies and projects highlighted in the plan. Success breeds success; projects and programs that perform well will attract attention and build the foundation for future endeavors across the region.

In keeping with its mission as a public planning and development agency serving the counties of Cayuga, Cortland, Madison, Onondaga, and Oswego, the Central New York Regional Planning and Development Board looks forward to working with community representatives from across the region to provide leadership and serve as a steward responsible for helping to ensure the successful implementation of the plan while measuring the region's success in achieving a sustainable future.



SUNY ESF Gateway Building

Energy—Summary of Goal, Targets, Strategies, and Recommendations

Goal

IMPROVE THE REGION'S ENERGY MANAGEMENT BY INCREASING THE EFFICIENCY OF RESIDENTIAL AND COMMERCIAL BUILDINGS, CURTAILING ENERGY DEMAND, INCREASING THE USE OF LOCAL CLEAN ENERGY SOURCES IN PLACE OF FOSSIL FUELS, AND ACCELERATING THE DEVELOPMENT OF ADVANCED ENERGY TECHNOLOGIES.

Targets

- **REDUCE REGIONAL ENERGY CONSUMPTION PER CAPITA, INCLUDING ELECTRICITY AND FUELS, BY 40% (BELOW 2010 LEVELS) BY 2030.**
- **INCREASE THE AMOUNT OF ELECTRICITY GENERATED BY RENEWABLE SOURCES WITHIN THE REGION TO MEET 25% OF THE REGION'S CONSUMPTION BY 2030.**
- **INCREASE THE ANNUAL ENERGY SAVINGS ACHIEVED THROUGH NYSDA-FUNDED COMMERCIAL ENERGY EFFICIENCY PROJECTS BY 35% BY 2020 AND BY 50% BY 2030.**
- **CERTIFY 20% OF EXISTING PUBLIC BUILDINGS TO ENERGY STAR® OR SIMILAR ENERGY-EFFICIENCY STANDARDS BY 2030.**
- **INCREASE THE PORTION OF NEW RESIDENTIAL BUILDINGS BUILT TO ENERGY STAR® OR SIMILAR ENERGY-EFFICIENCY STANDARDS TO 50% BY 2030.**

Strategies

Short-Term Opportunities

- a. Reduce energy consumption and improve energy efficiency in residential and commercial buildings.
- b. Promote the development of renewable energy resources.
- c. Increase access to private and public financing options for investments in energy efficiency and distributed generation.
- d. Prepare a Regional Energy Roadmap.

Long-Term Initiatives

- e. Facilitate the use of combined heat and power.
- f. Develop district energy systems.
- g. Develop neighborhood-scale "net zero" projects.
- h. Upgrade or replace power generation, transmission, distribution and storage systems to encourage the development of renewable energy resources and smart grid technologies including vehicle-to-grid.
- i. Foster local innovation including the development of clean energy businesses.
- j. Encourage the deployment of advanced energy technologies such as hydrogen fuel cells.

Energy

| Project Recommendations | | | | | | Project Impacts | | | | | | | |
|--|---|--------------------|------|---------|-----------------|-------------------|--------------------------|------------|-------------------|---------------|----------------------|---------------------------|--------------------------|
| Title | Description | Sponsor Identified | Cost | Status | Barriers | Population Growth | Per Capita Income Growth | Job Growth | Energy Management | GHG Reduction | Community Resiliency | Environmental Stewardship | Improved Quality of Life |
| Syracuse Hancock International Airport Solar PV | Airport has sufficient open space to accommodate a large ground-mounted solar farm. This project will demonstrate solar PV technology at a highly visible location. | N | High | Concept | Funding, Siting | Low | Low | Low | High | Direct | High | Low | Low |
| Clay MWB Reservoir Solar PV | Two new reservoir tanks could accommodate 1.4 MW solar PV system that would generate approximately 1,824MWh per year. Under virtual net metering policy, the system could offset MWB energy costs at multiple sites. | Y | Med | Concept | Funding, Siting | Low | Low | Low | High | Direct | Med | Low | Low |
| Port of Oswego Solar PV | Roof of Port's main facility could accommodate 1+ MW solar PV system that would generate power for all Port buildings and a portside electrification system for docked vessels. | Y | Med | Concept | Funding, Siting | Low | Low | Low | High | Direct | Med | Low | Low |
| Camillus Honeywell Waste Beds Solar PV | Substantial vacant land is available to accommodate a large ground-mounted solar farm. This project would demonstrate solar PV technology at a highly visible location within the community. | N | High | Concept | Funding, Siting | Low | Low | Low | High | Direct | High | Low | Med |
| SUNY Cortland Solar PV and Geothermal | Retrofit existing ice rink and pool facility with heat pump system that extracts heat from ice making operation and uses the recovered heat to maintain pool water temperature. Roof-mounted solar PV system would provide on-site power. | Y | Med | Concept | Funding, Siting | Low | Low | Low | High | Direct | Med | Low | Low |
| OCC Coulter Library Geothermal | Replace existing dual duct system for 90,000 sq. ft. library with GHP HVAC installation. | Y | Low | Concept | Funding, Siting | Low | Low | Low | High | Direct | Med | Low | Low |

| Project Recommendations | | | | | | Project Impacts | | | | | | | |
|--|--|--------------------|------|---------|-----------------------------|-------------------|--------------------------|------------|-------------------|---------------|----------------------|---------------------------|--------------------------|
| Title | Description | Sponsor Identified | Cost | Status | Barriers | Population Growth | Per Capita Income Growth | Job Growth | Energy Management | GHG Reduction | Community Resiliency | Environmental Stewardship | Improved Quality of Life |
| Cazenovia Empire Farmstead Brewery Geothermal | A GHP system would be a natural complement to the proposed 20,000 sq. ft. brewing operation, where waste heat such as that present in the mash be extracted to heat the building in winter. | Y | Low | Concept | Funding, Siting | Low | Low | Low | Med | Direct | Med | Low | Low |
| Syracuse Community Health Center Geothermal | The SCHC will construct a new 60,000 sq. ft. medical office building on South Salina Street in Syracuse. | Y | Low | Concept | Funding, Siting | Low | Low | Low | High | Direct | Med | Low | Low |
| SUNY Oswego Wind Energy System | Campus location on shoreline of Lake Ontario is suitable for a large wind turbine such as 65-meter G58-850 which would produce approximately 1,900MWh per year. | Y | Med | Concept | Funding, Siting | Low | Low | Low | High | Direct | Med | Low | Low |
| Oswego Novelis Aluminum Wind Energy System | Campus location on shoreline of Lake Ontario is suitable for a large wind turbine such as 100-meter GE 1.6 MW which would produce approximately 6,073MWh per year. | N | Med | Concept | Funding, Siting | Low | Low | Low | High | Direct | Med | Low | Low |
| Fabius Community Wind Farm | Feasibility study is underway to discover economic or technical fatal flaws for a community-based wind farm project that could supply on-site power to large users in the area or sell wholesale power. | N | High | Concept | Funding, Siting, Market | Low | Low | Low | High | Direct | Med | Med | Low |
| Auburn State Dam Hydropower Facility | Study completed in 2006 by City of Auburn and NYPA indicated there was potential for hydro development at the City owned and operated State Dam. The City anticipates developing a new hydroelectric facility at the State Dam site with a potential plant capacity of 315kW to 800kW. | Y | Med | Concept | Funding, Siting, Regulatory | Low | Low | Low | High | Direct | Med | Low | Low |
| Cazenovia WWTP Hydropower Facility | The Town of Cazenovia has examined the use of turbines at Chittenango Creek to generate power for its wastewater treatment plant. | Y | Med | Concept | Funding, Siting, Regulatory | Low | Low | Low | High | Direct | Med | Low | Low |

