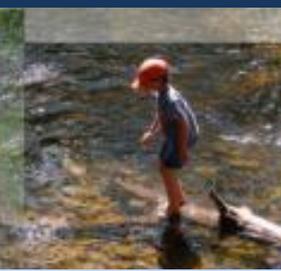




# Connecticut Department of Energy and Environmental Protection



Connecticut Department of  
**ENERGY &  
ENVIRONMENTAL  
PROTECTION**

# EPA Revisions to Fine Particle (PM<sub>2.5</sub>) NAAQS

January 10, 2013

Paul Bodner

SIPRAC

Hartford, CT



Connecticut Department of Energy and Environmental Protection

# What are the Public Health Impacts of PM<sub>2.5</sub> ?

- PM<sub>2.5</sub> emitted directly and formed secondarily in atmosphere (SO<sub>x</sub>, NO<sub>x</sub>, organics)
  - e.g., EGU, industrial, mobile sources, home heating
- PM<sub>2.5</sub> can penetrate deep into sensitive lung tissue
- Most at-risk individuals: heart/lung disease, elderly, children, pregnant women, diabetics
- Contributes to increased hospitalization, cardiovascular (e.g., clogged arteries) & respiratory ailments (e.g., bronchitis, asthma), heart attacks, strokes, premature death



# What are the Revised NAAQS ?

- Prompted by CAA section 109(d) 5-year review cycle & Court-ordered deadline
- Finalized Dec 14, 2012 (not yet in Federal Register)
  - Annual PM<sub>2.5</sub> NAAQS lowered to 12 µg/m<sup>3</sup> (from 15 µg/m<sup>3</sup>)
  - No changes to 24-hr PM<sub>2.5</sub> or PM<sub>10</sub> primary & secondary NAAQS
  - PM<sub>2.5</sub> NAAQS within ranges advised by CASAC
  - EPA estimates annual US health benefits of \$4 to \$9 billion, with costs of \$53 to \$350 million.



# What is the Implementation Schedule ?

- Attainment/Nonattainment Designations to be finalized early 2015 (based on 2011-13 data)
- Attainment Deadline of 2020
  - Control strategy plans due early 2018 for NA areas
- Required Near-Road Monitoring
  - CBSA population  $\geq$  2.5 million: Jan 1, 2015 (none in CT)
  - CBSA population  $\geq$  1 million: Jan 1, 2017 (Hartford)
  - Data won't be available for initial 2015 designations
- Updated EPA PM<sub>2.5</sub> Modeling Guidance “soon”



# Non-Compliant Counties (2011 Annual Design Values)



EPA will not decide who needs to improve air quality to meet the standard until 2014 at the earliest. States will have until 2020-2025 to meet the standard.

Source: 2009-2011 air quality data as of July 15, 2012  
For more information: [www.epa.gov/pm](http://www.epa.gov/pm)



# What are the Implications for CT?

- EPA redesignation approval for previous NAAQS expected by summer 2013
- Monitors shows CT compliant with new NAAQS, but NYC/NJ barely compliant (2009-2011 data)
  - Designations will use 2011-2013 data
  - Weather variability could cause higher values ...
  - Although emissions are trending down (esp SO<sub>x</sub>, NO<sub>x</sub>)
- Near-road PM<sub>2.5</sub> levels yet-to-be determined
- Revised NAAQS limits NSR growth cushion
  - Important to continue cost-effective emission reductions



# For More Information

- EPA Regulatory Actions:

<http://www.epa.gov/pm/actions.html>

- DEEP Air Monitoring:

[http://www.ct.gov/dep/cwp/view.asp?a=2684&q=321790&depNav\\_GID=1744](http://www.ct.gov/dep/cwp/view.asp?a=2684&q=321790&depNav_GID=1744)

- DEEP PM<sub>2.5</sub> Planning:

[http://www.ct.gov/dep/cwp/view.asp?a=2684&q=322164&depNav\\_GID=1619](http://www.ct.gov/dep/cwp/view.asp?a=2684&q=322164&depNav_GID=1619)

