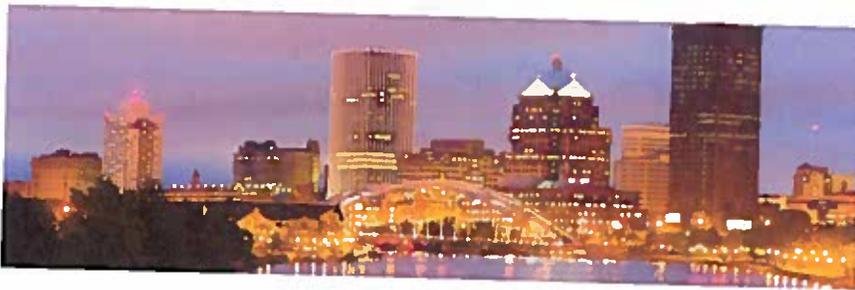


Rochester Energy Master Plan

Kick-off Meeting
December 3, 2013



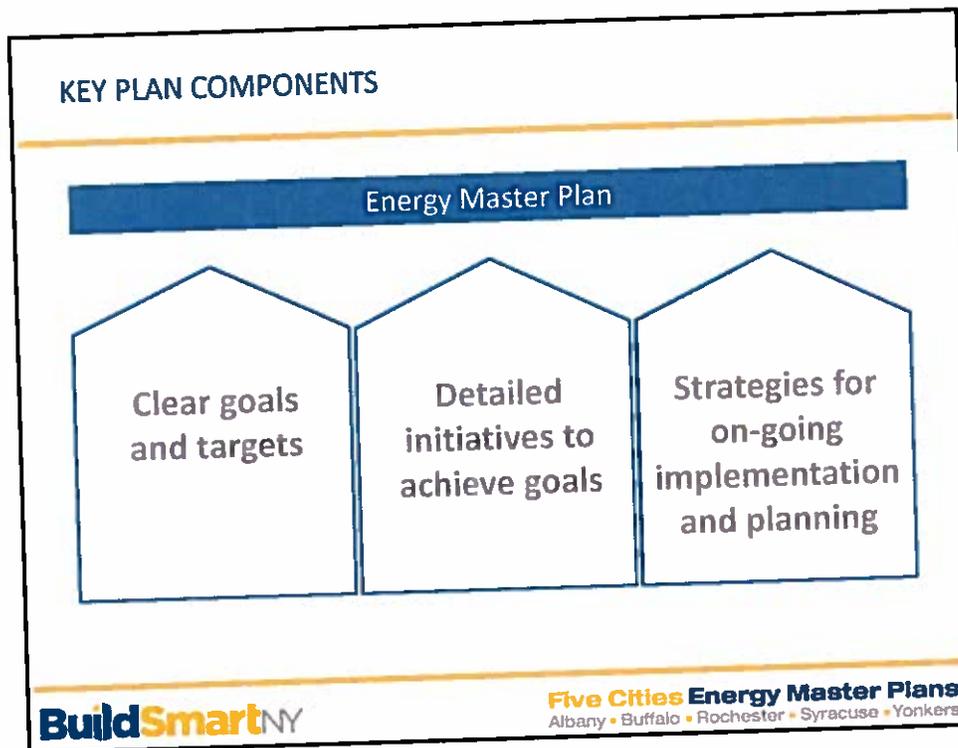
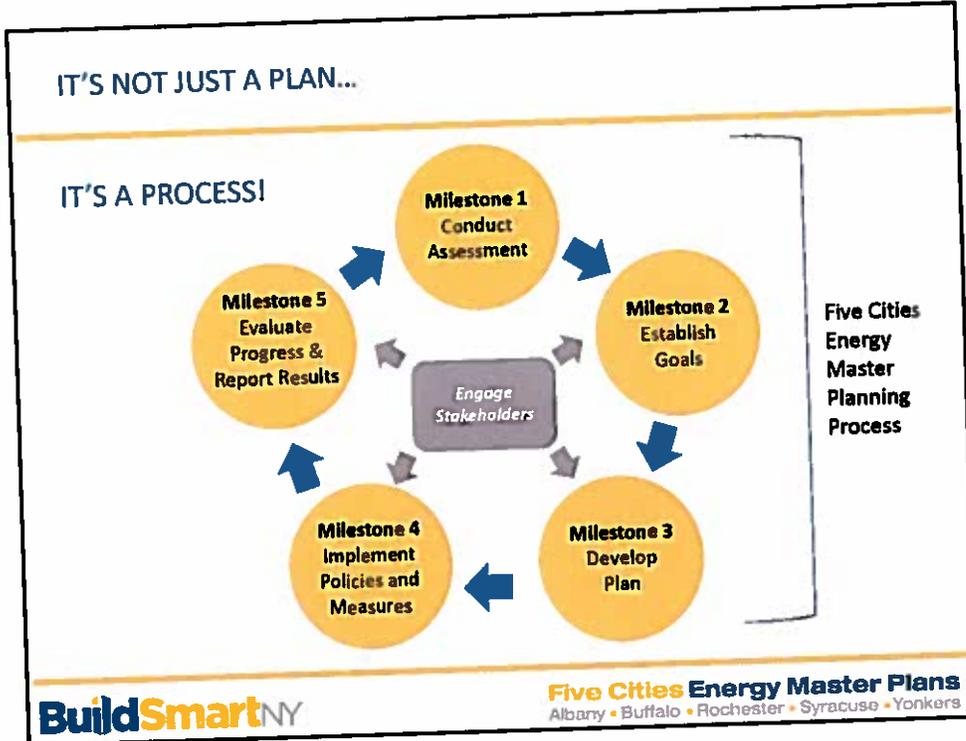
GOALS OF FIVE CITIES ENERGY MASTER PLANS

