Rochester Energy Master Plan

Kick-off Meeting
December 3, 2013

GOALS OF FIVE CITIES ENERGY MASTER PLANS

- Reduce energy consumption
- Strengthen reliability of cities’ energy infrastructure
- Create jobs in clean energy industries
- Contribute to a cleaner environment
IT'S NOT JUST A PLAN...

IT'S A PROCESS!

Milestone 1: Conduct Assessment
Milestone 2: Establish Goals
Milestone 3: Develop Plan
Milestone 4: Implement Policies and Measures
Milestone 5: Evaluate Progress & Report Results

Engage Stakeholders

Five Cities Energy Master Planning Process

KEY PLAN COMPONENTS

Energy Master Plan

- Clear goals and targets
- Detailed initiatives to achieve goals
- Strategies for on-going implementation and planning
ROLES & RESPONSIBILITIES

Cities' role
- Designate staff to participate in the planning process
- Set goals and targets; evaluate solutions
- Take ownership of the plans and the implementation
- Track and report on progress
- Update plans, as needed
- Build relationships with the other cities

NYPAA's on-going role
- Facilitate information sharing and collaboration across the cities
- Pursue strategic initiatives that cut across all five cities
- Finance energy efficiency upgrades and clean energy solutions, where applicable

BASIC INFORMATION

- Audience: General public
- Plan voice: From the cities
- Implementers: The cities
- Design: NYPAA template for consistency and branding
  - Fonts and colors
  - Icons
  - Template for plan pages
  - Various template graphics
PLAN OUTLINE

I. Letter from President of NYPA
II. Overview: Five Cities Energy Master Plans (& Cities)
III. Letter from the Mayor
IV. Introduction to City Energy Master Plan
V. Executive Summary
VI. Energy Planning & Coordination
VII. Energy Distribution and Supply
VIII. Energy Efficiency in Buildings
IX. Transportation
X. Moving Forward
XI. Five Cities Conclusion

For each Action Area:
- Goal(s)
- Existing conditions, challenges, and programs
- Initiatives to achieve goals
- Implementation matrix

TIMELINE OVERVIEW

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<tr>
<td>Data collection</td>
<td>Prelim</td>
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<td>Final plan</td>
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Five Cities Energy Master Plans
Albany + Buffalo + Rochester + Syracuse + Yonkers
STAKEHOLDER ENGAGEMENT

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Stakeholder engagement

Stakeholder Advisory Board:
- Provide advice and ideas on potential content for the plan
- Help develop the goals
- Act as a critical sounding board for initiatives being considered for the plan
- Provide support in analyzing various strategies for achieving the goals
- Help get the word out on the plan and its goals to the greater community
- Support its on-going implementation, tracking, reporting, and updating

BuildSmartNY
Five Cities Energy Master Plans:
Albany • Buffalo • Rochester • Syracuse • Yonkers

LABELLA ASSOCIATES

Barbara Johnston, AICP | Project Manager
- Guide and coordinate the work of all team members and be the primary contact with NYPA and its representatives.
- Integrate technical reports into a final Plan document.
- Energy procurement

Rick McClung, PE, CPD, LEED AP | Engineering Lead
- Building Efficiency analysis
- Manage building audits.
- Develop Building Implementation Strategies.
HR&A

Stockton Williams | Energy Efficiency Specialist
- Building management and behavior modification
- Green codes
- Transit and smart growth policies

CLEAN FUELS CONSULTING

Rhea Courtney Bazic | Senior Fleet Energy Specialist
- Analysis and recommendations relating to fleets and vehicular fuels.
- Evaluate alternative fuel vehicles.