| Project Recommendations | | | | | | Project Impacts | | | | | | | |
|---|---|--------------------|------|---------|-----------------------------|-------------------|--------------------------|------------|-------------------|---------------|----------------------|---------------------------|--------------------------|
| Title | Description | Sponsor Identified | Cost | Status | Barriers | Population Growth | Per Capita Income Growth | Job Growth | Energy Management | GHG Reduction | Community Resiliency | Environmental Stewardship | Improved Quality of Life |
| Onondaga County District Heating and Cooling | Existing plant provides steam and chilled water to ten county-owned buildings in downtown Syracuse and the Everson Museum of Art. Potential to expand system to serve commercial buildings including a new hotel near the Oncenter convention center or to provide heating hot water to nearby public housing complexes. | Y | High | Concept | Funding, Siting, Regulatory | Low | Low | Low | High | Direct | High | Low | Low |
| Syracuse University Steam Station Improvements | 6.5 MW gas turbine generator with heat recovery steam generator. 1.4 MW backpressure steam turbine. | Y | High | Concept | Funding, Siting | Low | Low | Low | High | Direct | High | Low | Low |
| SUNY Oswego Lake Source District Energy System | Campus location on shoreline of Lake Ontario makes it a candidate for a lake source water cooling system, like facility at Cornell University . Non-contact cooling water from the lake could directly cool a campus chilled water loop, serve as a cooling source for a heat pump chiller system or a combination of both. | Y | High | Concept | Funding, Siting, Regulatory | Low | Low | Low | High | Direct | High | Low | Low |
| Syracuse Inner Harbor District Energy System | Destiny and COR Development's proposed \$350 million mixed-use facility could provide an anchor load for a district energy system in Syracuse Lakefront | N | High | Concept | Funding, Siting, Regulatory | Low | Low | Low | High | Direct | Med | Low | Med |
| Syracuse Near West Side Demonstration Project | Upgrade all residential and commercial buildings and consider technologies that will reduce fossil fuel consumption for heating and cooling including geothermal or CHP/ CCHP on a single target block or street. | N | Med | Concept | Funding | Med | Low | Low | Med | Direct | Med | Low | Med |
| Syracuse Xavier Woods Demonstration Project | 33-unit residential subdivision includes energy-efficient homes that will be built to allow easy installation of clean energy systems including solar PV and solar thermal. | Y | High | Design | Funding | Low | Low | Low | Med | Direct | Med | Med | Med |
| Syracuse Public Lighting Efficiency Upgrade | There are approximately 18,000 street lights in the city, which account for more than 50% of total municipal electricity costs. Upgrade to LEDs or High-efficiency induction fixtures would reduce costs by as much as 70% with a payback of about 2 to 3 years. | Y | High | Concept | Funding, Regulatory | Low | Low | Low | High | Direct | Low | Low | Low |

Infrastructure—Summary of Goal, Targets, Strategies, and Recommendations

Goal

PROVIDE INFRASTRUCTURE THAT REDUCES GREENHOUSE GAS EMISSIONS, REVITALIZES EXISTING COMMUNITIES, IMPROVES THE QUALITY OF LIFE, STRENGTHENS TARGETED INDUSTRY CONCENTRATIONS, AND IMPROVES THE REGION'S COMPETITIVENESS.

Targets

- **REDUCE THE TOTAL VEHICLE MILES TRAVELED ANNUALLY IN THE REGION BY 25% BY 2030.**
- **DECREASE THE NUMBER OF BRIDGES AND ROADS THAT ARE RATED AS "DEFICIENT" OR "POOR" BY 25% BY 2030.**
- **UPGRADE 25% OF THE REGION'S WASTEWATER TREATMENT PLANTS BY 2030.**
- **MAINTAIN THE AMOUNT (NO NET DECREASE) OF ELECTRIC POWER PRODUCTION WITHIN THE REGION THAT IS DERIVED FROM CARBON-FREE SOURCES.**
- **INCREASE THE PERCENTAGE OF CNY RESIDENTS WITH HIGH-SPEED BROADBAND SERVICE FROM 87% TO 92% BY 2030.**

Strategies

Short-Term Opportunities

- a. Support a "fix-it-first" regional infrastructure policy
- b. Encourage transit-oriented development and bus rapid transit service for priority corridors
- c. Expand network of public transit park-and-ride facilities

Long-Term Initiatives

- d. Develop a regional transportation demand management program
- e. Develop "complete streets" to encourage walking and bicycling
- f. Develop a network of CNG fueling stations and EV charging stations
- g. Expand use of rail and barge systems in the region
- h. Maintain a comprehensive water and wastewater infrastructure investment program
- i. Develop safe and reliable energy production facilities and transmission resources that minimize greenhouse gas emissions
- j. Expand the region's telecommunication broadband network

Infrastructure

| Project Recommendations | | | | | | Project Impacts | | | | | | | |
|---|--|--------------------|------|---------|-------------------------|-------------------|--------------------------|------------|-------------------|---------------|----------------------|---------------------------|--------------------------|
| Title | Description | Sponsor Identified | Cost | Status | Barriers | Population Growth | Per Capita Income Growth | Job Growth | Energy Management | GHG Reduction | Community Resiliency | Environmental Stewardship | Improved Quality of Life |
| Syracuse Interstate Route 81 Viaduct Redevelopment I-81 Challenge | Community is evaluating the elevated portion of Interstate 81 through downtown Syracuse. Options currently being considered include rehabilitation/ reconstruction, utilizing a tunnel or depressed Highway, or bypassing the City and replacing the viaduct with an at-grade boulevard. | Y | High | Concept | Funding, Siting | Med | Med | Med | Low | Indirect | Low | Med | High |
| Syracuse Intermodal Transit Park-Ride Facility | Develop a strategically located park and ride facility to serve downtown and the University Hill area that incorporates a mixed-use design to enliven the streetscape and provide needed amenities for commuters and adjacent land uses. | N | High | Concept | Funding, Siting | Low | Low | Low | Low | Indirect | Med | Low | Med |
| Port of Oswego On-Site Rail, Road Infrastructure and Eastside Arterial Route 481 Connector | The East Terminal project will construct a combined connector roadway and rehabilitate an existing railroad track. Also provide an alternate tuck route that by-passes downtown Oswego and connects to Route 481 east and south of the City | Y | High | Concept | Funding | Low | Low | Low | Low | Indirect | Low | Low | Low |
| CNY District Energy System and MWB Dual Water Transmission Line | SUNY ESF study explored feasibility of building a new MWB water transmission line from Oswego to Syracuse which could be used for district energy | N | High | Concept | Funding, Siting | Low | Low | Low | Low | Low | High | Low | Low |
| Clay Rebuild the I-81/ Route 31 Interchange | Provide better access and circulation at the interchange of Route 31 and Interstate 1-81 to support development of the White Pine Commerce Park in the Town of Clay. | N | High | Concept | Funding, Policy, Siting | Med | Med | Med | Low | Low | Low | Low | Med |
| Cortland WWTP Business Service Capacity Improvements | Incorporation of changes to treatment process in 2014. Additionally the city is pursuing a Combined Heat and Power biogas-to-electricity project expected to supply up to 60% of the facility's energy needs. | Y | Med | Design | Funding | Low | Med | Med | Med | Direct | Low | Med | Low |

| Project Recommendations | | | | | | Project Impacts | | | | | | | |
|---|---|--------------------|------|----------------|-----------------------------|-------------------|--------------------------|------------|-------------------|---------------|----------------------|---------------------------|--------------------------|
| Title | Description | Sponsor Identified | Cost | Status | Barriers | Population Growth | Per Capita Income Growth | Job Growth | Energy Management | GHG Reduction | Community Resiliency | Environmental Stewardship | Improved Quality of Life |
| Auburn WWTP Business Service Capacity Improvements | Proposed installation of a new HVAC system that utilizes waste heat that would save on future natural gas and energy costs. Additional improvements are necessary to upgrade the sewage collection and treatment process. | Y | Med | Concept | Funding | Low | Low | Low | Low | Direct | Low | Med | Low |
| Manlius Intermodal Rail and Inland Port | Development of a facility to facilitate connections to Port Authority of NY/NJ and regional rail freight and local truck traffic. Project will enhance regional import/export capabilities. | Y | Med | Concept | Funding, Siting | Low | Low | Low | Med | Indirect | Low | Low | Low |
| Cortland Downtown Intermodal Rail Center | Enhancement of NYS&W's ability to move cargo in Cortland area, benefitting several local companies and boosting economic activity in the area. The Cortland Transload Terminal Improvement will construct a rail terminal which will allow short-haul trucks to load and unload directly onto rail cars. | Y | Med | Design, Siting | Funding | Low | Med | Med | Med | Indirect | Low | Low | Low |
| Oswego CNG Fueling Station | Oswego County and the City of Oswego have expressed interest in the development of a compressed natural gas facility to support municipal fleets. A CNG facility would also allow Centro to switch to CNG buses in Oswego. | Y | Med | Concept | Funding, Siting | Low | Low | Low | Med | Direct | Low | Low | Low |
| Regional Bicycle Infrastructure | Development of regional bicycle infrastructure to include bicycle sharing, parking, on-road cycling lanes/routes, as well as dedicated off-road trails with a focus on improving alternative mobility options and connections with colleges, universities and schools in urban centers such as Syracuse, Oswego, Cortland, Auburn, Hamilton, Morrisville, Cazenovia, and Skaneateles. | N | Med | Concept | Funding | Low | Low | Low | Med | Indirect | Med | Low | High |
| OCWA Oneida Lake North Shore Water System | Complete OCWA water supply loop along the North Shore of Oneida Lake with connection in Oneida and Madison county. The project would improve capacity and provide system redundancy for OCWA's eastern service territory. | Y | Med | Concept | Funding, Siting | Low | Low | Low | Low | - | High | Low | Med |
| OCWA Otisco Lake Dual-Transmission Water Facility | Provide a second water transmission line to enhance water service to Syracuse and provide a redundant service for existing City, OCWA, and MWB service in Onondaga County | N | Med | Concept | Funding, Siting, Regulatory | Low | Low | Low | Low | - | High | Low | Low |