- Paul Bodner: 860-424-3383

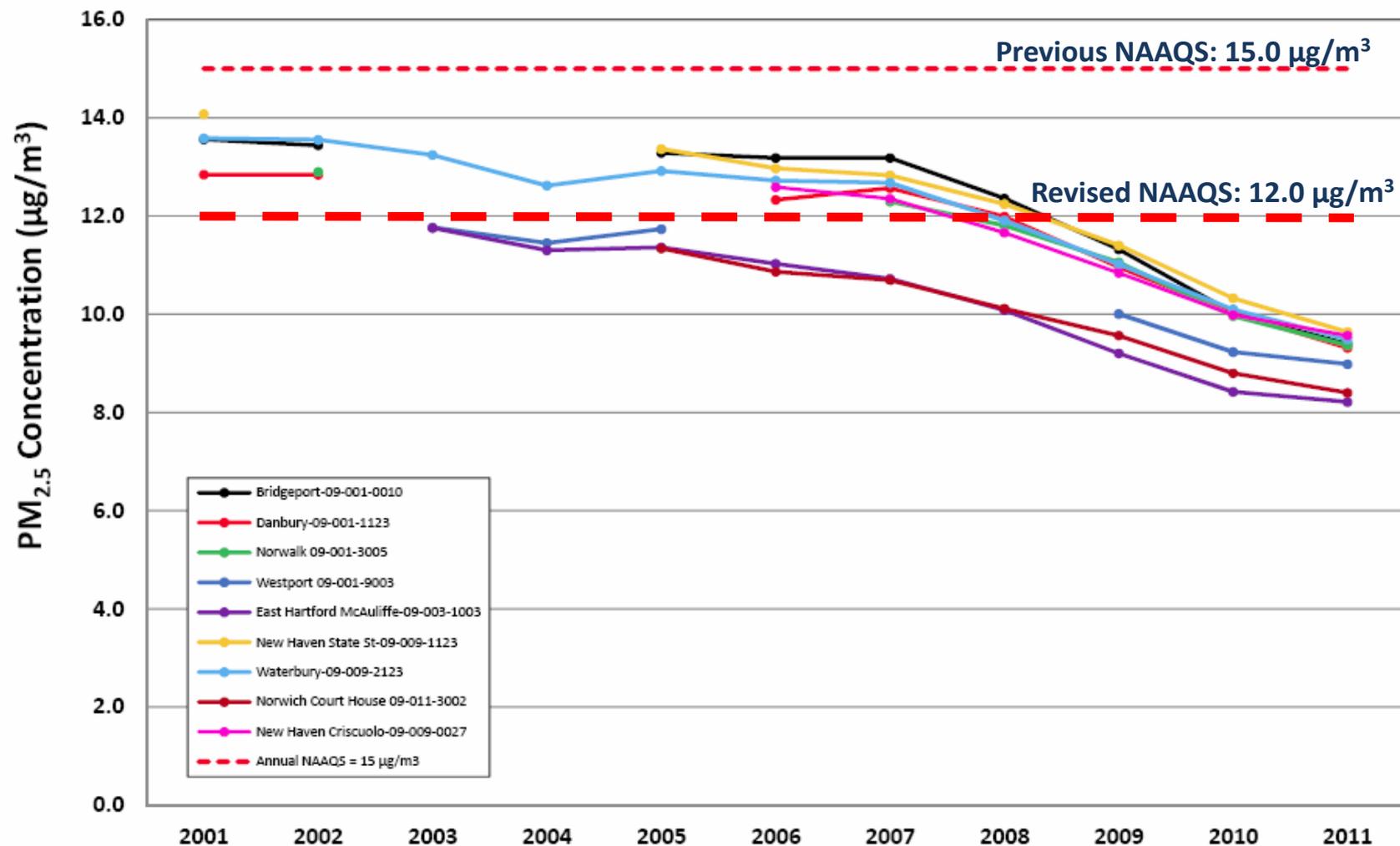


# Extra Slides



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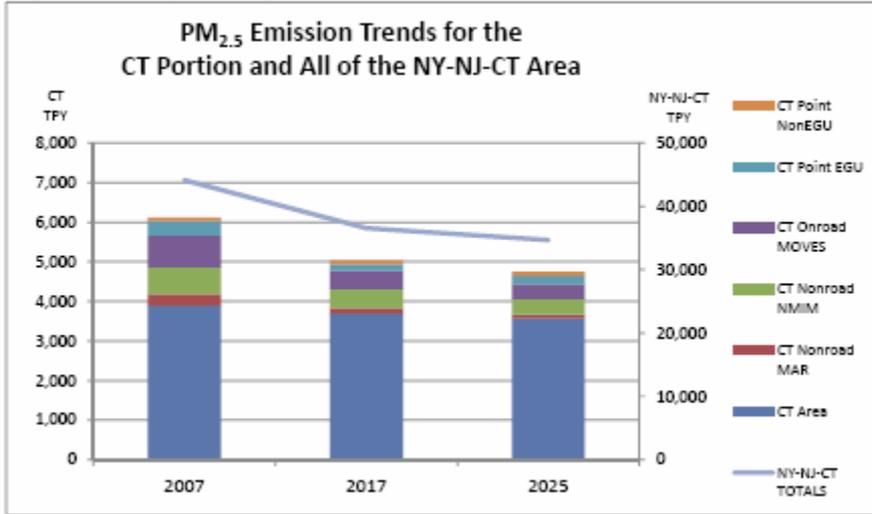
# PM<sub>2.5</sub> Annual Design Values Of Connecticut's Longest Running Monitoring Sites



Note: The Norwalk 2010 and 2011 values are estimates only as the 2010 data did not meet completeness criteria, due to site construction.

