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VIRGINIA DEPARTMENT OF
ENVIRONMENTAL QUALITY

ERTAC EGU Tool

What the tool does and how results are used in SIPs

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Eastern Regional Technical Advisory Committee (ERTAC)

- ERTAC convenes ad-hoc groups to solve specific inventory problems
- Collaborative Effort
  - States: Northeast, Mid-Atlantic, Southeast, Midwest
  - Multi-jurisdictional organizations: LADCO, SESARM, MARAMA
  - Industry
- ERTAC Electricity Generating Unit (EGU) committee convened in 2009
  - Goal: Build a low-cost, stable/stiff, fast, transparent tool to project EGU emissions suited to state air quality planning
  - Provide EGU inventories for SIP submissions and air quality modeling efforts reflecting state direction

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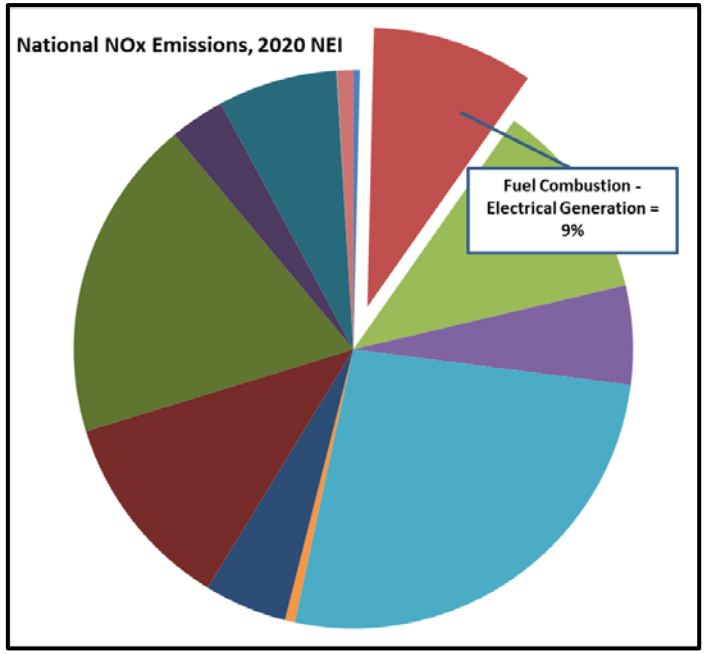
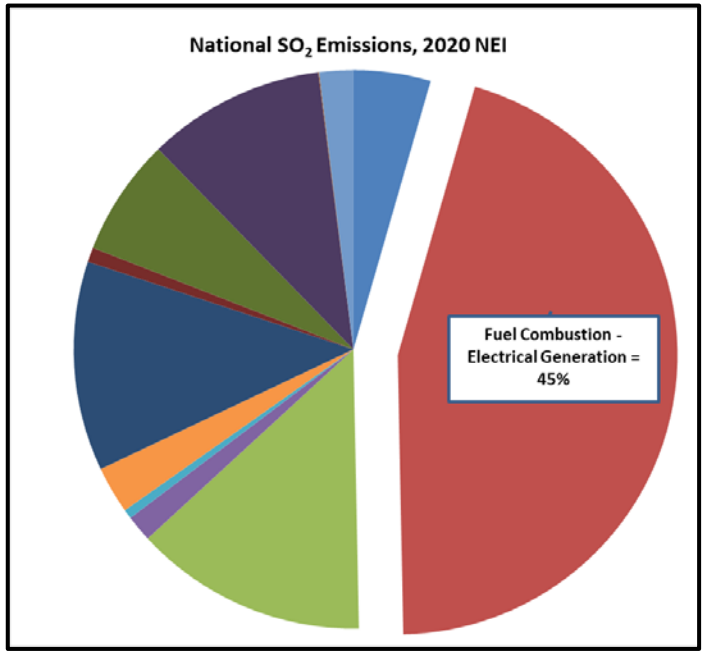
EGUs, SIP Planning, and AQ Modeling

- High quality hourly data in electronic format reported under 40 CFR Part 75 for fossil fuel fired units > 25 MWs
  - Activity (Heat Input, Gross Load)
  - Emissions (Usually NOx, SO_2, and CO_2)
- Emission contributions of the EGU sector
  - 2020 CAMD data: ≈4,200 unique units
  - 760,400 tons of NOx
  - 787,000 tons of SO_2





