Control Strategy Tool
for Multipollutant Analyses

AQMP Workshop

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David Misenheimer, USEPA

What is the Goal of this Briefing?

- Share information on:
  - functionality of the Control Strategy Tool for *multipollutant* cost analyses
  - when and how to access the Control Strategy Tool
- Get feedback on:
  - functionality for *multipollutant* cost analyses
  - sources of *multipollutant* control measure data

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What is the Purpose/Scope of CoST?

- Provide support for:
  - Future year emission control strategies
  - Multi-pollutant analyses, including criteria pollutants and precursors, HAPs, and greenhouse gases
  - Control measures database
- Covers the U.S.
- Engineering costs only, no economic impacts

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What questions are we trying to answer with CoST?

- Start with a control strategy related goal
  - e.g., reduce 2030 NOx emissions in Southeast by 100,000 tons/yr
- Use Control Strategy Tool to answer questions like:
  - What set of controls can achieve the goal and what are the impacts on other pollutants?
 - What is the optimum scenario for achieving multipollutant goals?

What questions are we trying to answer with CoST *(continued)* ?

- What will be the final emission reductions for the target pollutants?

- What will be the final emission reduction or increases of other pollutants of interest?

- What will be the engineering costs of controls, including additional controls for unintended pollutants emitted?

- What is the *least cost* set of controls for achieving multipollutant goals?

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Example re Black Carbon and Cement Industry

*First, a few words about Black Carbon:*

- Elemental Carbon (EC) is essentially same as Black Carbon (BC)

- Black Carbon is a primary aerosol emitted directly at the source from incomplete combustion processes

- Much atmospheric BC is of anthropogenic origin

- Net effect of BC is to increase the radiative heating of the atmosphere and decrease the radiative heating of the surface

