

Integrating Energy & Air Quality Planning Goals

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Overview of Presentation

- STAPPA/ALAPCO – who we are
- How air quality and energy planning intersect
- Opportunities for coordination
- Tools available to facilitate coordination
 - Clean Air & Climate Protection Software
- Next steps

STAPPA/ALAPCO – Who We Are

- Two national associations of air quality agencies in 48 states and 4 territories and more than 165 metropolitan areas across the country
- Secretariat based in DC
- www.cleanairworld.org

Air Quality Planning

- Clean Air Act
- EPA sets health-based national ambient air quality standards
- Our members develop State Implementation Plans (SIPs) to attain or maintain these standards
 - Legal requirement to attain as expeditiously as practicable
 - Failure to attain by deadline can mean sanctions such as denial of highway funds
 - SIPs must show how areas will attain or maintain these standards

Air Quality Planning

- Sources of air pollution include power generators
 - New Source Review/Permitting
 - Control requirements
 - “Clean” areas (attainment) – new sources BACT; existing sources subject to PSD increment
 - “Dirty” areas (nonattainment) – new sources LAER; existing sources RACT

Ways AQ and Energy Planning Intersect

- Energy sources are usually also sources of air pollution (fossil-fueled electric generators, e.g.)
- Increasing energy efficiency and renewable energy also help with improving air quality
 - EE/RE as SIP measures
- Global warming

Tools Available to Coordinate Planning – EPA Guidance on SIP Credits

- Emerging and Voluntary Measures: Incorporating Emerging and Voluntary Measures in SIPs
 - www.epa.gov/ttn/oarpg/t1/memoranda/evm_ievm_g.pdf
- Emission Reductions from Electric-Sector EE/RE Measures: SIP Credits
 - www.epa.gov/ttn/oarpg/t1/memoranda/ereseerem_gd.pdf

Tools – Clean Air & Climate Protection Software

- User-friendly, Windows-based software
- Helps assess and quantify individual and comprehensive strategies to reduce criteria pollutants and GHG emissions
- Available free to NASEO members
- Free training sessions to be scheduled in 2005

What Will the Software Do?

- Supports emissions inventory development for all sectors
- Facilitates development of emission reduction action plans
- Quantifies emission reductions
- Produces reports detailing emission reductions, measures and cost savings

An aerial photograph of a dense forest, showing a mix of green and brown tones. A bright, diagonal light streak cuts across the upper right portion of the image. The text is overlaid on this background.

STAPPA/ALAPCO and ICLEI's

Clean Air and Climate Protection Software

State and Territorial Air Pollution Program Administrators and
Association of Local Air Pollution Control Officials

International Council for Local Environmental Initiatives

Clean Air and Climate Protection Software®

File Record Report Settings Assistants Help

Community Analysis | **Community Measures** | **Government Analysis** | **Government Measures**

Community Measures [Target Year 2000]

Residential | Commercial | Industrial

Measure Type
Change in Energy Source

Measure Name
New York State Wind Power Installation

Measure Description, Notes and Assumptions
 Replace 17,000 GWh of coal fired electricity with wind-generated electricity

Initial Energy Source | Replacement Energy Source

After Measure

Nil	Usage After	(GWh)
Grid Electricity		17,000.0
Fuel and Electricity Averages		(\$ per GWh)
Fossil Fuels		110,000
Other Electricity		
Green Electricity		
Landfill Gas Electricity		
Other Fuels		
Specific Technologies		

Equivalent CO₂ Reduction (tons): **23,240,069**

Savings (\$): **-170,000,000**

NOx Reduction (lbs): **58,298,998**

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1. Click on Community Measures and select the Residential tab

2. Select the Measure Type as "Change in Energy Source" from the drop down menu.

3. Name and describe the measures for your records

4. Steps 4 and 5 Select initial and replacement electricity types. See text below for more information

6. Enter in measures data, such implementation year (or schedule) and cost. Also, choose or change emission coefficient set applied to this measure. In this case, choose default.

