



MANE-VU Update

**OTC/MANE-VU Fall Meeting
November 15, 2012
Washington, D.C.
Madison Hotel**

Overview

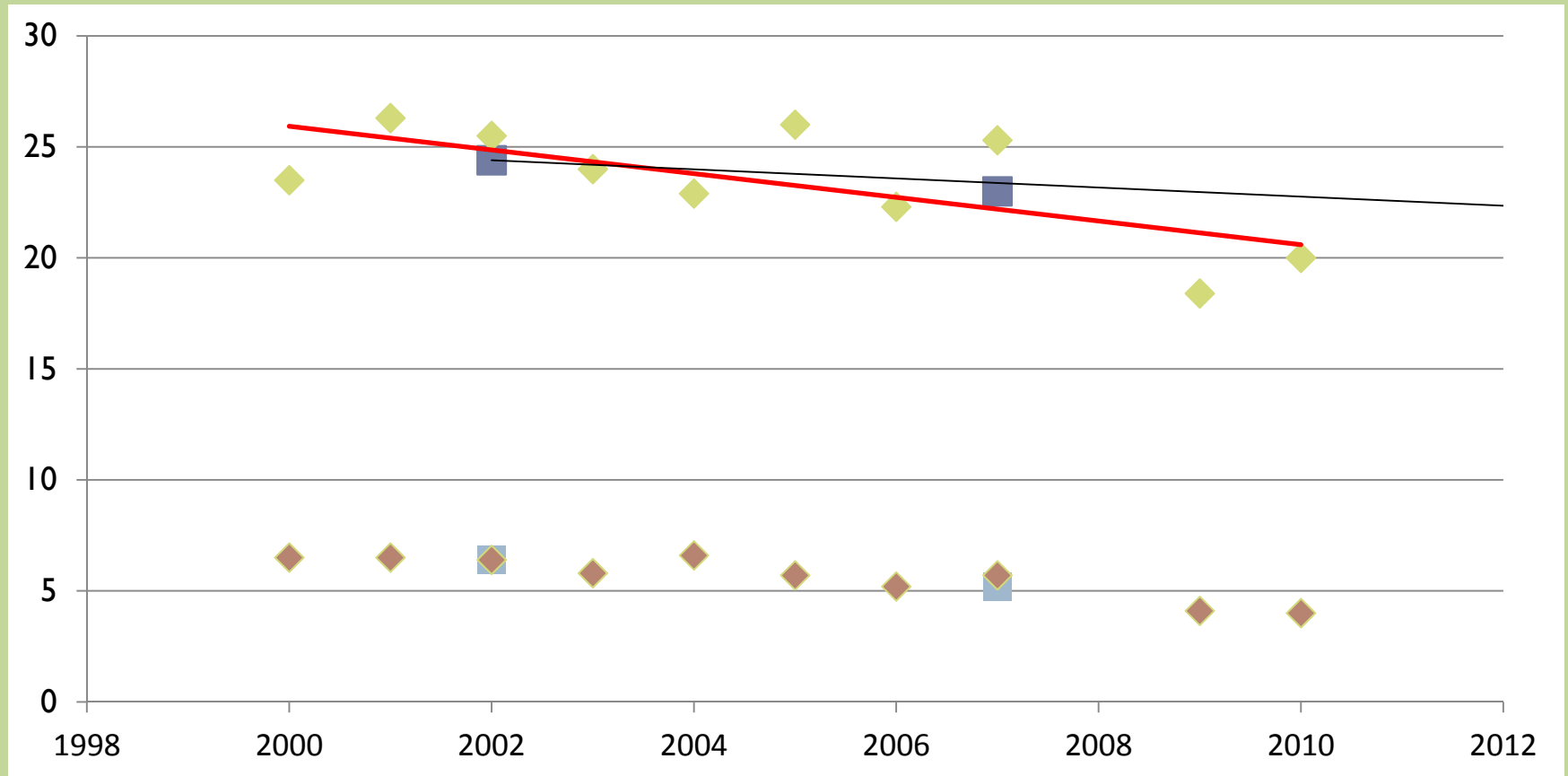
1. Multi-Pollutant Trends

- a) Regional Haze
- b) Particulate Matter
- c) Ground Level Ozone

2. Recent Work

- a) Emission Inventory
- b) ERTAC

Visibility in Lye Brook, VT (Deciviews)