TAITEM ENGINEERS

Susan Galbraith | Senior Energy Analyst
- Energy delivery Infrastructure
- Energy generation and siting

LARSEN ENGINEERS

- Building Audits
Plan Contents

- Energy Planning and Coordination
  - Energy procurement procedures and policies
  - Future energy requirements
  - Potential for coordination among government entities
- Energy Delivery Infrastructure
  - Electricity and gas delivery infrastructure
  - District heating
  - Renewable vehicular fuels
  - Energy generation
    - Renewable energy, combined heat & power
    - Siting, regulations, financial incentives

Plan Contents (cont’d)

- Transportation Energy Efficiency
  - Analysis of vehicle fleets
  - Renewable fuel vehicles
  - Transit, pedestrian and bicycle transportation
  - Street lights
  - Traffic signals – energy efficiency and traffic controls
- Energy Efficiency in Buildings
  - Land Use and Building Code Regulations “Audit”
  - Analyze energy usage of City facilities
  - Portfolio Manager performance ratings
  - ASHRAE Level 1 Audits of selected buildings
  - Recommend physical and management strategies
Plan Recommendations

- 1-3 high-level goals per Action area
- Summary of existing conditions and programs
- Key initiatives
- Implementation matrix
  - Responsible entities, key partners
  - Estimated cost
  - Sources of funding
  - Short, medium and long-term milestones

Other State Initiatives

- Build Smart NY
- NY Energy Highway
- NY Green Bank
- The NY-Sun Initiative
- NYSERDA incentives
Other Regional Initiatives

- Regional Sustainability Plan
- Regional Long-Range Transportation Plan

City Plans and Programs

- City of Rochester Greenhouse Gas Emissions Inventory
- Municipal Operations Climate Action Plan
- Bicycle Master Plan/ ROC the Bike
- Fleet improvements
- Building improvements/ audits/ Portfolio Manager
CITY OF ROCHESTER

Project Goals and Objectives

What the City of Rochester hopes to accomplish through this Plan

- Develop a usable plan that the City can use to help achieve its sustainability goals
- Build on the city’s current Municipal Operations Climate Action Plan and contribute to its upcoming community-wide Climate Action Plan
- Address issues not addressed in current plans, including energy supply and distribution

CITY OF ROCHESTER

Current and Recent City Initiatives (1/7)

1. Office of Energy and Sustainability within the Division of Environmental Quality
   - Secures funding to implement energy and sustainability projects
   - Advocates for sustainable practices among City departments
   - Manages initiatives to reduce greenhouse gases and energy usage
CITY OF ROCHESTER

Current and Recent City Initiatives (2/7)

2. Greenhouse Gas Inventory
   - Completed 2011 for baseline year of 2008
   - Addressed fossil fuel use in buildings, transportation, streetlights, water production and solid waste management
   - Established goal of 20% reduction by 2020

CITY OF ROCHESTER

Current and Recent City Initiatives (3/7)

3. Energy Efficiency
   - Portfolio Manager to track energy usage in City facilities
   - Energy audits at City-owned facilities
   - Energy-efficient lighting
   - Energy management systems
   - Upgrade HVAC at Charlotte Library, Avenue D Recreation Center, Genesee Valley Park
   - Building envelope improvements – University Avenue Firehouse
CITY OF ROCHESTER

Current and Recent City Initiatives (4/7)

4. Renewable Energy

- Through Renewable Energy Certificates purchased through Constellation Energy, 25% of the city’s electricity is generated from green power.
- Renewable energy at city facilities include geothermal at Riverside Cemetery, solar photovoltaic at Arnett Branch Library (44kW) and Rochester Public Market (15kW).
- Investigation into installation of up to 2 MW solar energy for net-metering to a city facility through a power-purchase agreement.

CITY OF ROCHESTER

Current and Recent City Initiatives (5/7)

5. Transportation

- Greening vehicle fleet
  - Integrate 300 alternative fuel vehicles (E-85, CNG, hybrid and electric)
  - Anti-idling policy
  - Automatic Vehicle Locator to optimize vehicle routes
  - Fleet right-sizing to remove less fuel-efficient vehicles
  - Use of USDOT’s Petroleum Reduction Analysis Planning Tool
- Infrastructure for alternative fuel vehicles
  - Green Fuel facility (CNG, E85)
  - 24 Electric Vehicle Charging Stations at 4 municipal garages, City Hall and Public Market
- Encourage walking and bicycling
  - Complete Streets Policy
  - Bicycle Enhancement Program – lane marking and signage on 15 centerline miles of arterial and collector streets
  - Increased bicycle patrols for Rochester Police Department.
CITY OF ROCHESTER