| Project Recommendations | | | | | | Project Impacts | | | | | | | |
|---|---|--------------------|------|---------|-----------------------------|-------------------|--------------------------|------------|-------------------|---------------|----------------------|---------------------------|--------------------------|
| Title | Description | Sponsor Identified | Cost | Status | Barriers | Population Growth | Per Capita Income Growth | Job Growth | Energy Management | GHG Reduction | Community Resiliency | Environmental Stewardship | Improved Quality of Life |
| Madison County Agriculture and Renewable Energy ARE Park Infrastructure Facilities | Infrastructure upgrades include a new water line which would expand economic development opportunities and a new sewer line, which would significantly reduce diesel fuel consumption and GHG emissions by eliminating the need to transport landfill leachate to the Oneida wastewater treatment plant by truck. | Y | Med | Concept | Funding | Low | Low | Med | Low | Direct | - | Low | Low |
| Fulton Riverview Business Park Regional WWTP Improvements | Capitalize on the significant underutilized capacity of the former brewery WWTP to provide a area-wide service for communities and business parks in the area including the Oswego County Industrial Park | N | Med | Concept | Funding, Siting, Regulatory | Med | Med | Med | Low | Indirect | Med | High | Med |
| Cortlandville Business Service Sewer Transmission Facility | Reconstruction of sewer interceptor line along Route 13. Upgrades needed to support development at Finger Lakes East Business Park | Y | Med | Design | Funding | Low | Low | Low | - | - | Med | Low | Low |
| Fulton Bristol Hill Landfill Sewer Transmission Facility | Connect Bristol Hill leachate to Fulton WWTP along route 3 corridor in Volney to eliminate trucks from the road, and increase efficiency at Fulton WWTP. This project will significantly reduce vehicular GHG emissions. | Y | Med | Concept | Funding | Low | Low | Low | - | Indirect | - | Low | Low |
| Trush Business Park Public Water Supply | Provision of a public water supply system would support additional growth in the business park. | N | Med | Concept | Funding | Low | Low | Low | - | - | Med | Low | Low |
| Syracuse Downtown Bus Rapid Transit or Light Rail System | Development of dedicated commuter transit system connecting Syracuse Lakefront, St. Joseph's Hospital, downtown Syracuse, and University Hill. The corridor was identified in a 2007 study by SMTC as having greatest potential to increase transit trips. | N | High | Concept | Funding, Siting | Med | Med | Med | High | Direct | High | Med | Med |
| National Grid Smart Grid Demonstration Project | Deploy smart meters and other smart grid technologies for customers on east side of Syracuse and Town of DeWitt as proposed to US DOE by National Grid | Y | High | Design | Funding | Low | Low | Low | Low | Low | High | High | Indirect |

Land Use—Summary of Goal, Targets, Strategies, and Recommendations

Goal

MANAGE THE REGION'S ECONOMIC AND PHYSICAL DEVELOPMENT THROUGH THE EFFICIENT AND EQUITABLE USE OF LAND TO CONSERVE ITS NATURAL AND CULTURAL RESOURCES AND REVITALIZE ITS URBAN CORES, MAIN STREETS AND EXISTING NEIGHBORHOODS.

Targets

- **REDUCE THE AMOUNT OF LAND OCCUPIED IN CENTRAL NEW YORK ON A PER CAPITA BASIS TO 0.225 ACRES PER PERSON.**
- **INCREASE THE NUMBER OF ACRES OF CRITICAL CONSERVATION AREAS IN CENTRAL NEW YORK BY 25%.**
- **CREATE 50 NEW MILES OF DEDICATED CYCLE TRACKS ALONG MAJOR COMMUTING CORRIDORS BY 2030.**
- **REDUCE THE PERCENTAGE OF HOUSEHOLD INCOME SPENT ON HOUSING AND TRANSPORTATION COSTS IN CENTRAL NEW YORK BY 10%.**
- **SUPPORT ACTIVITIES THAT MAINTAIN OR INCREASE THE LEVEL OF FARMLAND IN THE REGION, CURRENTLY AT 815,000 ACRES.**

Strategies

Short-Term Opportunities

- a. Implement a community-based urban infill program.
- b. Implement a regional pedestrian and bicycle trail access program.
- c. Implement a regional main street revitalization program.

Long-Term Initiatives

- d. Assist communities with the implementation of a smart growth regulatory and incentive program.
- e. Support a regional natural area conservation protection program.
- f. Develop a regional recreation and cultural heritage protection program.
- g. Support a regional agriculture land protection program.
- h. Implement a comprehensive brownfield redevelopment program.
- i. Support an ECNHC waterfront revitalization program.
- j. Promote municipal adoption of a complete streets program.

Land Use

| Project Recommendations | | | | | | Project Impacts | | | | | | | |
|--|--|--------------------|------|---------|----------|-------------------|--------------------------|------------|-------------------|---------------|----------------------|---------------------------|--------------------------|
| Title | Description | Sponsor Identified | Cost | Status | Barriers | Population Growth | Per Capita Income Growth | Job Growth | Energy Management | GHG Reduction | Community Resiliency | Environmental Stewardship | Improved Quality of Life |
| Onondaga Lake Loop-the-Lake Trail | Complete construction of the 'Loop the Lake Trail' around Onondaga Lake. A completed 12-mile lake loop connecting with the Creekwalk to Armory Square downtown, and also has the potential to link to the Erie Canalway Trail, NYS Fairgrounds, and nearby community development projects. | Y | Med | Concept | Funding | Med | Low | Low | Low | Indirect | Low | Med | High |
| Erie Canal National Heritage Corridor Trail | Construct the connecting 15-mile link of the Erie Canalway Multi-use Trail between Camillus and DeWitt through the City of Syracuse with connections to the Onondaga County Loop the Lake Trail, the NYS Fairgrounds, and Onondaga Creekwalk. | N | Med | Concept | Funding | Low | Low | Low | Low | Indirect | Low | Med | High |
| Auburn Owasco River Greenway Trail | Six-mile multi-use trail along the Owasco River will extend from Emerson Park at Owasco Lake to Wadsworth "Park" on the City of Auburn's west side. The Plan will augment the existing transportation system with bicycle and pedestrian infrastructure along the Owasco River, connecting neighborhoods, | Y | Med | Concept | Funding | Low | Low | Low | Low | Indirect | Low | Med | Med |
| Oneida Community Pedestrian Trail | Construct 10.5 miles of multi-use trail around and through the heart of downtown Oneida mostly along city-owned rail bed corridors. The trail will connect to the Village of Wampsville to the west and the Village of Sherrill to the east as well as to Oneida High school, parks and the City's downtown. | N | Med | Concept | Funding | Low | Low | Low | Low | Indirect | Low | Med | Med |
| Salmon River Greenway Trail | Plans include a 3-mile multi-use trail along the banks of the Salmon River through the Village of Pulaski. Eventually this trail will connect to 12 additional miles of trail to be built along the river linking the towns of Redfield, Orwell, and Altmar to Richland and Pulaski in Oswego County. | Y | Med | Concept | Funding | Low | Low | Low | Low | Indirect | Low | Med | Med |
| Oswego Breitbeck Park Waterfront Trail | Construct the extension of the Waterfront Trail from Breitbeck Park to Sheldon Beach in the City of Oswego. Extension of this trail will improve community access to the waterfront along Lake Ontario in the City of Oswego. | N | Med | Concept | Funding | Low | Low | Low | - | Indirect | Low | Med | Med |