Worst 20% of Days



5-Year Weighted Average



Annual Value



Glidepath



Annual Value Trend

Best 20% of Days



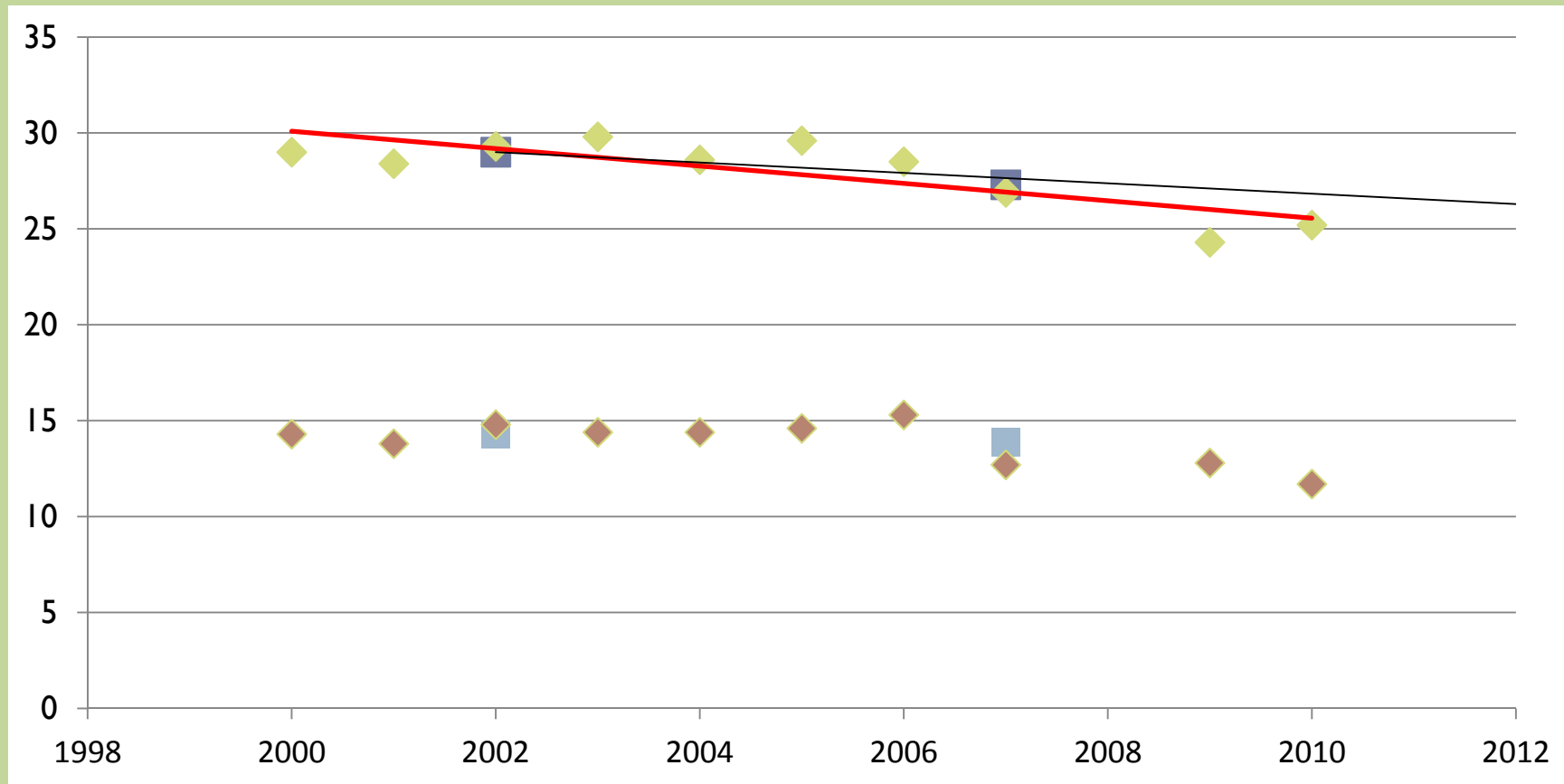
5-Year Weighted Average



Annual Value



Visibility in Brigantine, NJ (Deciviews)



