

Rochester Energy Master Plan

Community Stakeholder Meeting

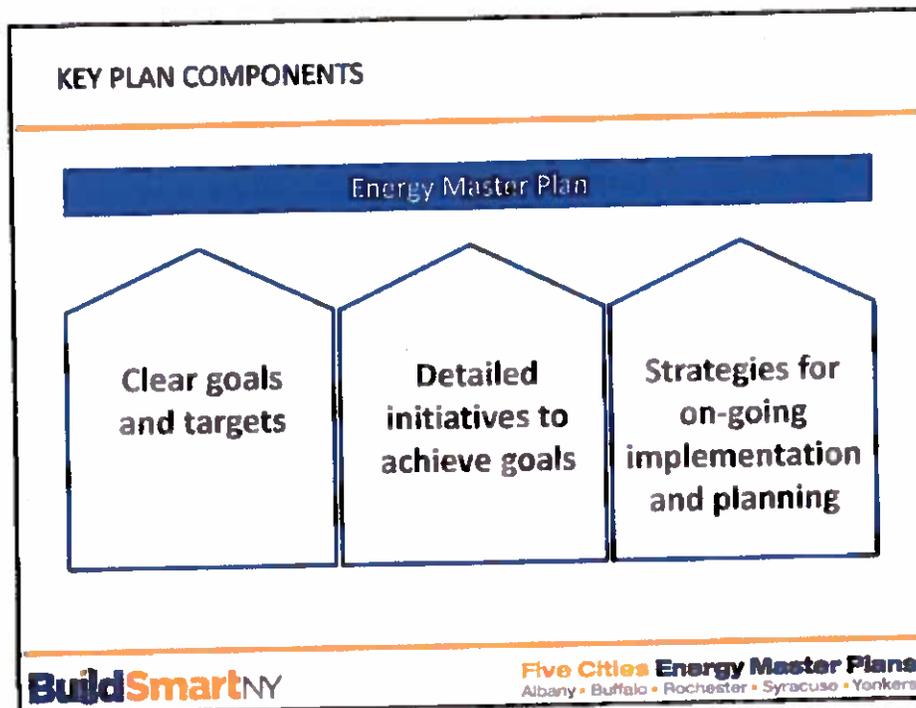
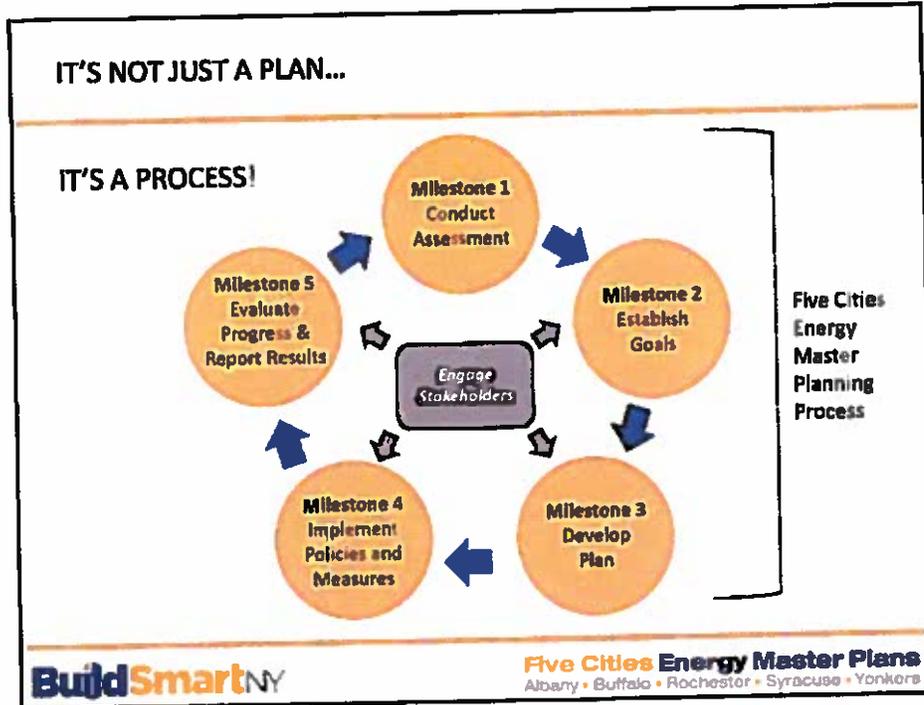
February 27, 2014