| Project Recommendations | | | | | | Project Impacts | | | | | | | |
|---|---|--------------------|------|----------|----------|-------------------|--------------------------|------------|-------------------|---------------|----------------------|---------------------------|--------------------------|
| Title | Description | Sponsor Identified | Cost | Status | Barriers | Population Growth | Per Capita Income Growth | Job Growth | Energy Management | GHG Reduction | Community Resiliency | Environmental Stewardship | Improved Quality of Life |
| Auburn Schines Theater Rehabilitation | Complete historic restoration and rehabilitation of the 1938 Auburn Schines Theater to support the Finger Lakes Theater Summer Musical Festival. | Y | Med | Concept | Funding | Low | Low | Low | - | | | Med | Med |
| Brewerton Waterfront Redevelopment | Complete waterfront improvements in the Village of Brewerton. A redevelopment plan has been completed identifying several projects that will remove barriers and enhance public access to the waterfront. | Y | Med | Concept | Funding | Low | Low | Low | Low | Indirect | - | Med | Med |
| Richland Selkirk Lighthouse Waterfront Redevelopment | Rehabilitation of the historic lakefront Selkirk Point landscape and hotel, along with redevelopment of the site to minimize impermeable surfaces, re-establish native plantings and add public space along with compatibly-scaled and -designed waterfront uses, | N | Med | Concept | Funding | Low | Low | Low | - | Indirect | Med | Med | High |
| Clay Three Rivers Waterfront Redevelopment | Waterfront Revitalization plan has been completed suggesting several projects including enhancements to waterfront access and redevelopment of several parcels for commercial and residential use. | N | High | Concept | Funding | Low | Low | Low | Low | Indirect | Low | Low | Med |
| Oswego Route 104 "Complete Street" Design | NYS Route 104 through the City of Oswego has significant commercial uses along the corridor. A "complete street" strategy could enhance pedestrian and bicycle utilization and mobility for city residents and students at SUNY Oswego | Y | Med | Concept | Funding | Low | Low | Low | Low | Indirect | Low | Med | Med |
| Syracuse Loguen Crossing Development | Loguen Crossing, will transform the former Kennedy Square housing complex adjacent to the CNY Biotechnology Accelerator into a mixed-use development with office space, housing, retail and commercial space in downtown Syracuse. | Y | High | Underway | Market | Low | Low | Low | Low | Indirect | Low | Med | Med |
| DeWitt Shoppingtown Mall Redevelopment Plan | Complete a redevelopment strategy for Shoppingtown Mall that incorporates a mixed-use transit oriented development concept that capitalizes on the central location of the center in the Syracuse community. | N | Low | Concept | Funding | Low | Low | Low | Low | Indirect | Low | Med | Med |

| Project Recommendations | | | | | | Project Impacts | | | | | | | |
|---|---|--------------------|------|----------|-------------------------|-------------------|--------------------------|------------|-------------------|---------------|----------------------|---------------------------|--------------------------|
| Title | Description | Sponsor Identified | Cost | Status | Barriers | Population Growth | Per Capita Income Growth | Job Growth | Energy Management | GHG Reduction | Community Resiliency | Environmental Stewardship | Improved Quality of Life |
| Oswego Midtown Plaza Redevelopment | Sutton Cos. bought Midtown Plaza and its 68,000 square feet of retail center in 2012. Plans call for demolition of the existing structure and construction of a mixed-use commercial and residential complex at a critical location in the City adjacent to the riverfront. | Y | High | Design | Funding, Market | Low | Low | Low | Low | Indirect | Low | Low | Med |
| Cortland Route 13 Gateway Development | The City of Cortland is completing the design phase of the Route 13 Gateway project aimed at creating a "gateway" corridor to downtown Cortland with attractive signage, bike and pedestrian infrastructure, and an improved streetscape. | Y | Med | Concept | Funding | Low | Low | Low | - | Indirect | - | Low | Med |
| Onondaga Lake Honeywell Lakeshore Development | Continued enhancements to the lakeshore along Onondaga Lake will allow more public access, and return historically contaminated property to community use. | Y | Med | Design | Funding | Low | Low | Low | - | Indirect | - | High | High |
| Sherwood Equal Rights Historic District Preservation Master Plan | Preservation planning for the protection and rehabilitation the National Register-listed Sherwood Equal Rights Historic District in Cayuga County . | Y | Low | Concept | Funding | Low | Low | Low | - | Indirect | - | Med | Med |
| Pulaski Kallet Theater Rehabilitation | Rehabilitation of the historic Kallet Theater in the Pulaski. The facility will feature 430 theater-style folding chairs on a tiered angle to face a stage with a screen and projector. Facility will be used as a corporate training center and as community event space. | Y | Med | Underway | Market | Low | Low | Low | Low | Indirect | Low | Low | Med |
| St. Joseph's Hospital Prospect Hill Medical District | Based upon a master plan completed for the hospital, the project involves the development of a mixed-use complex including medical facilities, hotel, fitness and day-care center and parking garage. | N | High | Concept | Funding, Siting, Market | Low | Low | Low | Low | Indirect | Low | Low | Med |
| DeWitt Route 298 Carrier Gateway Corridor Master Plan | Utilize existing Carrier reuse plan as basis for a NYS Route 298 industrial corridor redevelopment plan to capitalize on the areas existing robust infrastructure resources. | N | Low | Concept | Funding | Low | Low | Low | Low | Indirect | Low | Med | Med |

Environment—Summary of Goal, Targets, Strategies, and Recommendations

Goal

CONSERVE AND PROTECT THE QUALITY OF THE REGION'S WATER, AIR, LAND AND WILDLIFE RESOURCES WITHOUT COMPROMISING THE ABILITY TO MEET CURRENT AND FUTURE RESOURCE DEPENDENT NEEDS.

Targets

- **ENSURE NO NET INCREASE IN CONSUMPTIVE WATER WITHDRAWALS THROUGH 2030.**
- **REDUCE THE NUMBER OF IMPAIRED WATER BODIES IN CNY BY 50% BY 2030.**
- **REDUCE THE NUMBER OF COMBINED SEWER OVERFLOWS (CSOS) IN CNY BY 65% BY 2030.**
- **REDUCE THE PERCENTAGE OF IMPERVIOUS SURFACE SURFACES IN THE SYRACUSE URBANIZED AREA FROM 21% TO 18% BY 2030.**
- **REDUCE AIR POLLUTANT EMISSIONS BY 25% FOR OZONE, SULFUR, PARTICULATES, AND CARBON MONOXIDE BY 2030.**

Strategies

Short-Term Opportunities

- a. Provide tools, resources and training for local officials to encourage resource conservation.
- b. Promote a comprehensive regional green infrastructure program to improve air and water quality.
- c. Develop a regional urban-rural forestry restoration program.

Long-Term Initiatives

- d. Implement a coordinated regional invasive aquatic weed-harvesting management program.
- e. Utilize and replicate natural systems in support of critical infrastructure services to protect and improve water quality.
- f. Develop a regional program to reduce the amount of impervious parking areas.
- g. Implement targeted infrastructure improvement for pollution sources known to impact impaired water bodies.
- h. Develop a regional public education and water conservation program.
- i. Support a regional agriculture cover-crop and no-till program in priority watersheds.
- j. Develop a coordinated stream restoration program for high priority water-bodies.

Environment

| Project Recommendations | | | | | | Project Impacts | | | | | | | |
|--|--|--------------------|------|---------|-----------------|-------------------|--------------------------|------------|-------------------|---------------|----------------------|---------------------------|--------------------------|
| Title | Description | Sponsor Identified | Cost | Status | Barriers | Population Growth | Per Capita Income Growth | Job Growth | Energy Management | GHG Reduction | Community Resiliency | Environmental Stewardship | Improved Quality of Life |
| Onondaga Lake and Watershed Restoration Program | Efforts to improve Onondaga Lake quality will expand from the lakeshore and near lakeshore to the entire watershed. Priority projects affecting tributaries to Onondaga Lake will be implemented to improve stream and lake quality, wetland functions, and enhance, recreational opportunities. | Y | High | Ongoing | Funding | Med | Med | Med | Low | Indirect | Low | High | High |
| Oswego "Green Gateway" project | The flow of nutrients and pathogens to the Oswego River from West Side CSOs will be reduced by implementing green infrastructure projects at strategic and Highly visible locations. Approximately 3.4M gal. of stormwater to the WWTP will be eliminated annually. | Y | Med | Concept | Funding | Low | Low | Low | - | Direct | Med | High | Low |
| Oneida Creek Streambank Restoration Program | Areas of High erosion, pollutant loading, frequent flooding, and water quality issues will be documented in a Watershed Management Plan for Oneida Creek. Priority projects utilizing "soft" engineering and biotechnical techniques will be implemented at key locations. | N | Low | Concept | Funding | Low | Low | Low | - | Indirect | Low | High | Low |
| Tully Kettle-Lakes Constructed Wetlands | Tully Lake is impacted by nutrient runoff and septic leachate from nearby residential development. Innovative wetland technologies such as gravel wetlands will be assessed and implemented to reduce nutrient loading to the lake. | N | Low | Concept | Funding, Siting | Low | Low | Low | - | - | - | Med | Med |
| Conquest Duck Lake Constructed Wetlands | Duck Lake water quality is impaired by phosphorus inputs from septic leachate, wildlife and other potential sources. This project will evaluate the best opportunities and utilize innovative wetland techniques such as gravel wetlands to treat wastewater. | N | Low | Concept | Funding, Siting | Low | Low | Low | - | - | - | Med | Med |
| Schroepfel Pleasant Lake Constructed Wetlands | Pleasant Lake is a 303(d)listed water for nutrients. Innovative wetland technologies such as gravel wetlands will be assessed and implemented to reduce nutrient loading to the lake. | N | Low | Concept | Funding, Siting | Low | Low | Low | - | - | - | Med | Med |