Worst 20% of Days



5-Year Weighted Average



Annual Value



Glidepath



Annual Value Trend



5-Year Weighted Average

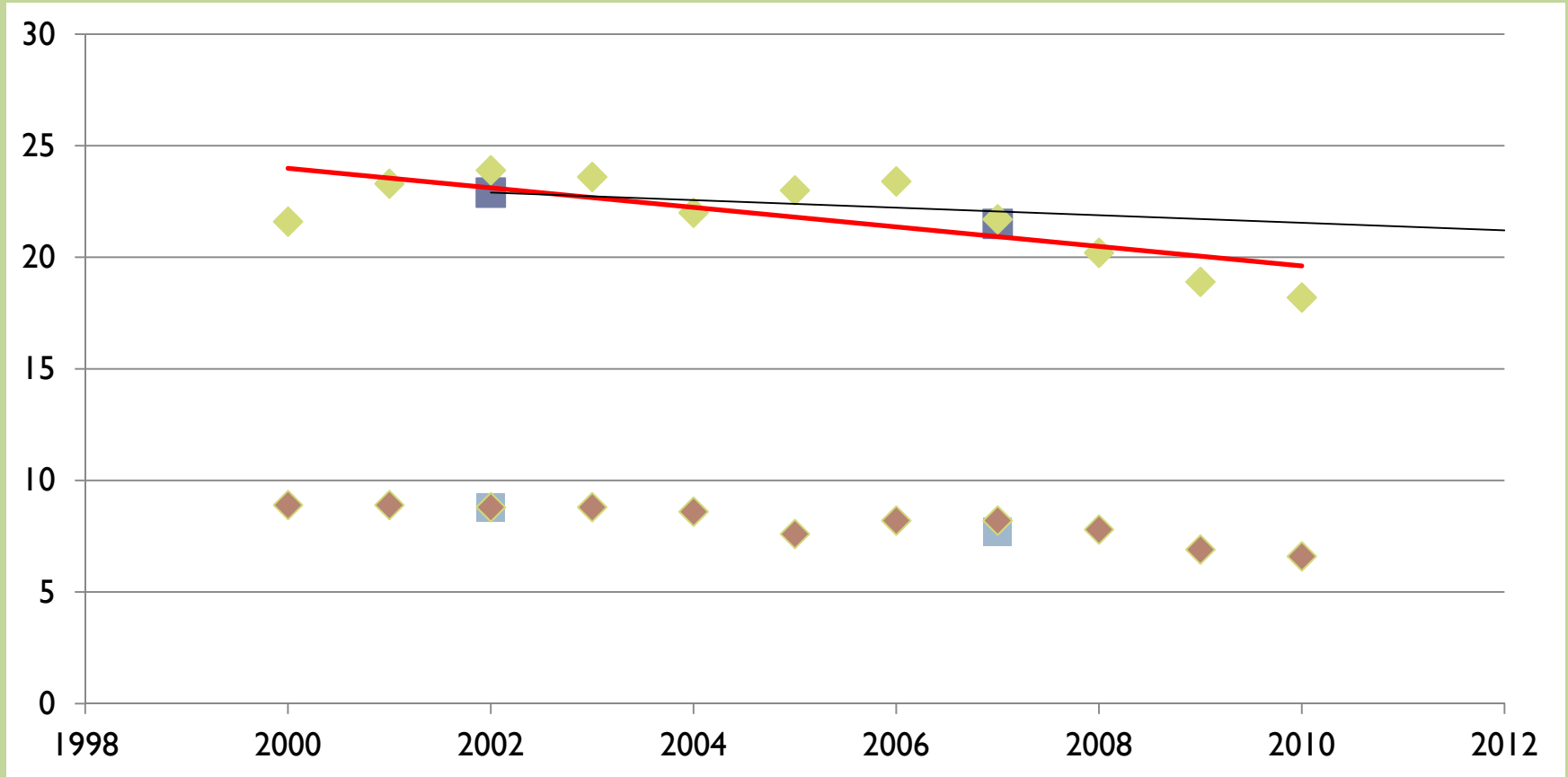


Annual Value

Best 20% of Days



Visibility in Acadia, ME (Deciviews)