- Reduce energy consumption
- Strengthen reliability of cities' energy infrastructure
- Create jobs in clean energy industries
- Contribute to a cleaner environment



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ROLES & RESPONSIBILITIES

Cities' role

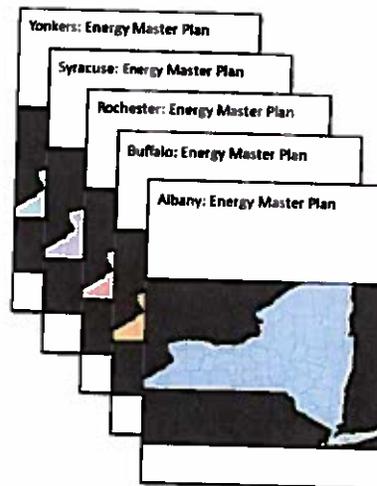
- Designate staff to participate in the planning process
- Set goals and targets; evaluate solutions
- Take ownership of the plans and the implementation
- Track and report on progress
- Update plans, as needed
- Build relationships with the other cities

NYPA'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: NYPA 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



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



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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 Bozic | 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

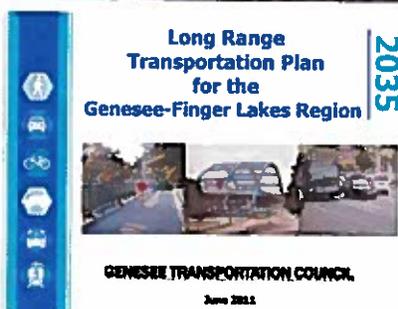
Other State Initiatives

- 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



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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



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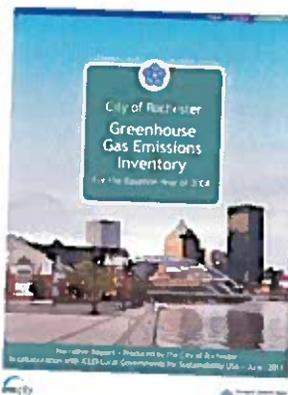
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CITY OF ROCHESTER

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



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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



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PV
EV Code

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



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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 USDOE'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



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CITY OF ROCHESTER

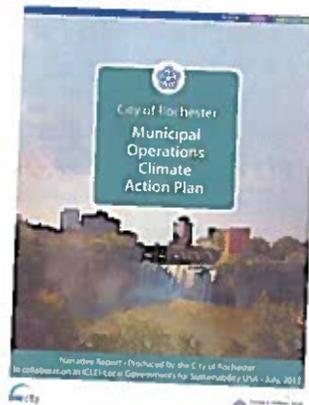
Current and Recent City Initiatives (6/7)

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



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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)



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CITY OF ROCHESTER

Stakeholders / Sources of information: City of Rochester

Name	Title	Subject Area(s)
Anne E. Spaulding	Energy and Sustainability Manager	All (main project contact)
Jim McIntosh	City Engineer	Energy Planning and Coordination, Energy Delivery Infrastructure, Transportation Energy Efficiency, Energy Efficiency in Buildings (performance)
Vince Giordano	Managing Architect	Energy Efficiency in Buildings (performance)
Erik Fritsch	Transportation Specialist	Transportation Energy Efficiency
Ned Kelley	Streetlight Program Coordinator	Transportation Energy Efficiency (streetlights)
Doraine Kirkmire	Sr. Environmental Specialist/Planner	Energy Efficiency in Buildings (zoning)
Joel Smith	Manager of Plan Review and Permits	Energy Efficiency in Buildings (code)
Norman Jones	Director of Operations	Energy Planning and Coordination (purchasing), Energy Delivery Infrastructure (buildings), Energy Efficiency in Buildings (performance)
Mike Quattrone	Assistant Director of Operations	Energy Delivery Infrastructure (transportation), Transportation Energy Efficiency
Tom Graves	Manager of Building Services	Energy Planning and Coordination (purchasing), Energy Delivery Infrastructure (buildings), Energy Efficiency in Buildings (performance)
Abebe Waldemariam	HVAC Engineer	Energy Delivery Infrastructure (buildings), Energy Efficiency in Buildings (performance)



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CITY OF ROCHESTER

Other Stakeholders

- RG&E/ Iberdrola (natural gas and electric utility)
- Monroe County (major facilities, street light and traffic management, large fleet)
- 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



Five Cities Energy Master Plans
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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?

