THE CITY OF ROCHESTER’S ENERGY ROADMAP FOR A RESILIENT, VIBRANT, AND SUSTAINABLE COMMUNITY

SOLUTION OVERVIEW
Rochester was already engaged in a number of sustainability initiatives when the city began writing its energy plan with financial support and technical assistance from the New York Power Authority (NYPA). The Rochester Energy Plan was intended to reduce energy consumption, advance energy generated from renewable sources, and decrease greenhouse gas emissions within city operations and in the broader community. The Energy Plan comprises four broad action areas: energy planning and coordination; energy efficiency in buildings; transportation efficiency; and energy distribution and supply. For each specific activity within these action areas, the plan denotes key partners, funding sources, an implementation time frame, and next steps.

Full implementation of the Energy Plan will promote economic development, reduce energy costs, create jobs in Rochester’s growing industry of “green innovation,” and demonstrate Rochester’s commitment to lead by example in creating a vibrant and sustainable community.

COMMUNITY SIZE
Small Urban, Population 210,358

GOAL
To demonstrate Rochester’s commitment to lead by example by reducing energy consumption, advancing energy generated from renewable sources, and decreasing greenhouse gas emissions within city operations and in the broader community.

BARRIER
Lack of a comprehensive energy plan.

SOLUTION
Rochester partnered with the New York Power Authority as part of the state’s Five Cities Program to develop an Energy Plan that, once fully implemented, will, among other outcomes, result in a 20% reduction in municipal building energy use intensity in 2020.

OUTCOME
For more information, visit https://betterbuildingssolutioncenter.energy.gov
Rochester completed its Energy Plan in January 2015. Implementation officially began in January 2015, although some projects in the plan were already underway. The slate of projects currently underway, driven by the Energy Plan, will result in an estimated annual electric savings of approximately 7 GWh. The end date for implementation is 2020.

POLICIES
In addition to the Rochester Energy Plan in 2015, the city has adopted a series of policies advancing sustainability within city operations and in the broader Rochester community:

- In 2007, Rochester signed the U.S. Conference of Mayors Climate Protection Agreement which commits cities to take action to reduce greenhouse gas emissions and to advocate for strong state and federal action on climate change.
- In 2009, Rochester City Council passed the Resolution in Support of Environment and Climate Protection, which committed the city to pursue policies and practices that reduce greenhouse gas emissions.
- In 2011, Rochester completed an inventory of greenhouse gas emissions with a 2008 baseline year. It also set a goal to reduce greenhouse gas emissions from municipal operations by 20 percent by 2020 from the 2008 baseline. In addition, Rochester established an Office of Energy and Sustainability.
- In 2013, Rochester completed its Municipal Operations Climate Action Plan and reported that greenhouse gas emissions from municipal operations had fallen 8.6 percent between 2008 and 2011.

Tools and Resources:

- City of Rochester Energy Plan

PROCESS
The road to the Rochester Energy Plan began in December 2012, when New York Governor Andrew Cuomo signed Executive Order 88, launching BuildSmart NY, an initiative to improve the energy efficiency of New York State buildings by 20 percent by 2020. Expanding on BuildSmart NY to include municipalities, NYPA initiated the Five Cities Program, wherein NYPA partnered with the five largest cities in New York State (outside of New York City)—Albany, Buffalo, Syracuse, Yonkers, and Rochester—to provide financial and technical assistance for their development of comprehensive energy plans. The Five Cities Program is a NYPA trustee-approved initiative. It is a subsidiary byproduct of Executive Order 88 and BuildSmart NY.

At the City of Rochester, responsibility for the Energy Plan lies with the Office of Energy and Sustainability (OES), housed within the Division of Environmental Quality. Formally established in 2011, the goal of the OES is to make the City of Rochester a model for sustainability and connect to national and regional resources. The OES partners with federal and state agencies and local utilities for funding and energy incentives.
Rochester began working with NYPA to develop a data-driven, stakeholder-assisted comprehensive energy plan in February 2013. Through a competitive process, NYPA hired a consulting team to work with Rochester on the development of the plan. The consultant team worked with Rochester to convene a stakeholder group. The city worked closely with NYPA and the consultant to determine the composition of the stakeholder team. Stakeholders were selected from a variety of sectors, including city departmental personnel, the local metropolitan planning organization, universities, utilities and energy providers, and non-profit organizations.

The consultant team began work in earnest on the plan development in November 2013 and ended their services in December of 2014.

**Writing the Energy Plan**

- Consultants worked with the city to benchmark the energy performance of all municipal buildings larger than 10,000 square feet and conduct audits for those with the highest energy consumption. The city provided the energy consumption data used to guide the audits. Approximately ten percent of municipal buildings were audited.

- Three stakeholder engagement meetings, with the same core group, were held over the course of six months to brainstorm key components of the plan. Stakeholders provided input on plan goals, implementation, publicity, and reporting. OES and consultants evaluated possible goals against weighted criteria. Criteria included alignment with other municipal energy plans, expected contributions to energy reductions and climate action goals, technical and legal feasibility, and cost. Many of the ideas in the plan were initiatives that were already planned or underway, such as energy efficiency improvements to municipal buildings, increased use of alternative fuel vehicles, and a two megawatt solar field project. Some of the new initiatives included a community solar campaign, evaluation of a private building benchmarking/audit program, and an anti-idling pilot for city vehicles.