| Project Recommendations | | | | | | Project Impacts | | | | | | | |
|--|---|--------------------|------|---------|-----------------|-------------------|--------------------------|------------|-------------------|---------------|----------------------|---------------------------|--------------------------|
| Title | Description | Sponsor Identified | Cost | Status | Barriers | Population Growth | Per Capita Income Growth | Job Growth | Energy Management | GHG Reduction | Community Resiliency | Environmental Stewardship | Improved Quality of Life |
| Camillus Belle Isle Landfill Constructed Wetlands | The effectiveness of municipal landfill leachate treatment using constructed wetlands and ammonia trickling filters will be demonstrated. Technology developed in Village of Minoa and further tested at the Bristol Hill landfill in Oswego County will be used. | N | Med | Concept | Funding, Siting | Low | Low | Low | - | Direct | Low | Med | Low |
| Fulton Lake Neathawanta Reclamation and Dredging | A hydraulic dredge will be used to clear accumulated lake bottom sediment and re-establish flow of natural springs in Lake Neathawanta. Phosphorus and sediment available for re-suspension will be reduced, dissolved oxygen levels, water circulation and overall water quality will be improved. | Y | Low | Design | Funding | Low | Low | Low | - | - | Low | Med | Med |
| Clay Bayberry Green Infrastructure Improvements | Bioretention, water quality swales and pervious pavement will be installed to reduce stormwater runoff that is contributing to sanitary overflows. The discharges of pathogens and nutrients to the Seneca River will be reduced. | Y | Med | Concept | Funding | Low | Low | Low | - | Direct | Low | Med | Low |
| Sullivan Chapman Park Bioinfiltration Demonstration | A biofilter swale designed to convey the 50-year peak stormwater discharge will be constructed on the south shore of Oneida Lake. The swale and associated native plantings will reduce shoreline erosion and other pollutants from entering Oneida Lake. | Y | Low | Design | Funding | Low | Low | Low | - | - | Low | Med | Low |
| Marcellus WWTP Nine Mile Creek Constructed Wetlands | An extensive natural wetlands area adjacent to Ninemile Creek will be restored and/or enhanced to provide additional treatment of municipal wastewater effluent from the Marcellus WWTP. The discharge of phosphorus to Nine mile Creek and Onondaga Lake will be reduced. | N | Med | Concept | Funding, Siting | Low | Low | Low | - | Direct | Low | High | Low |
| Onondaga Lake Marina Bioinfiltration Filters | Bioretention areas along the Recreation Trail at Onondaga Lake Park in Liverpool will be installed to address stormwater discharge from adjacent yard drains. Phosphorus entering Onondaga Lake from residential lawns will be reduced and public education will be improved. | Y | Low | Concept | Funding | Low | Low | Low | - | - | Low | Low | Low |
| Onondaga Lake Park Willow Bay Bioinfiltration | Stormwater runoff from two parking lots in the Willow Bay area at the north end of Onondaga Lake Park will be treated using bioretention and water quality swales. Localized flooding and phosphorus loading to Onondaga Lake will be reduced and public education will be improved. | Y | Low | Concept | Funding, Siting | Low | Low | Low | - | - | Low | Low | Low |

| Project Recommendations | | | | | | Project Impacts | | | | | | | |
|---|---|--------------------|------|---------|-----------------|-------------------|--------------------------|------------|-------------------|------------------|----------------------|---------------------------|--------------------------|
| Title | Description | Sponsor Identified | Cost | Status | Barriers | Population Growth | Per Capita Income Growth | Job Growth | Energy Management | GHG Reduction | Community Resiliency | Environmental Stewardship | Improved Quality of Life |
| Sandy Creek Lake Ontario Barrier Beach Master Plan | Protect unique, critical shoreline features and wetland functions by identifying and implementing priority projects. Long term impacts include invasive species eradication, streambank restoration, enhanced intermunicipal land use planning, and improved public education and recreation opportunities. | N | Low | Concept | Funding | Low | Low | Low | - | Indirect | Med | High | Med |
| Skaneateles Lake Conservation Easement | Purchase permanent conservation easements from willing landowners. Protect water quality by limiting the development of environmentally significant properties and protecting farmland, forests, and other open spaces that act as natural buffers to Skaneateles Lake and its tributaries. | Y | Med | Ongoing | Funding | Low | Low | Low | - | Indirect | Med | High | Med |
| Syracuse Water Leak Detection Slip Line Technology | The City of Syracuse will undertake a dedicated leak detection program throughout its aging distribution system. The city will utilize slip line technology to address unaccounted for water loss. | Y | Med | Concept | Funding | Low | Low | Low | - | - | Med | High | Low |
| Owasco Lake Inlet Habitat Restoration Initiative | The Owasco Inlet will be reconnected with its floodplain. Existing and created wetlands will filter out nutrients and sediment. Riparian buffers will be planted along agricultural drainage ways to reduce nutrient and sediment inputs to the lake and improve wildlife habitat. | Y | Med | Ongoing | Funding, Siting | Low | Low | Low | Med | Indirect | Med | High | Med |
| Colgate University Green Infrastructure Improvements | Reduce stormwater runoff and energy usage through green infrastructure practices. Green roof(s), onsite production and use of biofuel, green purchasing programs and adherence to LEED building standards will increase water conservation, decrease energy demand and reduced reliance on fossil fuels. | Y | High | Ongoing | Funding | Low | Low | Low | Low | Direct, Indirect | Low | Med | Low |
| Salina Ley Creek GM/Racer Trust Remediation Initiative | The ongoing remediation of industrial wastes that discharge to Ley Creek and its tributaries in a Highly urbanized and commercial area in the Town of Salina will be completed. Enhancements will be made to the existing groundwater collection system. | Y | Med | Ongoing | Funding | Low | Low | Low | - | - | Low | High | Low |
| Tully Mud-Boils Containment and Management Program | A long-term solution for addressing the discharge of sediment from the Tully Valley Mudboils to Onondaga Creed will be developed and implemented. It is estimated that sediment loading will be reduced by approximately 30 tons per day. | Y | High | Concept | Funding | Low | Low | Low | - | - | Med | High | Med |

Economic Development—Summary of Goal, Targets, Strategies, and Recommendations

Goal

SUPPORT THE GROWTH OF A DIVERSE ECONOMIC BASE THAT WILL PROVIDE EMPLOYMENT OPPORTUNITIES FOR A BROAD CROSS SECTION OF CITIZENS ACROSS THE FIVE-COUNTY REGION.

Targets

- **INCREASE THE REGION'S CURRENT POPULATION OF 791,500 TO 1 MILLION RESIDENTS BY 2050.**
- **INCREASE THE REGIONS' CURRENT NUMBER OF JOBS FROM 320,000 TO 405,000 BY 2030.**
- **INCREASE THE REGION'S PER CAPITA INCOME TO EQUAL OR EXCEED THE NATIONAL AVERAGE BY 2030.**
- **IMPROVE THE REGION'S NATIONAL ECONOMIC STRENGTH INDEX RATING TO A "TOP 50" SCORE.**
- **INCREASE THE NUMBER OF CLEAN-ENERGY JOBS IN CENTRAL NEW YORK AS MEASURED BY THE BROOKINGS INSTITUTE BY 25% OVER THE NEXT 20 YEARS.**

Strategies

Short-Term Opportunities

- a. Maintain a strong foundation for the management and efficient delivery of government services at the federal, state, and local level.
- b. Support the development and maintenance of a modern infrastructure network in Central New York that is focused on roads, sewer and water facilities, transit services, telecommunication resources, air and rail services, shovel ready development sites, and port facilities.