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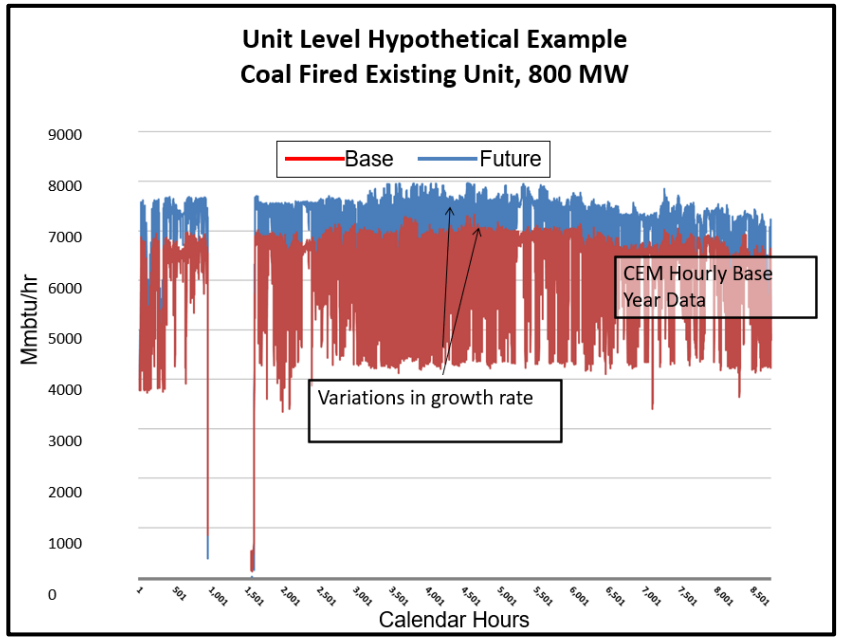
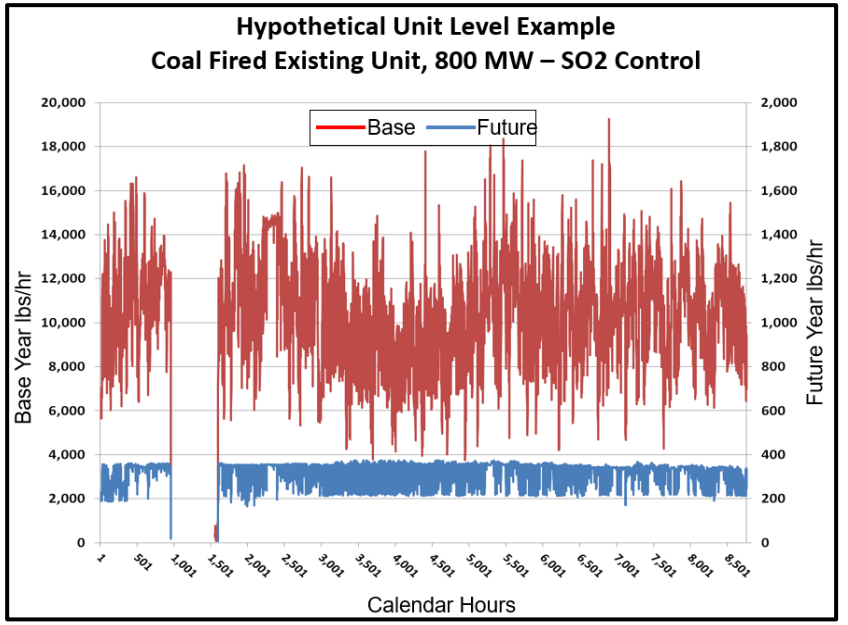
How does the ERTAC EGU Tool work?