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





ROLES & RESPONSIBILITIES

Cities' role

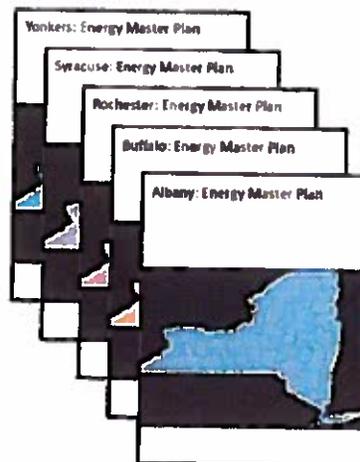
- Designate staff to participate in the planning process
- Set goals and targets; evaluate solutions
- Take ownership of the plans and the implementation
- Track and report on progress
- Update plans, as needed
- Build relationships with the other cities

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 brand.ng
 - 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



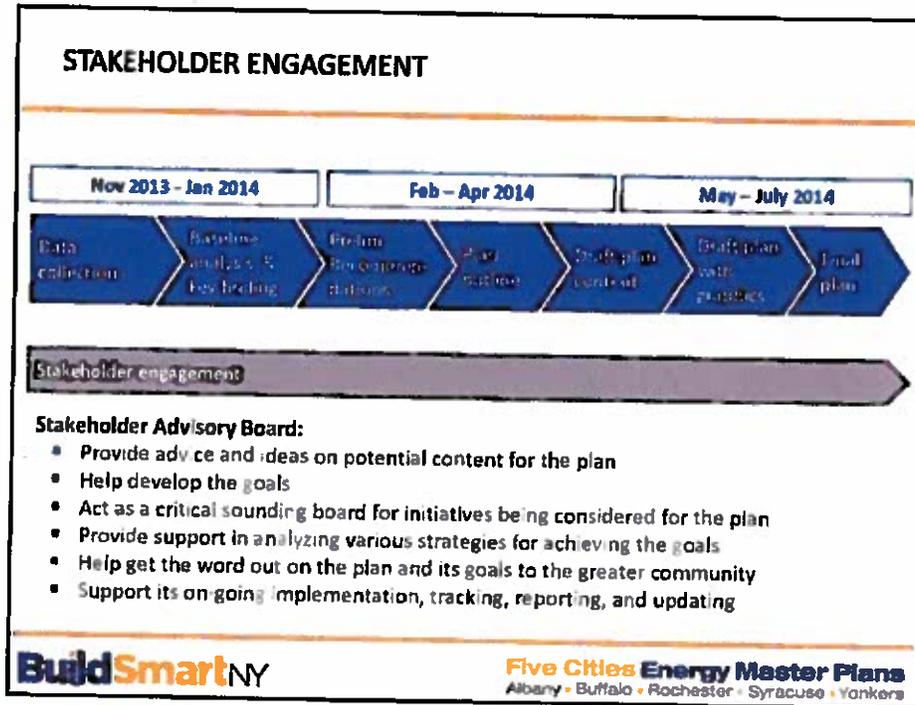
Five Cities Energy Master Plans
Albany • Buffalo • Rochester • Syracuse • Yonkers

TIMELINE OVERVIEW

Nov 2013 - Jan 2014	Feb - Apr 2014	May - July 2014
Data collection	Baseline analysis & benchmarking	Final plan
Baseline analysis & benchmarking	Preliminary recommendations	Draft plan - on graphics
Preliminary recommendations	Plan outline	Draft plan raised
Plan outline	Draft plan raised	Final plan