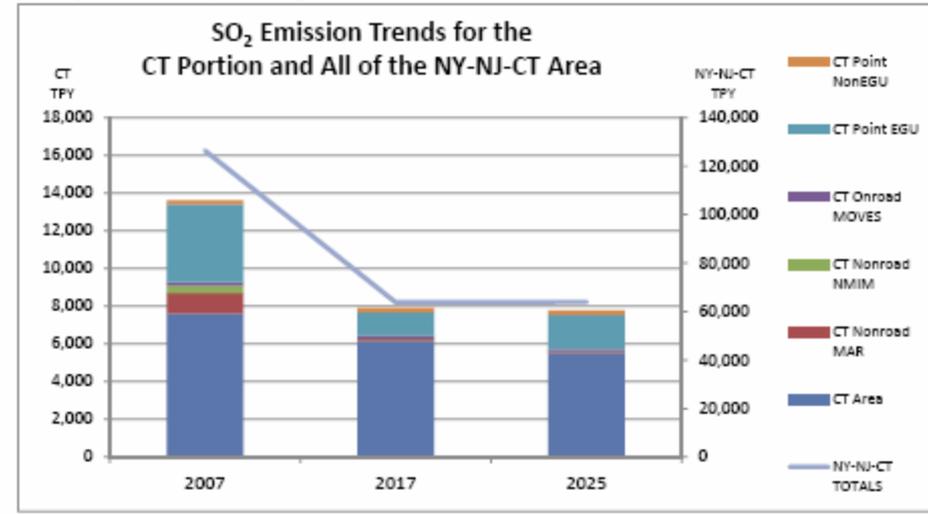
# PM<sub>2.5</sub> & Precursor Emission Trends

Figure E-4 Projected PM<sub>2.5</sub> Emissions for the CT Portion and All of the NY-NJ-CT Area\*



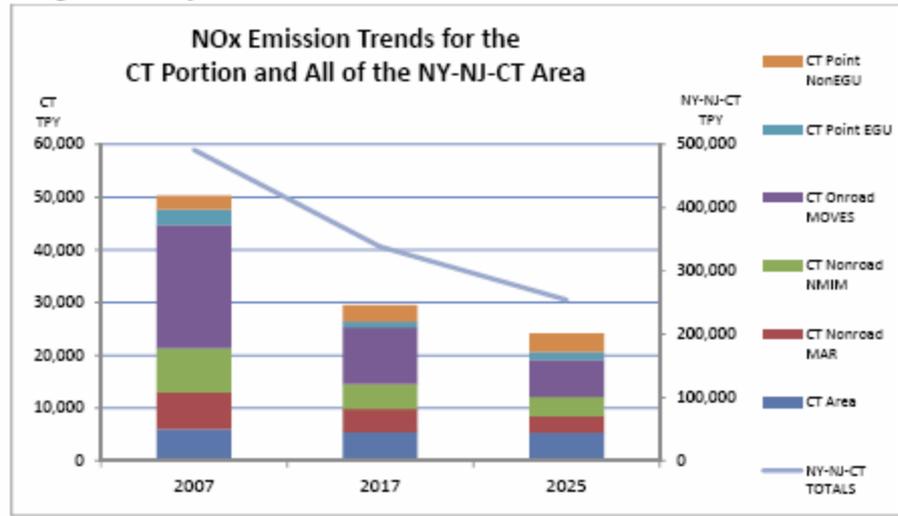
\* Emission estimates for NY and NJ are preliminary and are subject to change by each state in their PM<sub>2.5</sub> redesignation SIP submittals.

Figure E-6 Projected SO<sub>2</sub> Emissions for the CT Portion and All of the NY-NJ-CT Area\*



\* Emission estimates for NY and NJ are preliminary and are subject to change by each state in their PM<sub>2.5</sub> redesignation SIP submittals.

Figure E-5 Projected NO<sub>x</sub> Emissions for the CT Portion and All of the NY-NJ-CT Area\*



\* Emission estimates for NY and NJ are preliminary and are subject to change by each state in their PM<sub>2.5</sub> redesignation SIP submittals.



# PM<sub>2.5</sub> Seasonal Composition (2002-2004 data)

ZOOM

Quarterly PM<sub>2.5</sub> Composition in NA areas, 2002-04

*Many areas do not have speciation data and some at a different site*