Current and Recent City Initiatives (6/7)

6. Planning
   - Municipal Operations Climate Action Plan
   - Permitting/zoning updates to address PV (solar) and EV charging stations
   - Proposed Comprehensive Plan Update – Sustainability Plan (proposed funding through Cleaner Greener Implementation grant)

7. Grant funding
   - $6,577,436 total since 2009

CITY OF ROCHESTER

Current and Recent City Initiatives (7/7)

8. Ongoing monitoring using Portfolio Manager
   - 14% reduction in overall energy use from baselines; 11% reduction in site energy use intensity (kBtu/ft²)
   - In facilities where energy efficiency measures were installed, 30% reduction in overall energy use from baselines and 23% reduction in site energy use intensity (kBtu/ft²)
CITY OF ROCHESTER

Stakeholders / Sources of information: City of Rochester

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<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Subject Areas</th>
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<tbody>
<tr>
<td>Anne E. Spaulding</td>
<td>Energy and Sustainability Manager</td>
<td>All (main focus: context)</td>
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<tr>
<td>Jim McIntosh</td>
<td>City Engineer</td>
<td>Energy Planning and Coordination, Energy Delivery Infrastructure, Transportation Energy Efficiency, Energy Efficiency in Buildings (performance)</td>
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<tr>
<td>Vince Skravello</td>
<td>Managing Architect</td>
<td>Energy Efficiency in Buildings (performance)</td>
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<tr>
<td>Erik Frisch</td>
<td>Transportation Specialist</td>
<td>Transportation Energy Efficiency</td>
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<tr>
<td>Reed Kelley</td>
<td>Streetlight Program Coordinator</td>
<td>Transportation Energy Efficiency (streetlight)</td>
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<tr>
<td>Danielle Khmerine</td>
<td>Sr. Environmental Specialist/Planner</td>
<td>Energy Efficiency in Buildings (pavement)</td>
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<tr>
<td>Joseph Smith</td>
<td>Manager of Plan Review and Permit</td>
<td>Energy Efficiency in Buildings (pavement)</td>
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<tr>
<td>Roman Jones</td>
<td>Director of Operations</td>
<td>Energy Planning and Coordination (purchasing), Energy Delivery Infrastructure (Buildings), Energy Efficiency in Buildings (performance)</td>
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<tr>
<td>Mike Guerzoni</td>
<td>Assistant Director of Operations</td>
<td>Energy Delivery Infrastructure (transportation), Transportation Energy Efficiency</td>
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<tr>
<td>Tom Graves</td>
<td>Manager of Building Services</td>
<td>Energy Planning and Coordination (purchasing), Energy Delivery Infrastructure (Buildings), Energy Efficiency in Buildings (performance)</td>
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<tr>
<td>Abbe Wastelmann</td>
<td>HPAC Engineer</td>
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Five Cities Energy Master Plans
Albany • Buffalo • Rochester • Syracuse • Yonkers

CITY OF ROCHESTER

Other Stakeholders

- RG&E/ Iberdrola (natural gas and electric utility)
- Monroe County (major facilities, street light and traffic management, large-heat)
- University of Rochester (major facilities)
- Kodak (major facilities, district heating)
- Rochester District Heating Cooperative
- Rochester Genesee Regional Transportation Authority (RGRTA) – Other building managers, sustainability leaders, fleet managers to be identified
- Rochester Business Alliance
- Genesee Transportation Council
- Genesee/Fingerlakes Regional Planning Council
- Greentopia
First Step: Data Collection and Analysis

- Existing plans and studies
- Energy usage – City facilities and vehicle fleets
- Procurement policies and procedures
- Land use regulations and building codes
- Physical conditions - Energy infrastructure, distribution, generation

Discussion

- Planning process/ Schedule
- Data collection
- Stakeholder engagement
- Other questions?