Long-Term Initiatives

- c. Develop a coordinated regional program that will improve the quality of life in Central New York through targeted investments in the region's recreation, cultural, arts, and historic resources.
- d. Maintain a strong network of county and regionally-based organizations with the capacity to coordinate the delivery of a range of economic development services, tax abatement, and financial assistance in Central New York.
- e. Support the operation of a coordinated and robust business retention and expansion program in Central New York
- f. Maximize the region's human capital by improving the alignment of workforce supply and employment demand in the region.
- g. Encourage the growth of a strong entrepreneurial culture in Central New York that will strengthen the region's economy through new venture formation and product development activities.
- h. Support the region's industry concentrations through investment of resources in targeted research initiatives, capital funding, and workforce training programs.
- i. Coordinate implementation of a comprehensive regional marketing and business recruitment program.
- j. Implement a comprehensive regional export marketing campaign and technical assistance program.

Economic Development

| Project Recommendations | | | | | | Project Impacts | | | | | | | |
|--|--|--------------------|------|----------|-----------------|-------------------|--------------------------|------------|-------------------|---------------|----------------------|---------------------------|--------------------------|
| Title | Description | Sponsor Identified | Cost | Status | Barriers | Population Growth | Per Capita Income Growth | Job Growth | Energy Management | GHG Reduction | Community Resiliency | Environmental Stewardship | Improved Quality of Life |
| Auburn Finger Lakes Musical Theatre Festival | Development of venues and facilities to serve the tourist potential of this summer musical festival | Y | Med | Ongoing | Funding, Market | Med | Med | Med | - | - | Med | Low | High |
| Syracuse CNY Nanotechnology Innovation Center | Rehabilitation of former manufacturing building in Salina to serve as research center for State nanotechnology industrial cluster | Y | Med | Underway | Market | Med | Med | Med | - | - | Med | Low | Low |
| Syracuse Convention Center Hotel | Construction of a new hotel adjacent to convention center to capitalize on opportunities to serve as a regional convention destination | N | High | Concept | Funding, Market | Med | Med | Med | - | - | Med | Low | High |
| SU Center of Excellence NYE-RIC Research Facilities | Capitalize on federal EDA grant and State resources being provided to construction needed laboratories and equipment at COE | Y | Med | Underway | Market | Med | Med | Med | Med | Indirect | Med | Low | Med |
| SUNY-ESF Willow Biomass Energy Production Program | Expand the SUNY ESF Willow demonstration planting program to more landowners and farmers in CNY to provide supply for a robust CHP network | Y | Med | Underway | Funding, Market | Low | Med | Med | High | Direct | Med | Med | Med |
| SUNY-ESF Biomass Cooperative Innovation Center | New equipment and facilities at center to allow for research of commercial development opportunities of biomass resources | Y | Med | Concept | Funding | Low | Med | Med | Med | Indirect | Med | Med | Low |

| Project Recommendations | | | | | | Project Impacts | | | | | | | |
|---|---|--------------------|------|---------|-------------------------|-------------------|--------------------------|------------|-------------------|---------------|----------------------|---------------------------|--------------------------|
| Title | Description | Sponsor Identified | Cost | Status | Barriers | Population Growth | Per Capita Income Growth | Job Growth | Energy Management | GHG Reduction | Community Resiliency | Environmental Stewardship | Improved Quality of Life |
| Cortland CNY Center for Membrane Technologies | Development of a micro-filter membrane research center at Pall Corporation in Cortland | Y | Med | Design | Market | Low | Med | Med | Low | - | Low | Low | Low |
| SUNY Morrisville Aquaculture Program Expansion | Development of expanded facilities and equipment that will allow for improved research and student training in the field of commercial on-site aquaculture and fish farming | Y | Med | Concept | Funding, Market | Low | Med | Med | Low | - | Low | Low | Low |
| Clay White Pines Commerce Park Infrastructure | Complete the construction of a major sewer line to serve the 350-acre business park along with related public road improvements | Y | Med | Design | Funding | Med | Med | Med | Low | Indirect | Med | Med | Med |
| Aurelius Business Park Infrastructure Improvements | Provide an appropriate access road , improvement in public sewer and water service, and a CHP facility to support a dairy business location in the park and other related companies | Y | Med | Concept | Funding, Market | Med | Med | Med | Med | Indirect | Low | Low | Med |
| Auburn Tech Park Infrastructure Improvements | Upgrade infrastructure in the business park to allow the City to retain existing tenants and development new sites for industrial growth | Y | Med | Concept | Funding | Low | Med | Med | Low | Indirect | Low | Low | Low |
| Oneida Elm Street/Curtin Business Park | Extend a sewer and water line from the City of Oneida to allow for development of this 200-acre business area west of the City center | Y | Med | Concept | Funding, Siting, Market | Med | Med | Med | Low | Indirect | Med | Low | Med |
| Syracuse Hancock Airpark Phase V Expansion | Complete the demolition of vacant buildings on the eastern edge of the park and construction of new utilities to allow for the marketing of additional sites in the park | Y | Med | Design | Market | Low | Med | Med | Low | Indirect | Med | Low | Med |

| Project Recommendations | | | | | | Project Impacts | | | | | | | |
|---|---|--------------------|------|----------|-----------------------------|-------------------|--------------------------|------------|-------------------|---------------|----------------------|---------------------------|--------------------------|
| Title | Description | Sponsor Identified | Cost | Status | Barriers | Population Growth | Per Capita Income Growth | Job Growth | Energy Management | GHG Reduction | Community Resiliency | Environmental Stewardship | Improved Quality of Life |
| Madison Culinary Institute and Hotel Conference Center | Capitalize on interest in the marketplace by developing a specialized hops and culinary institute and hotel conference center | N | High | Concept | Funding, Siting, Market | Med | Med | Med | Low | Indirect | Med | Med | Med |
| Fulton Nestle Site Redevelopment | Capitalize on the robust infrastructure network in the area by supporting the environmental remediation and reuse of the former manufacturing facility and site | Y | Med | Concept | Funding, | Low | Low | Low | Low | Indirect | Med | High | High |
| Central Square CNY Raceway Park Infrastructure | Develop public infrastructure including road access improvements to support the development of this commercial racing and tourist attraction | Y | Med | Design | Funding, Market | Low | Low | Low | - | - | - | Low | Low |
| Cortland Buckbee Meers Brownfield Site Redevelopment | Capitalize on the robust infrastructure network in the area by supporting the environmental remediation and reuse of the former manufacturing facility and site | Y | Med | Concept | Funding, regulatory, Market | Low | Low | Low | Low | Indirect | Med | High | High |
| Auburn Bombardier Brownfield Site Redevelopment | Capitalize on the robust infrastructure network in the area by supporting the environmental remediation and reuse of the former manufacturing facility and site | Y | Med | Concept | Funding, regulatory, Market | Low | Low | Low | - | - | - | High | Med |
| Madison County ARE Park Infrastructure Development | Construct a public sewer and water line along with public access road to allow for the development of this agriculture and renewable energy park adjacent to the County's landfill. | Y | Med | Design | Funding, regulatory, Market | Med | Med | Med | Med | Indirect | Med | Med | Low |
| Syracuse Lakefront Inner Harbor Development | Construct public road, sewer, and water improvements to support a \$350 million commercial mixed- use development proposed for the Inner Harbor | Y | Med | Underway | Market | Med | Med | Med | Med | Indirect | Med | High | High |

Materials Management—Summary of Goal, Targets, Strategies, and Recommendations

Goal

IMPROVE THE ENVIRONMENTAL PERFORMANCE AND THE ECONOMIC DEVELOPMENT AND JOB CREATION POTENTIAL OF THE REGION'S MATERIAL MANAGEMENT SYSTEMS BY REDUCING THE PRODUCTION OF WASTE AND INCREASING MATERIALS REUSE, RECYCLING AND ENERGY RECOVERY.

Targets

- **REDUCE REGIONAL TOTAL SOLID WASTE GENERATED PER CAPITA, INCLUDING MSW, C&D, HAZARDOUS AND INDUSTRIAL MATERIALS, BY 75% (BELOW 2010 LEVELS) BY 2030.**
- **REDUCE THE AMOUNT OF MSW GENERATED AND THEN DISPOSED OF IN LANDFILLS OR VIA ENERGY RECOVERY BY 82% (BELOW 2010 LEVELS) BY 2030.**
- **REUSE 50% OF C&D WASTE BY 2030.**
- **INCREASE THE AMOUNT OF FOOD AND YARD WASTE COMPOSTED BY 75% BY 2030.**
- **INCREASE THE NUMBER OF DAIRY FARM-BASED ANAEROBIC DIGESTERS OPERATING IN THE REGION FROM SEVEN TO 20 BY 2030.**

Strategies

Short-Term Opportunities

- a. Increase recycling of post-consumer waste through a regional education campaign and convenient public receptacles.
- b. Increase reuse and recycling of construction and demolition materials.
- c. Increase diversion of residential and commercial organic material from landfills according to the EPA's food recovery hierarchy.