Worst 20% of Days



5-Year Weighted Average



Annual Value



Glidepath



Annual Value Trend



5-Year Weighted Average

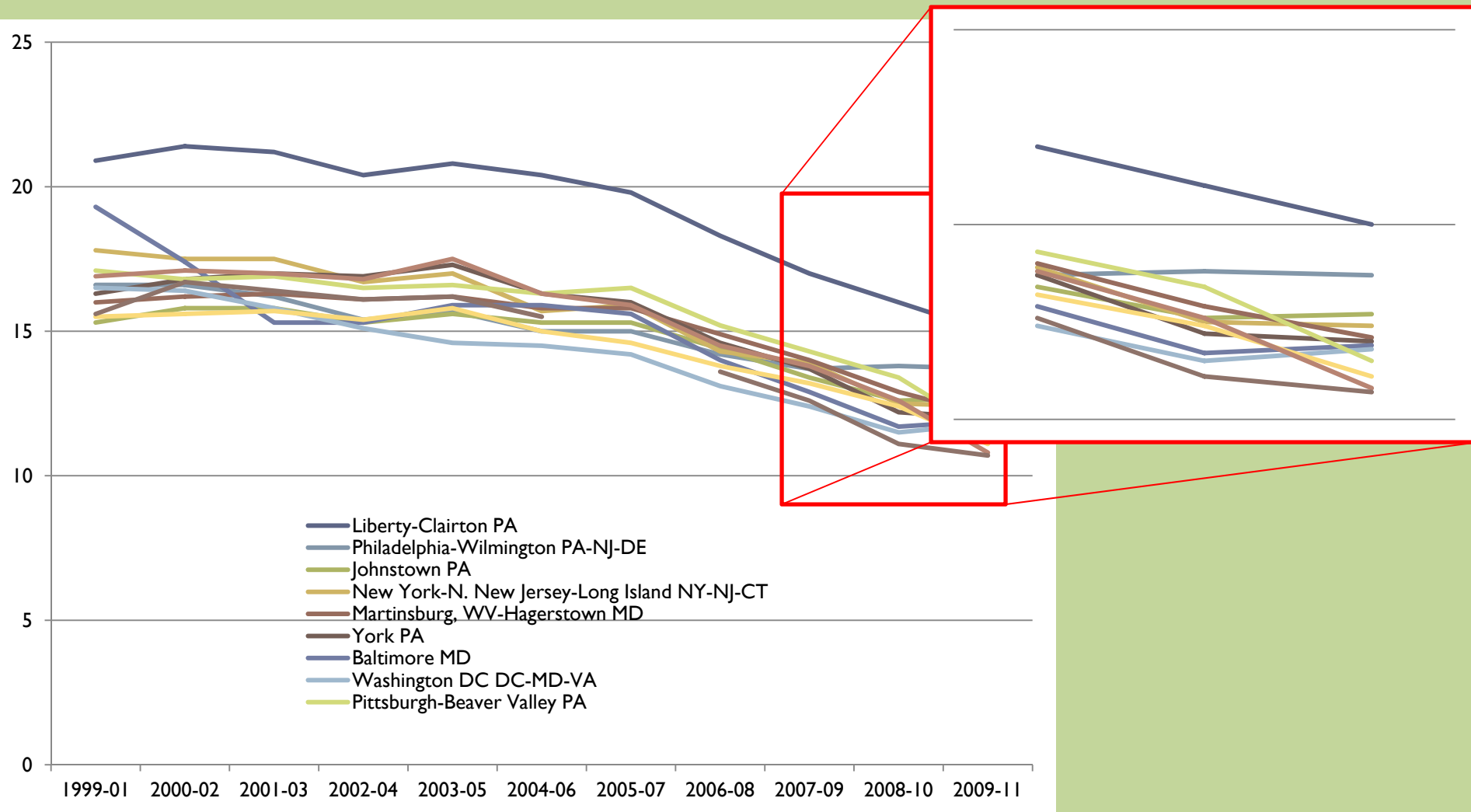


Annual Value

Best 20% of Days



Annual PM_{2.5} Trends in MANE-VU



(Design Value Years)



Multi-Pollutant Trends: Summary

- Past decade saw improvements in several multi-pollutant indicators