7. View expected air pollutant and GHG emissions and cost savings. Use the bottom scroll bar to view all pollutants.

Examples – What if scenarios

- New York State
 - Impact of implementing a 25% Renewable Portfolio Standard
 - Impact of two Energy Star programs on the residential sector – Lights and Appliances and Homes (oil)

Community Measures [Target Year 2012]

Residential | Commercial | Industrial | Transportation | Waste | Other

Measure Type

Change in Energy Source

Measure Name

New York State Renewable Portfolio Standard

Measure Description, Notes and Assumptions

Expand

Increase New York State's share of electricity from renewables from 15% to 25%

Record Controls

Insert | Select | Delete

◀ | ◀ | ▶ | ▶

Report | Calculator | Help

Location | Implementation Data | Coefficients

Initial Energy Source | Replacement Energy Source

Before Measure

- Nil
- Grid Electricity
 - Grid Average**
 - Grid Marginal
- Fuel and Electricity Averages
- Specific Technologies

Usage Before (GWh)

(\$ per GWh)

Year Implemented

Implementation Cost (\$)

Ramp-In Schedule

Equivalent CO₂ Reduction (tons)

Savings (\$)

NO_x Reduction (tons)

Community Measures [Target Year 2012]

Residential | Commercial | Industrial | Transportation | Waste | Other

Measure Type
Change in Energy Source

Measure Name
New York State Renewable Portfolio Standard

Measure Description, Notes and Assumptions *Expand*
 Increase New York State's share of electricity from renewables from 15% to 25%

Record Controls

Insert | Select | Delete

◀ | ◀ | ▶ | ▶

Report | **Calculator** | Help

Initial Energy Source | **Replacement Energy Source**

After Measure

- Nil
- + Grid Electricity
- Fuel and Electricity Averages
 - + Fossil Fuels
 - Other Electricity
 - Green Electricity**
 - Landfill Gas Electricity
 - + Other Fuels
- + Specific Technologies

Usage After (GWh)

(\$ per GWh)

Location | Implementation Data | Coefficients

Year Implemented

Implementation Cost (\$)

Ramp-In Schedule

Equivalent CO ₂ Reduction (tons)	Savings (\$)	NOx Reduction (tons)
6,862,869	0	7,493

New York

Community Greenhouse Gas and Air Pollutant Reductions in 2012

Target Year Measures Listing

Residential Sector

Location of Measure: New York State

Type of Measure: Change in Energy Source

Measure Name

New York State Renewable Portfolio Standard

Measure Details

Initial Energy Source		Replacement Energy Source	
Electricity		Green Electricity	
Usage Before	17,300	Usage After	17,300
Unit	(GWh)	Unit	(GWh)
Price per Unit	\$.00	Price per Unit	\$.00
Ramp-In Factor	100%	Energy Reduction (MMBtu)	0
Year Implemented	2012	Emission Reduction (tons eCO ₂)	6,862,869
Implementation Cost	\$0	Savings (\$/year)	\$0
		Payback Period (years)	0

The emission reduction from this measure as a percentage of total reductions: 99.7%

NO _x Reduction	SO _x Reduction	CO Reduction	VOC Reduction	PM10 Reduction
(tons)	(tons)	(tons)	(tons)	(tons)
7,493	23,055	9,924	1,095	7,131

Full Description of Measure

Increase New York State's share of electricity from renewables from 15% to 25%

New York State: Example of Harmonized Strategy

- 25% Renewable Portfolio Standard
- Energy Star Lights & Appliances
- Energy Star Homes – Oil

New York

Community Criteria Air Pollutants Reductions in 2012 Target Year Measures Detailed Report

	NO _x (tons)	SO _x (tons)	CO (tons)	VOC (tons)	PM ₁₀ (tons)
<hr/>					
Residential Sector					
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New York State					
New York State 25% RPS	7,493	23,055	9,924	1,095	7,131
Energy Star Homes, Oil	5,826	3,250	1,181	199	695
Energy Star Lighting	3,465	10,661	4,589	506	3,297
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Subtotal Residential	16,785	36,966	15,694	1,800	11,123

New York

Community Greenhouse Gas Emissions Reductions in 2012 Target Year Measures Detailed Report

	Equiv CO ₂ (tons)	Equiv CO ₂ (%)	Energy (MMBtu)
Residential Sector			
New York State			
New York State 25% RPS	6,862,869	44.3	0
Energy Star Homes, Oil	5,441,344	35.1	44,091,297
Energy Star Lighting	3,173,581	20.5	27,303,754
Subtotal Residential	15,477,794	99.9	71,395,051

Next Steps

- Web-cast trainings on software for air and energy state and local officials
- Obtain CD copies of software from NASEO
- Free Users' Guide available at www.cleanairworld.org/software.html
- Other ideas?