- Presence of BC in the atmosphere above highly reflective surfaces such as snow, ice, or clouds, may cause a significant positive radiative forcing
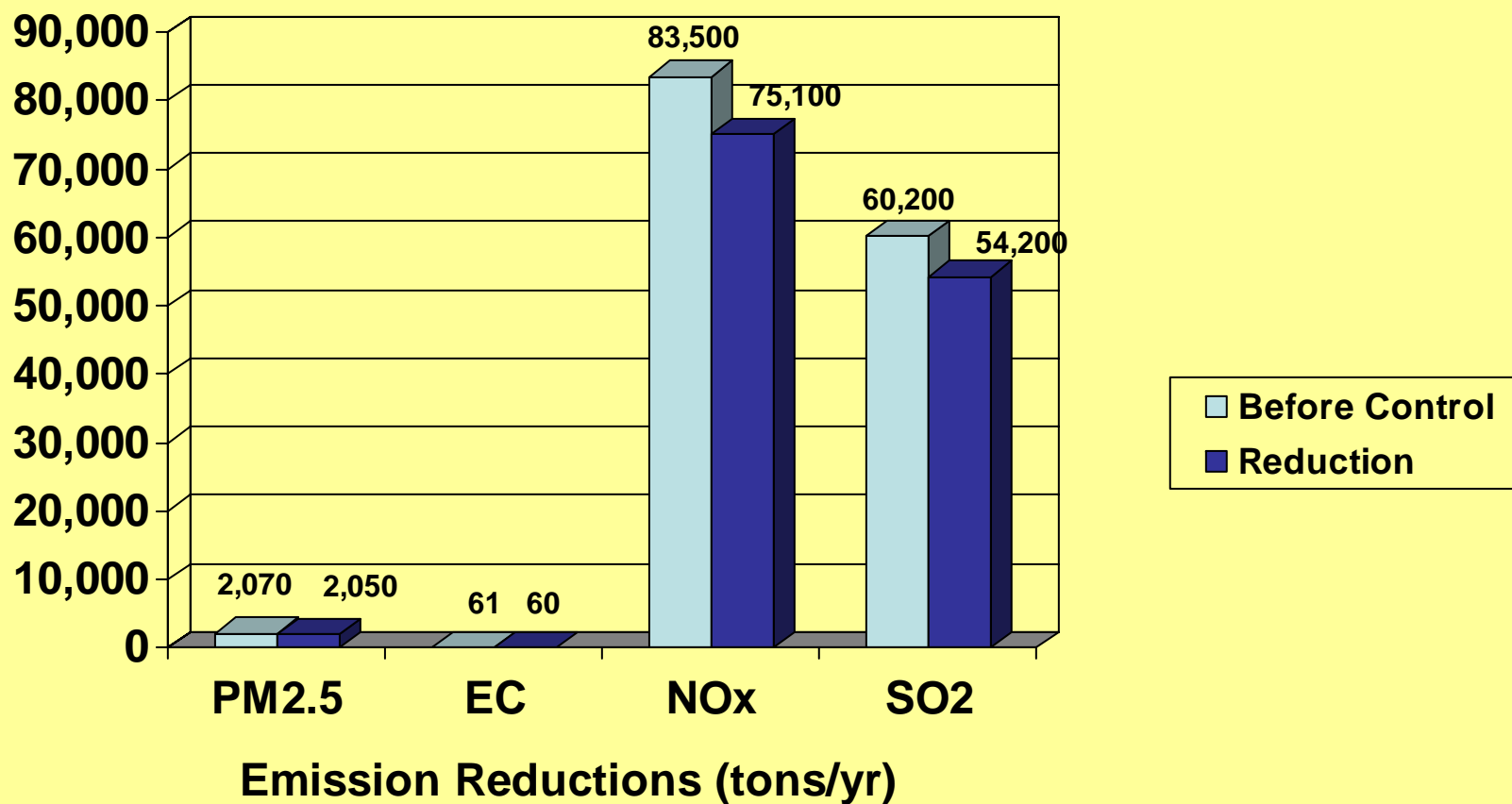