 - Fine Particulate Matter
 - Visibility in Class I Areas
 - Ground Level Ozone

MANE-VU+VA Inventory Version 3

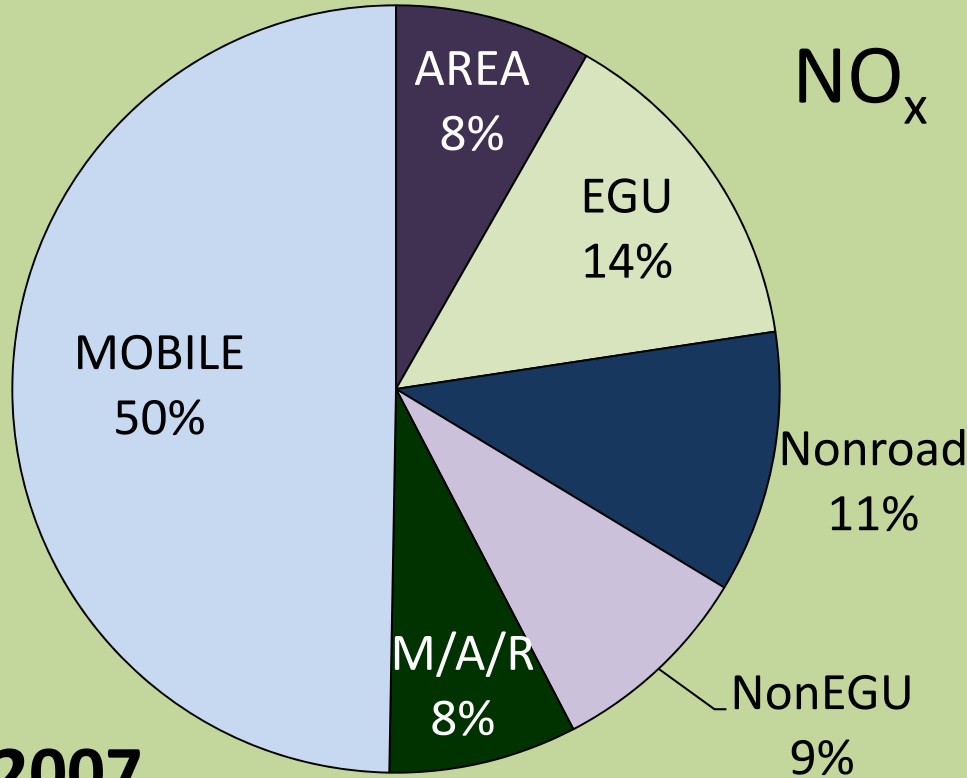
➤ Impact of Upgrades

- MOVES 2007 & 2020 runs now incorporated
- Decrease in NOX for every state from 1-5%
- Decrease in VOC for most states