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CONSULTING TEAM – ROCHESTER ENERGY MASTER PLAN

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

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Other State Initiatives

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



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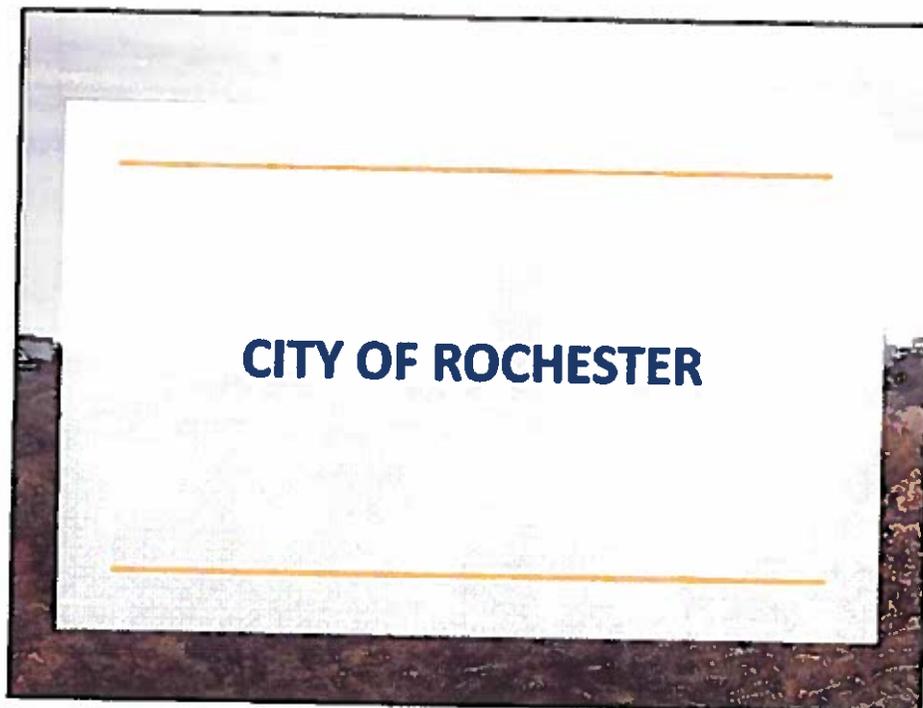
Other Regional Initiatives

- **Regional Sustainability Plan**
- **Regional Long-Range Transportation Plan**



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GENESEE TRANSPORTATION COUNCIL
June 2012



CITY OF ROCHESTER

Overview

- **City Sustainability Initiatives**
 - Office of Energy and Sustainability
 - Greenhouse Gas Inventory
 - Planning
 - Energy Efficiency
 - Renewable Energy
 - Transportation
 - Green Infrastructure
- **NYPA Energy Master Plan Project Goals**

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CITY OF ROCHESTER

City Sustainability Initiatives

Established Office of Energy and Sustainability

- Secures funding to implement energy and sustainability projects (\$6,677,436 total since 2009)
- Advocates for sustainable practices among City departments
- Manages initiatives to reduce greenhouse gases and energy usage

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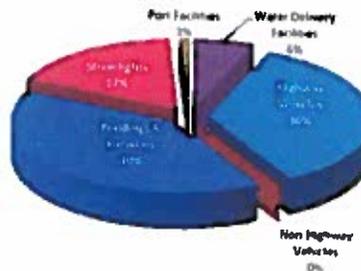
CITY OF ROCHESTER

City Sustainability Initiatives

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

GHG Emissions by Sector



City of Rochester
 Government Emissions - CY2008
 Total = 33,039 MTCO₂e



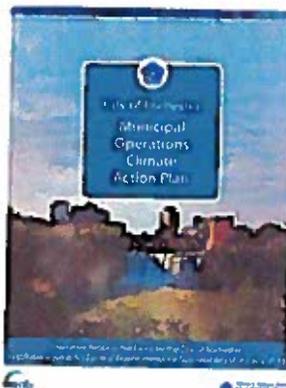
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CITY OF ROCHESTER