Long-Term Initiatives

- d. Establish municipal single-stream curbside recycling programs.
- e. Institute "green fees" or "pay-as-you-throw" programs to incentivize waste reduction and recycling.
- f. Convert municipal and private waste transport vehicles to alternative fuels.
- g. Install methane collection and control systems, including landfill gas-to-energy (LFGTE) facilities and anaerobic digesters at dairy farms, waste water treatment facilities, and industrial businesses.
- h. Support industrial symbiosis through a regional outreach and technical assistance program.
- i. Improve the infrastructure for managing specialized materials, including agricultural plastics, electronics and household hazardous waste.
- j. Establish local government sustainable procurement policies.

Materials Management

| Project Recommendations | | | | | | Project Impacts | | | | | | | |
|--|---|--------------------|------|---------|-------------------------------------|-------------------|--------------------------|------------|-------------------|---------------|----------------------|---------------------------|--------------------------|
| Title | Description | Sponsor Identified | Cost | Status | Barriers | Population Growth | Per Capita Income Growth | Job Growth | Energy Management | GHG Reduction | Community Resiliency | Environmental Stewardship | Improved Quality of Life |
| Syracuse Solar-Powered Recycling Receptacles | Receptacles can hold up to 5 times more material than conventional bins, resulting cost savings from fewer pick-ups. Would be installed in same locations as public waste bins. | Y | Low | Concept | Funding | Low | Low | Low | Low | Indirect | Low | Med | Med |
| Oswego County Bristol Hill Landfill C&D Recycling Facility | Convert the former Oswego County Materials Recycling Facility into a C&D processor to capture the value of materials reuse and sale. | Y | Med | Concept | Funding, Regulatory, Siting | Low | Low | Low | - | Direct | Low | Med | Low |
| OCRRA's Food Compost Facility Expansion | County reports that food waste comprises 15% of waste stream and has a pilot program to collect materials from institutional users such as Syracuse University. Expanding the program's facilities could allow for service to other commercial customers. | Y | Low | Funded | Funding, Regulatory, Market | Low | Low | Low | - | Direct | Med | Med | Low |
| Cortland County Composting Facility | A new facility for organic composting in the County could provide service to residents, businesses and large institutions such as SUNY Cortland and Cortland Hospital. Compost could be sold to general public to generate revenue. | N | Med | Concept | Funding, Regulatory, Siting, Market | Low | Low | Low | - | Direct | Med | Med | Low |
| Auburn Toter Recycling Containers | Implement uniform recycling collection system through use of automated collection compatible recycling containers. Identified as top city priority. | Y | Low | Concept | Funding | Low | Low | Low | - | Indirect | Low | Low | Med |
| Cortland County Landfill Active Landfill Gas Collection and Energy System | Development of a landfill gas collection and energy system to generate community revenue and reduce methane emissions by 75%; similar to system built at Madison ARE park. | Y | Med | Concept | Funding, Regulatory | Low | Low | Low | Med | Direct | Low | High | Low |

| Project Recommendations | | | | | | Project Impacts | | | | | | | |
|---|--|--------------------|------|---------|---------------------------------|-------------------|--------------------------|------------|-------------------|------------------|----------------------|---------------------------|--------------------------|
| Title | Description | Sponsor Identified | Cost | Status | Barriers | Population Growth | Per Capita Income Growth | Job Growth | Energy Management | GHG Reduction | Community Resiliency | Environmental Stewardship | Improved Quality of Life |
| Madison County ARE Park Agricultural Plastics/Renewable Diesel Fuel Facility | A facility to support the County's pilot collection program for agricultural plastics and convert these materials to Low-sulfur diesel fuel through a proprietary process owned by JBI, Inc. | Y | Med | Concept | Funding, Regulatory | Low | Low | Med | Med | Direct | Low | High | Low |
| Syracuse CNG Automated Waste Collection Vehicles | Utilize robotic arm haulers and carts to enhance service delivery, increase collection rates, improve safety. Implement CNG fuel systems in place of diesel systems. | Y | Med | Concept | Funding | Low | Low | Low | Low | Direct, Indirect | Low | Low | Low |
| Syracuse CNG Fueling Station | Provide central CNG station for heavy duty equipment access; utilize key system to track usage. | N | Med | Concept | Funding, Siting | Low | Low | Low | Med | Direct | Low | Low | Low |
| Auburn CNG Automated Waste Collection Vehicles | Utilize robotic arm haulers and carts to enhance service delivery, increase collection rates, improve safety. Implement CNG fuel systems in place of diesel systems. | Y | Med | Concept | Funding | Low | Low | Low | Low | Direct, Indirect | Low | Low | Low |
| Auburn CNG Fueling Station | Provide central CNG station for heavy duty equipment access; utilize key system to track usage. | N | Med | Concept | Funding, Siting | Low | Low | Low | Med | Direct | Low | Low | Low |
| SUNY Morrisville Community Biodigester | College proposes to construct 1 MW biodigester to service food processing facilities, with possible use of agricultural/dairy waste as substrate. | Y | Med | Concept | Funding, Regulatory, Siting | Low | Low | Low | Med | Direct | Low | Med | Low |
| Cayuga County Regional Biodigester Pipeline | Construction of a pipeline to collect agricultural waste from area dairy farms for a centralized biodigester facility in the Aurelius Business Park | N | High | Concept | Funding, Policy, Siting, Market | Low | Low | Low | Med | Direct | Low | Med | Low |

| Project Recommendations | | | | | | Project Impacts | | | | | | | |
|---|---|--------------------|------|---------|-----------------------------|-------------------|--------------------------|------------|-------------------|---------------|----------------------|---------------------------|--------------------------|
| Title | Description | Sponsor Identified | Cost | Status | Barriers | Population Growth | Per Capita Income Growth | Job Growth | Energy Management | GHG Reduction | Community Resiliency | Environmental Stewardship | Improved Quality of Life |
| Syracuse Toter Recycling Containers | Implement uniform recycling collection system through use of automated collection compatible recycling containers. Identified as top city priority. | Y | Low | Concept | Funding | Low | Low | Low | - | Indirect | Low | Low | Med |
| Oswego County Energy Recovery Facility Heat Recapture | Recapture waste heat currently generated at County resource recovery facility and expelled into Oswego River for beneficial use of adjoining businesses | Y | Low | Concept | Funding | Low | Low | Low | Med | Direct | Low | Med | Low |
| Oswego County Material Recovery Facility Solar PV | Roof-mounted solar PV system could supply on-site power needs and reduce costs. | Y | Low | Concept | Funding | Low | Low | Low | Med | Direct | Med | Low | Low |
| Waste To Biogas Mapping Tool | A regional tool based on the one developed by the US EPA to connect large organic waste producers of High energy materials like fats, oils, and grease with potential users such as dairy biodigesters or wastewater treatment plants. | N | Low | Concept | Funding | Low | Low | Low | Low | Indirect | Low | Low | Low |
| CNY Waste Materials Exchange Facility | A facility to facilitate the exchange of materials or wastes that can be reused as a means of disposing of scrap or surplus items without landfilling or incinerating them. | N | Low | Concept | Funding | Low | Low | Low | Low | Direct | Low | Low | Low |
| Onondaga County C&D Recycling Facility | Construct facility to divert waste flow to other regions and capture value of material reuse; partner with COE C&D institute | N | Med | Concept | Funding, Siting, Regulatory | Low | Low | Low | - | Direct | Low | Med | Low |
| CNY Aquatic Invasive Species Biodigester Demonstration Project | Biological Methane Potential (BMP) testing of select invasive aquatic plants has shown promising results for the methane producing potential. Research also shows that biogas yields can be increased 3 to 5 times when manure is co-digested with certain biomass sources. | N | Med | Concept | Funding, Regulatory, Market | Low | Low | Low | Low | Indirect | Low | Med | Med |

Climate Adaptation—Summary of Goal, Targets, Strategies, and Recommendations

Goal

ADAPT SUCCESSFULLY TO A CHANGING CLIMATE AND IMPROVE THE RESILIENCE OF THE REGION'S COMMUNITIES, INFRASTRUCTURE AND NATURAL SYSTEMS.

