

Climate Change and Economic Development in New York's Genesee-Finger Lakes Region

As the climate changes, the Genesee-Finger Lakes Region has an opportunity to lead the way in sustainable development, drawing on a history of innovation that began with the Erie Canal, continued through the development of motion picture film, and remains today in its manufacturing, agricultural, and tourism sectors.

The cost of not addressing climate change is high: already, the Region has seen upwards of \$1 billion in damages associated with Lake Ontario flooding in 2017 and 2019¹. Limiting the most severe climate impacts will require a quick and dramatic reduction of greenhouse

gas emissions and significant investment and effort, but the Region is well positioned to take up the challenge.

The Genesee-Finger Lakes Region has significant economic potential, as demonstrated in Figure 1. By proactively aligning economic decisions with emission reduction goals, the Region could attract new industries, strengthen existing local businesses, draw new residents, improve public health, and protect communities from future economic hardship. As part of this alignment, next generation manufacturing and workforce development initiatives could also reduce poverty.



Abundant water supply and natural beauty: Lake Ontario and the 11 Finger Lakes supply water to one million residents and attract 22 million tourists per year. The tourism sector generates \$2 billion annually for the Region. The various watersheds are used for a range of water-based recreational activities, are home to unique wildlife habitats and support a popular wine and grape industry.



Prime agricultural land: The Region has roughly 1.4 million acres of agricultural land², producing over \$1.6 billion in annual sales of agricultural goods. Improved soil health practices can help reduce, or even reverse, carbon emissions through sequestration, while also mitigating potential threats of erosion and flooding from climate change.

Relatively mild weather: Though extreme storms, flooding, and heat waves are serious local concerns, the Region experiences relatively few climate-related disasters compared to other parts of the US. As climate impacts make other locations increasingly uninhabitable, the relative stability may attract businesses and residents.



Open space: The availability of land in the Region provides opportunities for renewable energy development (including on abandoned commercial or industrial sites, brownfields, landfills, and unproductive farmland). Property owners and local municipalities can and should negotiate with developers to receive financial compensation and other tangible benefits from these projects.



Clean energy job potential: Transitioning the region's economy to clean energy could create high-paying jobs in many sectors and can help lift residents out of poverty. Already, the region's solar thermal technology sector has a workforce of 1,500, with median wages of more than \$19 per hour.



Clean Energy Jobs per 1000 Workers in Labor Force

■ 4-10 ■ 10-15 ■ 15-17 ■ 17-41

Clean energy job benefits: More broadly, in New York state, nearly 70% of the clean energy workforce receives healthcare, retirement, and paid vacation. Clean energy jobs are on the rise, increasing 8.9% from 2016 to the end of 2018, double the statewide average job growth, according to the New York State Energy Research and Development Authority.

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Map from New York Clean Energy Industry Report 2020

Figure 1. Regional Assets

Economic opportunities related to climate change

New York State’s commitment to net-zero emissions by 2050 can be facilitated by private investment in sustainable economic development. In the Genesee-Finger Lakes Region, companies and investors have recognized the potential in growing **“next generation” systems and technologies**. Existing industries and sectors also have the potential to grow and thrive by **rethinking sustainably**, while individual businesses can implement **optimization and efficiency** measures.

See green sidebars for examples of how entrepreneurs and existing businesses have taken advantage of sustainable economic development opportunities.

The Genesee-Finger Lakes Region: “a climate change haven”

Sustainability as a regional branding opportunity

The natural resources and clean energy opportunities of the Genesee-Finger Lakes region are worth promoting. Recent headlines in national news outlets boast of the Great Lakes’ “geographic blessings” as reasons to move to the area, among them: “Want to Escape Global Warming: These Cities Promise Cool Relief,”³ “Climate Proof Duluth,”⁴ and “Will Buffalo

DEVELOPING NEW SECTORS THROUGH “Next Generation” Systems and Technologies

Investments are already being made in new technologies, such as optics and photonics for solar energy applications and clean energy storage; advances are also being made in alternative approaches to waste management, such as circular economy, electronics upcycling, composting, and biodigesters.



The Solar Village Company is one example of a local company that is promoting next generation systems. The Company builds net-zero energy homes that produce as much energy as they consume by combining on-site solar production and storage with highly efficient heat pumps. One of its projects, the Geneva Solar Village, integrates other aspects of sustainability, including community gardens, EV charging stations, recycling and composting facilities, and a community center.

Become a Climate Change Haven?”⁵ A workshop held in April 2020 with several regional business leaders indicated strong interest to capitalize on the Region’s assets and develop sustainability as part of a regional brand. Developing a regional brand around



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REINVENTING EXISTING SECTORS BY

Rethinking Sustainably

Typical manufacturing industries, as well as the construction/HVAC, food and beverage, and agro-tourism sectors, can rethink how they do business to build products and provide services more sustainably. Unlike next generation technologies and systems, rethinking sustainably involves redesigning existing products with alternative materials and in ways that are more sustainable.

Diamond Packaging is an example of a local company that is rethinking packaging in a sustainable way.