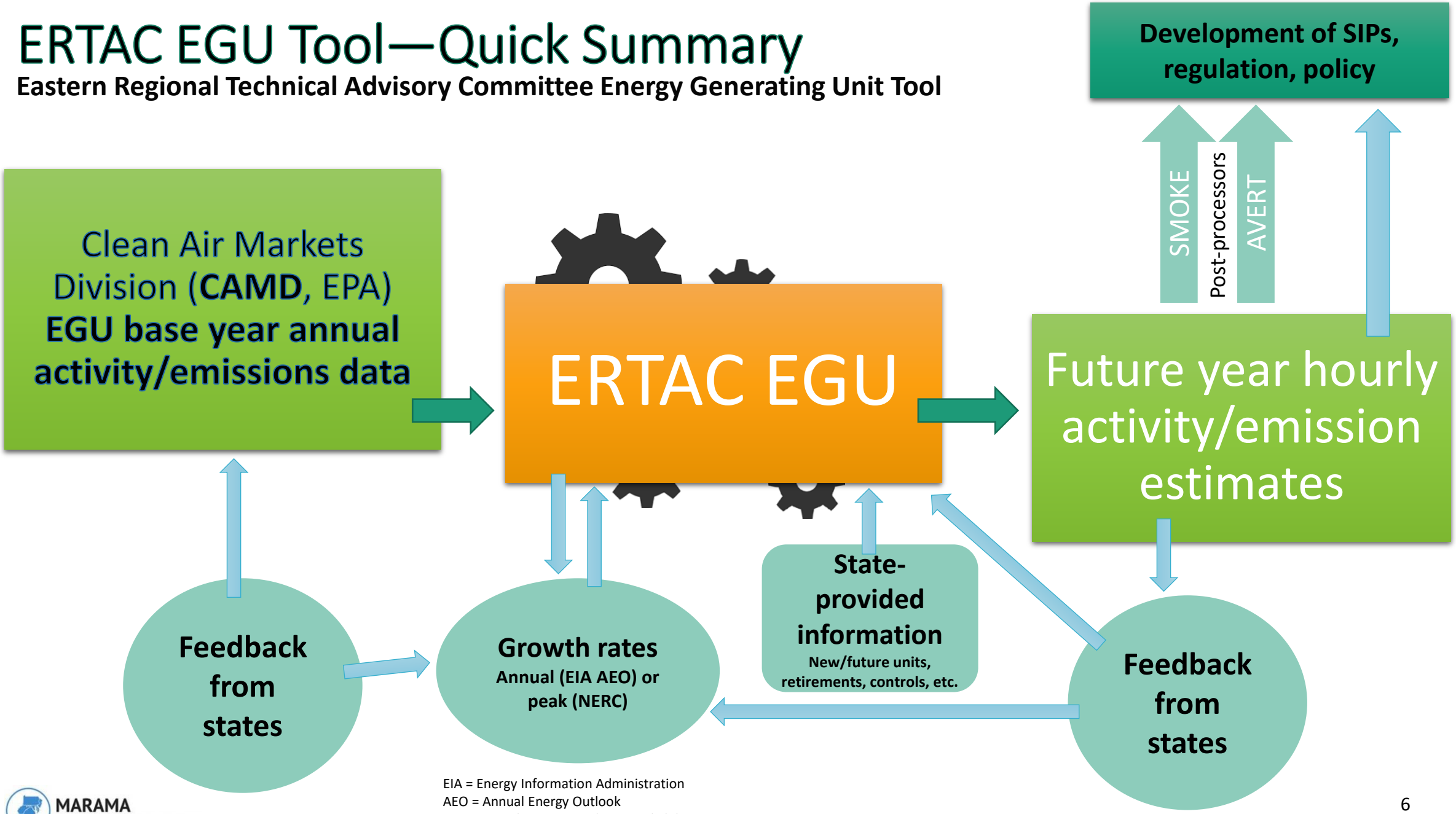
- Starting Points
  - Base year (BY) hourly continuous emissions monitoring (CEM) data reported by units subject to 40 CFR Part 75
    - BY and future year (FY) unit activity matches meteorology
    - Provides realistic SIP modeling inputs
  - Regional growth rates (GRs)
    - Energy Information Administration for annual rates
    - North American Electric Reliability Corporation for peak rates
    - State supplied data
  - Information provided by states
    - New units, retirements
    - Controls, fuel-switches, other
    - States supply data they believe is defensible in their state implementation plans.
- ERTAC EGU Tool generates FY hourly estimates
- Emissions from the ERTAC EGU Tool converted to SMOKE format for air quality modeling





ERTAC EGU Tool—Quick Summary

Eastern Regional Technical Advisory Committee Energy Generating Unit Tool



EIA = Energy Information Administration
AEO = Annual Energy Outlook
NERC = North American Electric Reliability Corporation

MARAMA
Mid Atlantic Regional Air Management Association, Inc.

How is the data used in SIPs?

- For redesignation requests and maintenance plans:
  - Interim year inventories
  - Out year inventories
- For attainment plans:
  - Attainment year inventory estimates
  - Rate of progress calculations/reasonable further progress calculations
- As input to air quality models used for attainment plans, transport SIPs, and regional haze SIPs:
  - Allows specific temporal profiles and unit locations to be included and evaluated
  - Allows states the opportunity to edit future year results based on SIP-appropriate, unit-level changes

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Examples of SIPs that used ERTAC EGU Tool outputs

- *Maintenance Plan for the Washington DC-MD-VA 2008 Ozone NAAQS Nonattainment Area*, December 20, 2017
- *New York State Implementation Plan for the 2008 Ozone National Ambient Air Quality Standards: New York-N. New Jersey-Long Island, NY-NJ-CT Serious Nonattainment Area*, November 2021
- *Michigan Department of Environment, Great Lakes, and Energy State Implementation Plan Submittal for Regional Haze Second Planning Period*, May 2021
- *Ohio State Implementation Plan Attainment Demonstration for the Cleveland, OH Moderate 2015 Ozone Nonattainment Area*, December 2022

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Questions?

If you are interested in participating on the ERTAC EGU team, please contact us! We are always looking for new state staff to help with the effort.

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