Targets

- **REDUCE PER CAPITA REGIONAL GREENHOUSE GAS EMISSIONS TO 40% BELOW 2010 LEVELS BY 2030.**
- **INCREASE THE NUMBER OF COMMUNITIES PARTICIPATING IN THE NFIP COMMUNITY RATING SYSTEM FROM 2 TO 10.**
- **COMPLETE 25 COMMUNITY VULNERABILITY ASSESSMENTS BY 2030.**
- **INCREASE THE NUMBER OF CLIMATE SMART COMMUNITIES IN CNY FROM 13 TO 26 BY 2020 AND TO 40 BY 2030.**
- **REDUCE THE PERCENTAGE OF THE REGION'S TOTAL LAND VALUE FOUND IN FLOODPLAINS FROM 14% TO 10% BY 2030.**

Strategies

Short-Term Opportunities

- a. Conduct vulnerability and risk-assessments and cost-benefit analyses to identify key areas for climate adaptation.
- b. Develop local greenhouse gas inventories and climate action plans and increase the number of Climate Smart Communities.
- c. Implement measures to mitigate impacts to critical infrastructure.

Long-Term Initiatives

- d. Provide assistance to address climate impacts on agriculture, make the regional food supply system more resilient to climate change, and enhance rural economic security.
- e. Develop systems to prepare for and respond to more frequent and extreme storms and flooding events.
- f. Develop a regional inventory of flood-hazard occurrence areas.
- g. Complete a regional dam inventory and assessment program.
- h. Create a central repository of regional climate data and provide channels for the distribution of information.
- i. Develop and implement emergency and hazard mitigation plans.
- j. Develop a comprehensive forest management program.

Climate Adaptation

| Project Recommendations | | | | | | Project Impacts | | | | | | | |
|---|--|--------------------|------|---------|-------------------------|-------------------|--------------------------|------------|-------------------|---------------|----------------------|---------------------------|--------------------------|
| Title | Description | Sponsor Identified | Cost | Status | Barriers | Population Growth | Per Capita Income Growth | Job Growth | Energy Management | GHG Reduction | Community Resiliency | Environmental Stewardship | Improved Quality of Life |
| Conduct a Regional Infrastructure Facility Risk Assessment | Identify facilities at risk from climate change. This includes carbon foot-printing assessments to establish baseline greenhouse gas data, or conducting assessments of sewage treatment plants located in a FEMA flood zone to identify retrofitting opportunities based on cost effectiveness vs relocation. | N | Low | Concept | Funding | Low | Low | Low | - | Indirect | High | Low | Low |
| "Reverse 911" Emergency Notification System | In the event of significant weather or natural hazard, a "reverse 911" call-back system to notify residents of emergency information and evacuation routes. The call-back system would utilize the NY Alert/NOAA weather alert systems. | N | Low | Concept | Funding | Low | Low | Low | - | - | High | Low | Low |
| Regional Emergency Shelter Network | Cooling and emergency shelters will assist residents during power outages and extreme temperatures. Heat and humidity can be uncomfortable and dangerous, especially for the elderly. Emergency centers will provide air-conditioning space for residents to avoid the extreme temperatures during the hottest parts of the day. | N | Low | Concept | Funding | Low | Low | Low | - | - | High | Med | Med |
| Syracuse University Hill CHP | Syracuse University is developing an energy utility master plan to address options to upgrade the boilers and chillers that provide chilled water and steam to the SU campus and steam to district heating customers. System could include a CHP facility similar to plant being installed for St. Joseph's Hospital | Y | High | Concept | Funding, Siting, Market | Low | Low | Low | High | Direct | High | Low | Low |
| CNY Climate Change Clearinghouse | Central New York Climate Change Clearinghouse to store current data and historical trends for temperature, precipitation, lake water temperature, storm events, public health, and surveillance and monitoring data. | N | Low | Concept | Funding | Low | Low | Low | - | Indirect | Med | Low | Low |

| Project Recommendations | | | | | | Project Impacts | | | | | | | |
|---|--|--------------------|------|---------|-----------------|-------------------|--------------------------|------------|-------------------|---------------|----------------------|---------------------------|--------------------------|
| Title | Description | Sponsor Identified | Cost | Status | Barriers | Population Growth | Per Capita Income Growth | Job Growth | Energy Management | GHG Reduction | Community Resiliency | Environmental Stewardship | Improved Quality of Life |
| Port of Oswego Harbor Dredging | Extreme storm events along the Oswego River and on Lake Ontario increase the need for more frequent harbor dredging at the Port of Oswego to meet depth requirements for vessel transport. | Y | Med | Concept | Funding | Low | Low | Low | - | Indirect | High | Med | Low |
| Homer Little York Dam Rehabilitation | Little York Lake Dam is located on the West Branch of the Tiohgnoga River in the Cortland County Town of Homer. Construction of the dam was completed in 1956 but a refurbishment is needed to address flood hazard issues in the community. | Y | Med | Design | Funding | Low | Low | Low | - | - | High | Low | Low |
| Pulaski Salmon River Retaining Wall Renovation | Portions of the retaining wall along the Salmon River need to be secured to prevent washouts during periods of flooding and major storm events. The original wall was built by the village in the 1980s to protect the pump station. | Y | Med | Concept | Funding | Low | Low | Low | - | - | High | Med | Med |
| CNY Aquatic Invasive Species Weed Harvesting Program | A shared equipment and operator program is required to harvest aquatic weeds at key locations and waterbodies in CNY. | N | Med | Concept | Funding, Policy | Low | Low | Low | - | Indirect | Low | Med | High |
| Syracuse Urban Forest Management Program | Forest assessment for Syracuse provides information on resources and recommendations for forest management. Tree management strategies for maximum growth and health are recommended in order to reduce heat island effects in city environments and to reduce energy usage. | Y | Low | Design | Funding | Low | Low | Low | Low | Indirect | Med | Med | Med |
| CNY Integrated Emergency 911 Communications Center | Integrated Emergency Communications Center, with up-to-date, fully integrated radio, telephone and computer systems, is needed to coordinate emergency services in Central New York | Y | High | Ongoing | Schedule | Low | Low | Low | - | - | High | Low | Med |

| Project Recommendations | | | | | | Project Impacts | | | | | | | |
|--|--|--------------------|------|---------|-------------------------|-------------------|--------------------------|------------|-------------------|---------------|----------------------|---------------------------|--------------------------|
| Title | Description | Sponsor Identified | Cost | Status | Barriers | Population Growth | Per Capita Income Growth | Job Growth | Energy Management | GHG Reduction | Community Resiliency | Environmental Stewardship | Improved Quality of Life |
| CNY Urban Electric Power Line Management Program | With the anticipated increase in the frequency of storm events, underground power lines would reduce problems with snow, damaged tree limbs, and wind that cause downed power lines and electrical outages for local residents. | N | High | Concept | Funding, Siting, Policy | Low | Low | Low | - | - | High | Low | Med |
| CNY “StormReady” Communities | Expand the National Weather Service’s StormReady® program to provide communication and safety skills during storm events. Oswego County was recognized as a “Storm Ready Community”. | N | Low | Concept | Funding, Policy | Low | Low | Low | - | - | Med | Low | Low |
| CNY Regional Water Supply Redundancy Network | Develop redundant water transmission supply facilities at key location across the region to ensure adequate supply of public water during periods of system outages. | N | High | Concept | Funding, Siting | Low | Low | Low | - | - | High | Low | Med |
| Onondaga County Community College CHP | Combined heat and power (CHP) systems can reduce energy costs, lower greenhouse gas emissions, and provide power during extreme weather. The technology uses one fuel source to supply both thermal and electrical energy to campus buildings, which improves system efficiency while reducing the College’s carbon footprint. | N | High | Concept | Funding, Siting, Market | Low | Low | Low | High | Direct | High | Low | Low |
| SUNY Oswego CHP | | | | | | | | | | | | | |
| SUNY Morrisville CHP | | | | | | | | | | | | | |
| SUNY Cortland CHP | | | | | | | | | | | | | |
| Cayuga BOCES Center CHP | | | | | | | | | | | | | |
| Regional Dairy Barn Heat-Stress Demonstration Project | Agricultural practices are needed that support environmental, economic, and social sustainability. To address warmer temperatures, a demonstration project is needed that improves cooling capacities in dairy barns and animal facilities through the installation of fans, sprinklers, and cooling systems. | N | Med | Concept | Funding | Low | Low | Low | Low | Direct | Low | Low | Low |



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