➤ Issues Remaining

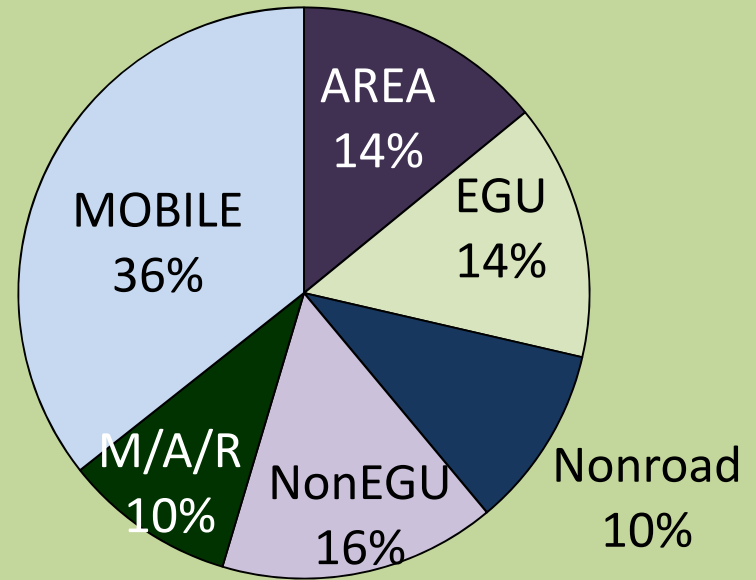
- Some minor MOVES issues for 2007 and 2020
- ERTAC 2020 data not yet available
- 2020 Shale gas emissions not yet included
- 2017 SIP modeling requirements for Moderate areas