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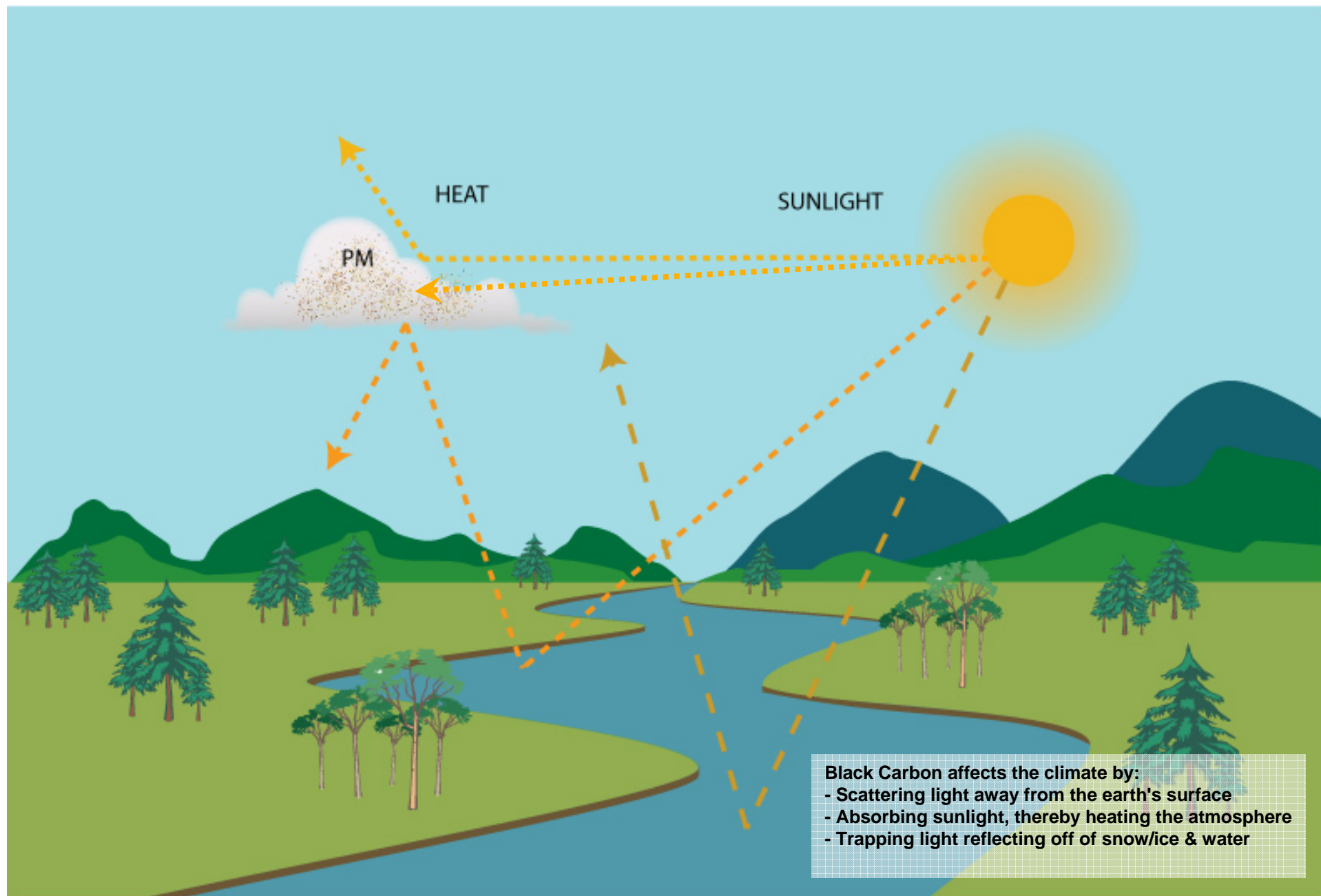
Black Carbon Climate Effects
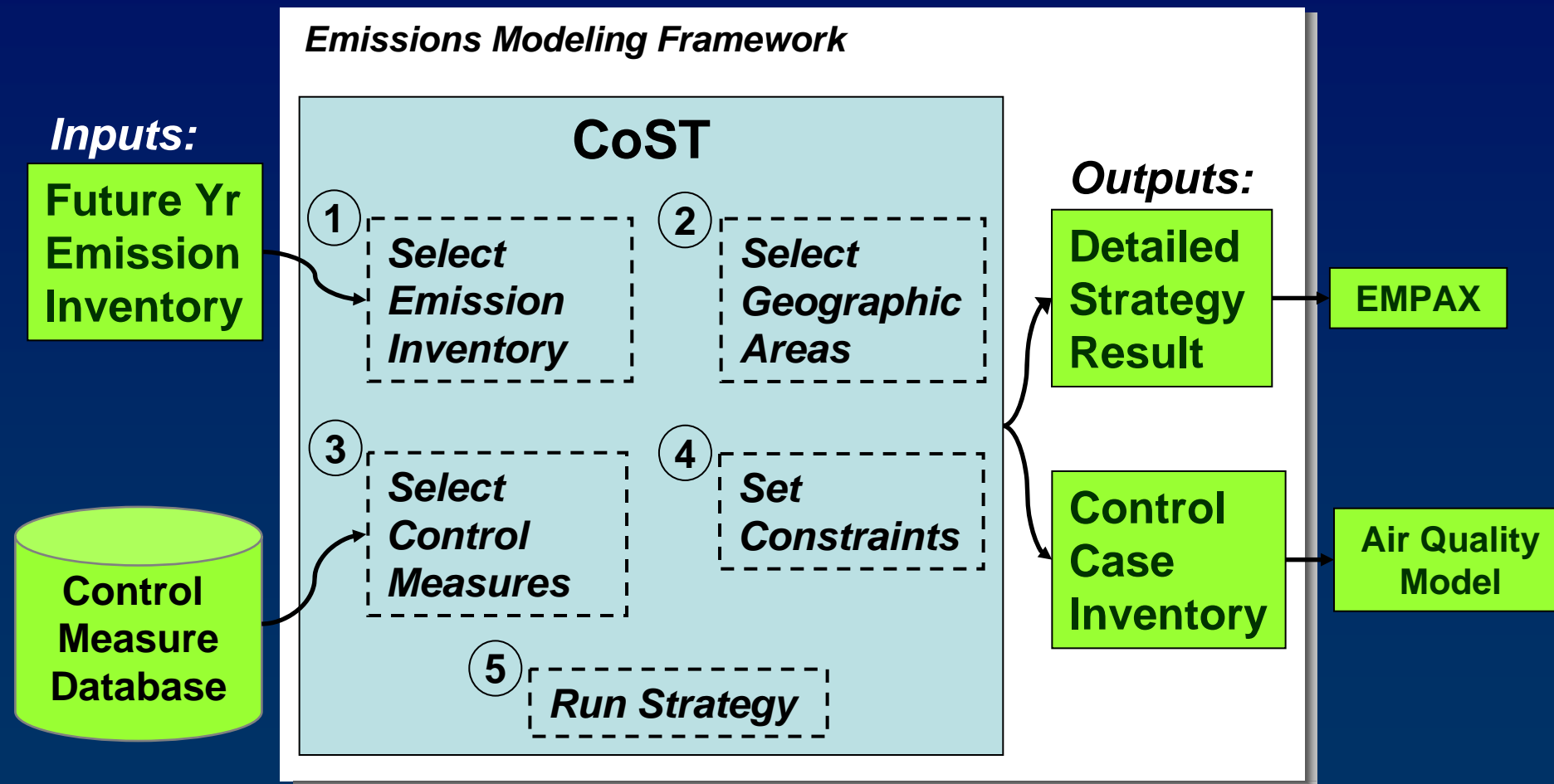
Example for Cement Industry