The WBENC-Certified Women's Business Enterprise specializes in sustainable packaging solutions and uses 100% renewable wind energy to power its operations. Diamond also has obtained Forest Stewardship Council® (FSC) Chain of Custody certification, and achieved Zero-Waste to Landfill status in 2014.



sustainability can attract new businesses and influence the public to take climate action.⁶

Securing the Region's position as a nationally recognized sustainability leader will require commitment from elected leaders, strategic investment in clean energy alternatives, compelling marketing, and meaningful community engagement. Ambitious efforts can eliminate fossil fuel use through improved public transportation, green jobs, and smart land-use policies and building codes. The faster the Region acts, the bigger its advantage in a low-carbon, sustainable future.

GREENING EXISTING BUSINESSES THROUGH

Optimization and Efficiency

All businesses, regardless of what they produce or the services they provide, can incorporate sustainable practices to improve the environment and also save money. Energy and water efficiency initiatives, reusing and reducing waste, and producing clean energy, such as rooftop solar, are all things that businesses can consider (see Sustainability Resources sidebar on how).

For example, HARBEC, a manufacturer of tightly toleranced prototypes, tooling, machined components,

and injection molded parts, has been carbon neutral since 2013 and water neutral since 2015. HARBEC produces over 1.5 MW of electricity per year with its onsite wind turbines, and meet all of their HVAC needs through heat generated from their microturbine generators.



Sustainability Resources

Existing businesses do not have to wait to implement sustainable practices. There are several programs and incentives available to bolster climate-friendly economic development. Check out the following institutions and organizations for more information:

- **Your energy utility:** Most utilities provide support to businesses looking to improve their energy efficiency and to develop clean energy solutions. Support includes rebates for adopting energy efficiency measures and cost-sharing for projects that promote economic development and clean energy solutions.
- **Your local government:** Contact your local representative or check out your local county or municipal government website for financial incentives to go green. One example is the City of Rochester's Commercial Property Assessed Clean Energy (C-PACE) program, which enables property owners to repay financing for energy efficiency and renewable energy projects over time and without large up-front investments
- **The New York State Energy Research and Development Authority (NYSERDA):** NYSERDA provides financial incentives to businesses to support clean energy programs, including on-site renewable energy generation and storage, energy efficient technologies, energy efficiency in new construction and retrofits, and ground source or air source heat pump installation. They also support workforce staffing and retraining programs in this area.
- **New York State Pollution Prevention Institute (NYSPP2I):** The Pollution Prevention Institute works with businesses, municipalities, and nonprofits to provide cost-effective, actionable solutions to improve an organization's sustainability, including supply chain analysis, life cycle assessments, food waste management, and sustainable manufacturing assessment, among other services.

How to “build back better”

COVID-19 recovery through investment in green jobs and clean energy innovation

Climate-focused economic development provides an opportunity for the region to “build back better” from the COVID-19 crisis. Examples include investments in clean energy research and development and manufacturing to create jobs, a diversification of the Region’s energy options, and efforts to position the Region as a national leader in energy technology.

Energy efficiency improvements can help fuel job creation in the clean energy sector. Many local residents currently struggle to pay high utility bills in homes that have poor insulation and inefficient heating/cooling systems and appliances. The co-benefits of updating these homes include job creation, lower energy bills, and improved public health (through better indoor air quality), among many others.

Several New York state entities have existing and proposed policies that aim to reduce greenhouse gas emissions and bolster economic development. They include:

- The New York Independent System Operator’s proposal to price energy based on carbon emissions.
- The New York State Energy Research and Development Authority’s Business Energy Program to facilitate the large-scale adoption of clean heating and cooling and renewable energy for the commercial sector. Currently, this program is only available in Westchester and Long Island.
- New York State’s ambitious Climate Leadership and Community Protection Act (CLCPA) passed in 2019, aims to achieve a net-zero economy by 2050.
- New York State is in the process of passing the Climate and Community Investment Act (CCIA) for a just transition for fossil fuel workers and community development programs to augment municipal expenditures. If passed, the CCIA would raise \$15 billion per year from corporate polluters to pay for the just transition.

Local businesses should consider how to direct their future investments with these potential policies in mind.



ENDNOTES

- 1 Vielkind, J. (2019). New York Sues Over Lake Ontario Flooding. Wall Street Journal, 9 October 2019. US. <https://www.wsj.com/articles/new-york-sues-over-lake-ontario-flooding-11570664156>
- 2 USDA (2017). 2017 Agricultural Census Volume 1, Chapter 2: County Level Data https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_2_County_Level/New_York/
- 3 April 15, 2019 NY Times: Want to escape global warming?: These cities provide cool relief. <https://www.nytimes.com/2019/04/15/climate/climate-migration-duluth.html>
- 4 August 7, 2019. Eco-Watch News. Some Northern cities could be reborn as ‘climate havens.’ [#rebelltitem1](https://www.ecowatch.com/northern-cities-climate-havens-2639706699.html?rebelltitem=1)
- 5 December 5, 2019. Bloomberg News. Will Buffalo become a climate change haven? <https://www.bloomberg.com/news/articles/2019-12-05/the-consequences-of-being-a-climate-refuge-city>
- 6 Eva Gustavsson & Ingemar Elander (2012) Cocky and climate smart? Climate change mitigation and place-branding in three Swedish towns, Local Environment, 17:8, 769-782, DOI: 10.1080/13549839.2012.678319.

For more information

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