MANEVU + VA: MARAMA Version 3



2007

Total: 2,764,323 TPY



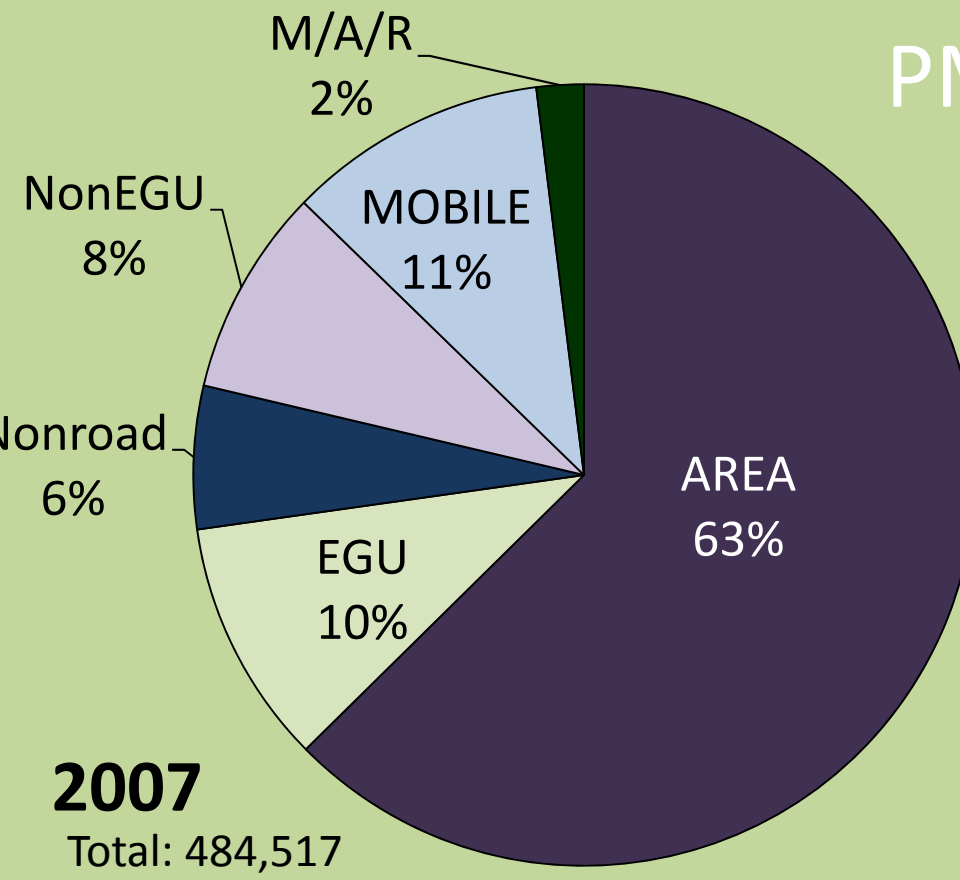
2020

Total: 1,513,153 TPY

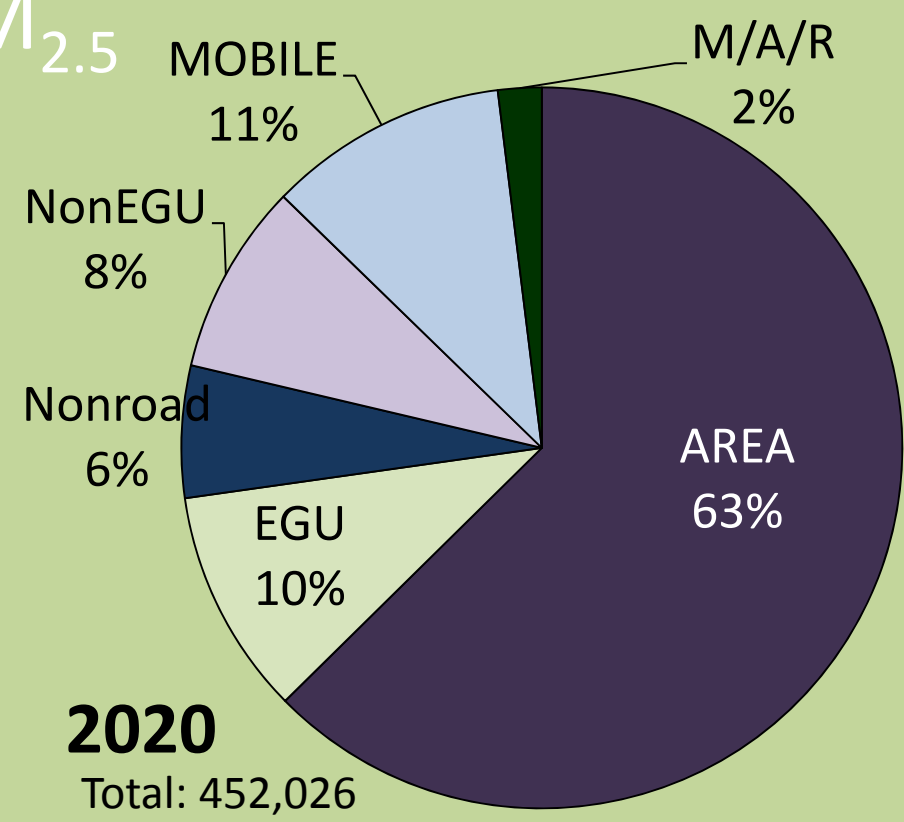
Overall reduction of 45% expected

EGU 2020 Estimated by applying CSAPR Caps