City Sustainability Initiatives

Planning

- Municipal Operations Climate Action Plan
- Permitting/ zoning updates to address PV (solar) and EV charging stations
- Comprehensive Plan Update – Community Climate Action Plan (funding through NYSERDA Cleaner Greener Communities Implementation grant)
- Harbor Management Plan
- Brownfields
 - Brownfield Opportunity Area planning program
 - Site cleanup and redevelopment



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CITY OF ROCHESTER

City Sustainability Initiatives

Energy Efficiency

- Energy audits at City-owned facilities
- Energy-efficient lighting
- Energy management systems
- Upgrade HVAC
- Building envelope improvements
- Energy efficient streetlights
- US Dept. of Energy Better Buildings Challenge Program
- Portfolio Manager to track energy usage in City facilities
 - 14% reduction in overall energy use from baselines; 11% reduction in source 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

City Sustainability Initiatives

Renewable Energy

- Renewable Energy Certificates purchased through Constellation Energy, 25% of the city's electricity is generated from green power
- Renewable energy at city facilities includes geothermal at Riverside Cemetery, solar photovoltaic at Arnett Branch Library (44kW) and Rochester Public Market (15kW)
- Feasibility study for development of up to 2 MW solar energy on former landfill site for net-metering to a city facility through a power-purchase agreement



CITY OF ROCHESTER



City Sustainability Initiatives

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
- Infrastructure for alternative fuel vehicles
 - Green Fuel Station (CNG, E85, biodiesel)
 - Electric Vehicle Charging Stations at 4 municipal garages, City Hall, Port of Rochester 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

City Sustainability Initiatives

Green Infrastructure

- City Hall Green Roof
- Green Street-Sawdey Way
- Porous Tree Pits
- Cornerstone Park
- Rain Gardens
- Permeable Pavement
 - Turning Point Park
 - City Hall
 - Port of Rochester



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CITY OF ROCHESTER

Project Goals and Objectives

What the City of Rochester hopes to accomplish through the NYPA Energy Master Plan project:

- Develop an energy 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 the development of the community-wide Climate Action Plan
- Initiate a forum for collaboration with stakeholders on energy and sustainability issues
- Address issues not included in current city plans, including energy supply and distribution
- Develop a plan that can act as a template or guide for other businesses, non-profits, institutions, etc. to assist in reaching their energy goals
- Spur job growth in the energy sector
- Identify funding strategies to implement the plan

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Data Collection and Analysis

Energy Usage

- **Municipal (City government) Energy Usage**
 - Buildings
 - Vehicle Fleets
 - Street lighting, other non-building accounts
- **Community Energy Usage**
 - Buildings
 - Vehicular travel within the City
 - Fleets
 - Private vehicles

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Data Collection and Analysis

Energy Infrastructure

- Energy Generation within the City
 - RG&E/ Iberdrola
 - Government/ Institutional
 - Renewable (solar, wind, hydro)
- Energy distribution infrastructure
 - RG&E/ Iberdrola
 - Rochester Steam Heating Cooperative

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Data Collection and Analysis

Programs, Regulations and Funding

- State and City Building and Zoning Codes
- State, Utility and Other Financial Incentives
- Energy Procurement Procedures

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Discussion

- Planning process/ Schedule
- Data collection and analysis
- Contributions of community stakeholders
- Other questions?

Next Steps

- Next 2 weeks:
 - Complete data collection and analysis
 - Identify alternative approaches
 - Prepare preliminary recommendations
- Late March
 - Discuss preliminary recommendations with Stakeholders
- April
 - Draft Plan
 - Discuss implementation with Stakeholders

CONTACT INFORMATION

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