Example for Cement Industry

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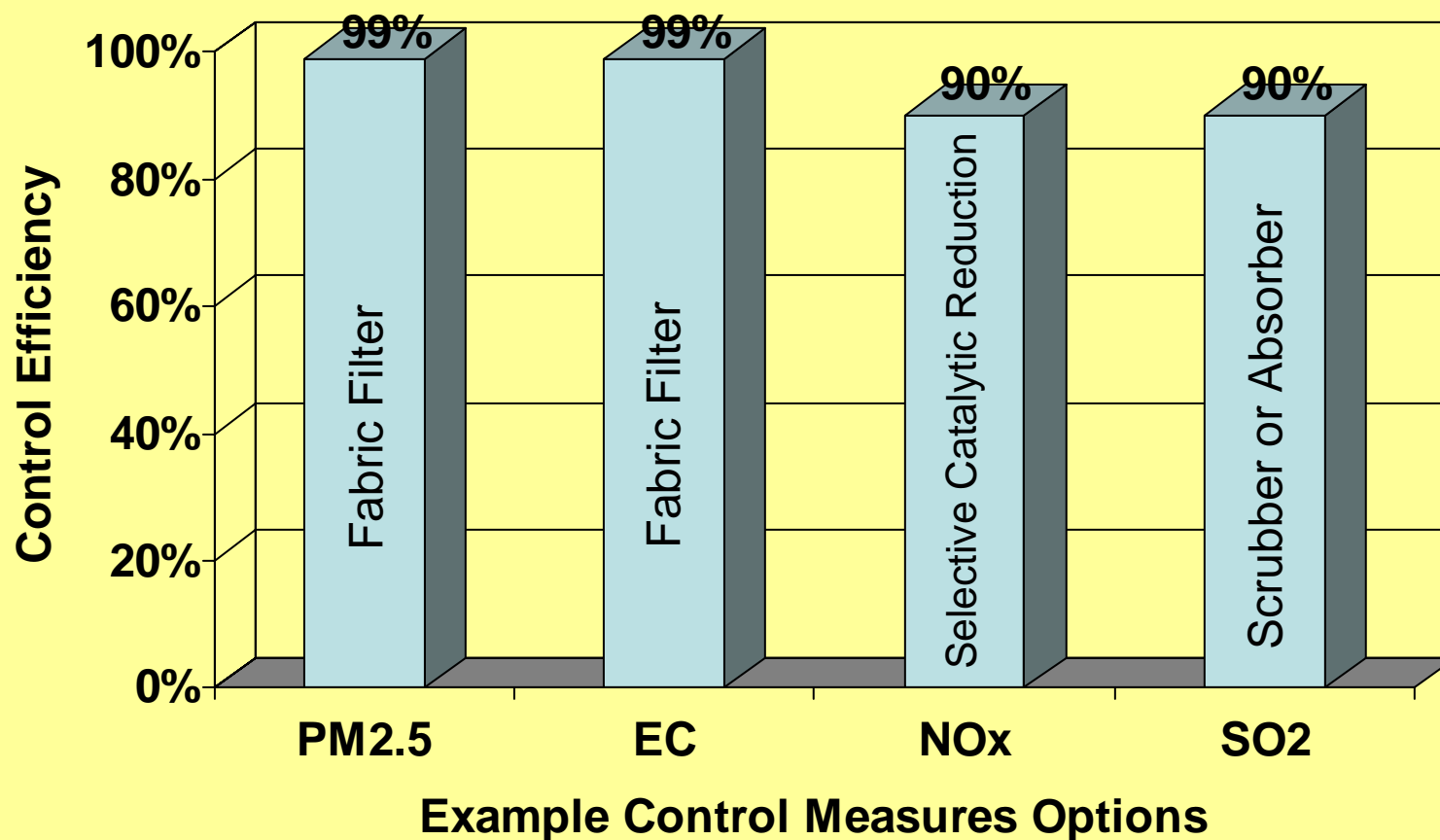
Why are we moving to CoST from AirControlNET?

- Greater flexibility - regarding addition and editing of emissions inventories & control measures
- New software platform - to better respond to changing needs
- More transparency - easier access to underlying data and assumptions

How does CoST fit into Control Strategy Assessments?

Emissions Modeling Framework

CoST

Inputs:

Future Yr Emission Inventory

Control Measure Database

1 *Select Emission Inventory*

2 *Select Geographic Areas*

3 *Select Control Measures*

4 *Set Constraints*

5 *Run Strategy*

Outputs:

Detailed Strategy Result

Control Case Inventory

EMPAX

Air Quality Model

Note: EMF = Emissions Modeling Framework; ICI = Institutional, Commercial, and Industrial; SCR = Selective Catalytic Reduction; EGU = Electric Generating Unit; EMPAX = Economic Impact Model

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Contact Information

- David Misenheimer
  Air Benefit and Cost Group,
  HEID/OAQPS/EPA
  misenheimer.david@epa.gov