- A technical working group was formed, consisting of the consultant team and city staff. In developing the Energy Plan, the group reviewed existing regional and state energy policies, data on building characteristics, information on transportation infrastructure such as streetlights, transit, and bike lanes, and the capacity and fuel mix for electricity generation in the region. The group enlisted staff from the city’s Department of Environmental Services and the Department of Neighborhood and Business Development, including the City Engineer, Transportation Specialist, Director of Operations, Manager of Environmental Quality, Manager of Building Services, and the Director of Planning and Zoning.

While the Energy Plan was drafted, the consultant team and the NYPA team held regular conference calls to discuss the progress of the plan. NYPA and the consultant team wrote the plan based on Rochester’s energy priorities. The city reviewed draft versions of the plan twice before the final version was published and disseminated.

The following graphic summarizes the originally proposed schedule for researching and writing the plan:


For more information, visit [https://betterbuildingssolutioncenter.energy.gov](https://betterbuildingssolutioncenter.energy.gov)
Plan Recommendations

The Energy Plan was completed in January 2015 and identifies four broad action areas:

- Coordinate municipal, utility, community, and state energy policies
- Reduce energy usage in buildings
- Reduce petroleum usage and greenhouse gas emissions in the transportation sector
- Ensure an energy supply that is safe, reliable, affordable, and clean

This plan advances key priorities of Rochester’s previous plans, including the Municipal Operations Climate Action Plan and Bicycle Master Plan. The Energy Plan also aligns with the goals of the Finger Lakes Regional Sustainability Plan and the Finger Lakes Regional Economic Development Strategy.

Plan Implementation

In collaboration with other state agencies, NYPA is providing technical and financial assistance for the implementation of the Rochester Energy Plan and the annual reporting of its progress.

NYPA has developed a three-part funding mechanism to assist each of the Five Cities with the implementation of their energy plans. The first is the funding of an Energy Analyst position for a period of five years to aid Energy Plan implementation. Second, each city has received formula grant funds to complete projects identified in their Energy Plans. For Rochester, these formula grant projects are anticipated to result in annual savings of more than 6 million kWh annually and over
40% in electricity costs for targeted facilities. Supplemental funding for the formula grant projects will include municipal staff in-kind services as well as utility incentive funding. Finally, later in 2016, NYPA will roll out a competitive grant program inviting each of the Five Cities to submit funding proposals.

In addition to the funding providing by NYPA, the city will use a variety of funding resources, including the city’s capital budget, as well as grant funds from state and federal sources. The city will also utilize incentives, when available, from New York State Energy Research and Development Authority (NYSERDA), the local utility, and other sources to reduce costs of energy efficiency and renewable energy improvements. The city will continue to collaborate with governments, businesses, and educational institutions—such as the University of Rochester, the Rochester District Heating Cooperative, and the local utility—to optimize energy infrastructure.

The OES has two staff members, the Energy and Sustainability Manager and the Energy Analyst. The Energy and Sustainability Manager oversees plan implementation over its five-year timetable. The Energy Analyst is a contract position created and authorized in 2015.

This new Energy Analyst position is funded by NYPA to assist in the implementation of the Rochester Energy Plan. The Energy Analyst is also responsible for providing greater coordination between the OES and operating municipal departments as well as state and federal partners. For example, the Energy Analyst coordinates project implementation with the city’s architectural services, building services, and transportation teams, manages energy efficiency incentives, and tracks energy performance in Energy Star Portfolio Manager.

Tools and Resources:

- BuildSmart NY
- BuildSmart NY BBC Implementation Model
- Energy Master Planning Kick-Off, October 30, 2013
- Rochester Energy Master Plan Community Stakeholder Meeting Agenda, February 27, 2014
- Rochester – Five Cities – Workshop, March 17, 2014
- Rochester Energy Master Plan Staff Workshop, Slides, April 23, 2014
- Rochester Energy Master Plan City & Community Stakeholders, July 1, 2014

MEASURING SUCCESS
Rochester continues to use Energy Star Portfolio Manager to track energy use in municipal buildings. Rochester’s Energy and Sustainability Manager will coordinate annual reviews of progress. Additionally, the Five Cities energy managers and energy analysts meet quarterly to evaluate progress on plan implementation and collaborate on best practices.

OUTCOMES
Rochester continues to work toward full implementation of the Energy Plan by 2020. The initial projects funded through the formula grant provided to Rochester by NYPA are estimated to result in
approximately 7 GWh annual electric savings. This savings information is presented project by project below:

<table>
<thead>
<tr>
<th>Project</th>
<th>Estimated annual electric savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replacement of traditional T-8 fluorescent lamps with LED tubes at various municipal buildings</td>
<td>3,460,200 kWh</td>
</tr>
<tr>
<td>City solar energy campaign in partnership with local nonprofit</td>
<td>2,405,000 kWh</td>
</tr>
<tr>
<td>Municipal parking garage LED lighting upgrade</td>
<td>200,000 kWh</td>
</tr>
<tr>
<td>Municipal branch library LED lighting upgrade</td>
<td>47,000 kWh</td>
</tr>
<tr>
<td>LED lighting replacement at the city’s operations facilities</td>
<td>793,000 kWh</td>
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Full implementation of the Energy Plan is expected to decrease greenhouse gas emissions by 30 percent and increase the amount of electricity generated from renewable sources.

TOOLS AND RESOURCES

- New York Governor Andrew Cuomo’s Executive Order 88
- BuildSmart NY
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- City of Rochester Energy Plan
- Rochester Office of Energy and Sustainability
- Rochester Energy Master Plan Community Stakeholder Meeting Agenda, February 27, 2014
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