MANEVU + VA: MARAMA Version 3



PM_{2.5}

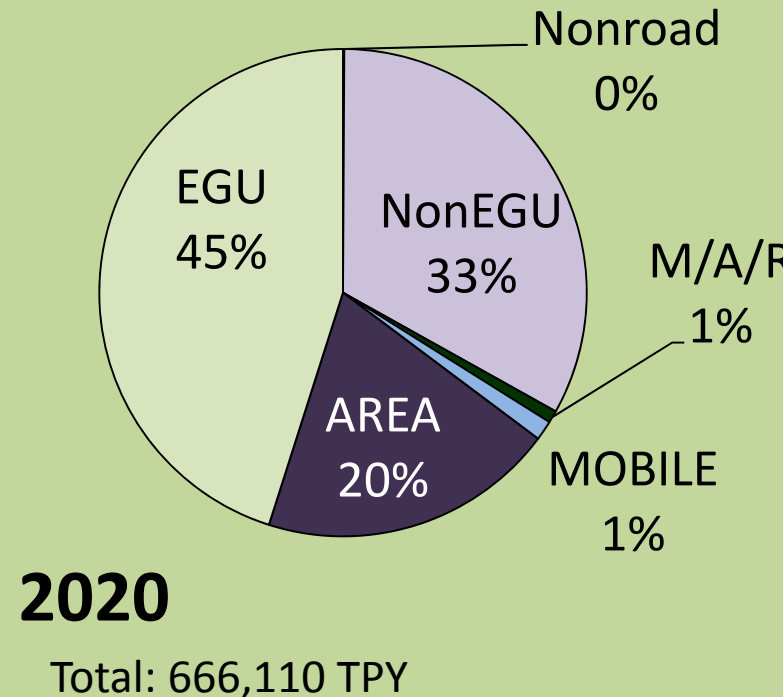
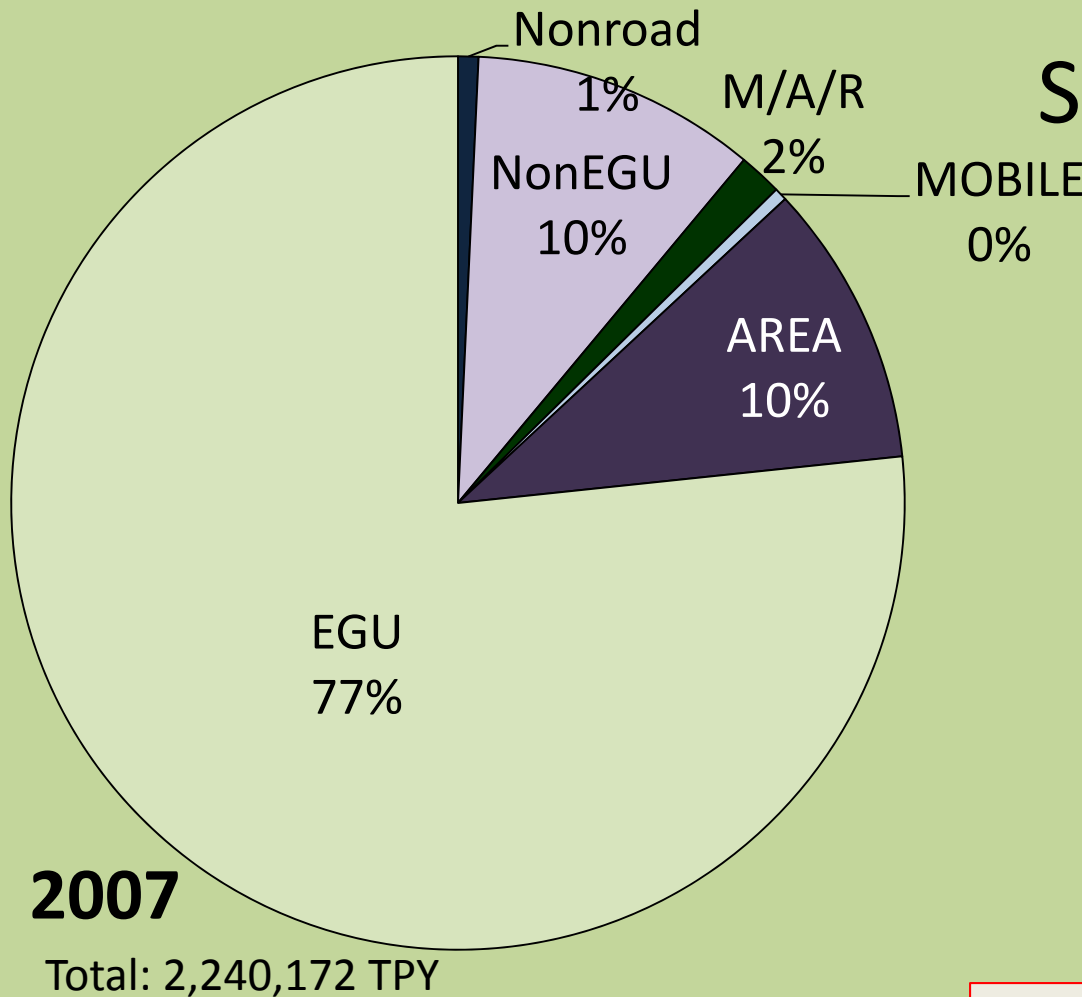


Overall reduction of 7% expected

EGU 2020 Emissions remained the same as 2007



MANEVU + VA: MARAMA Version 3

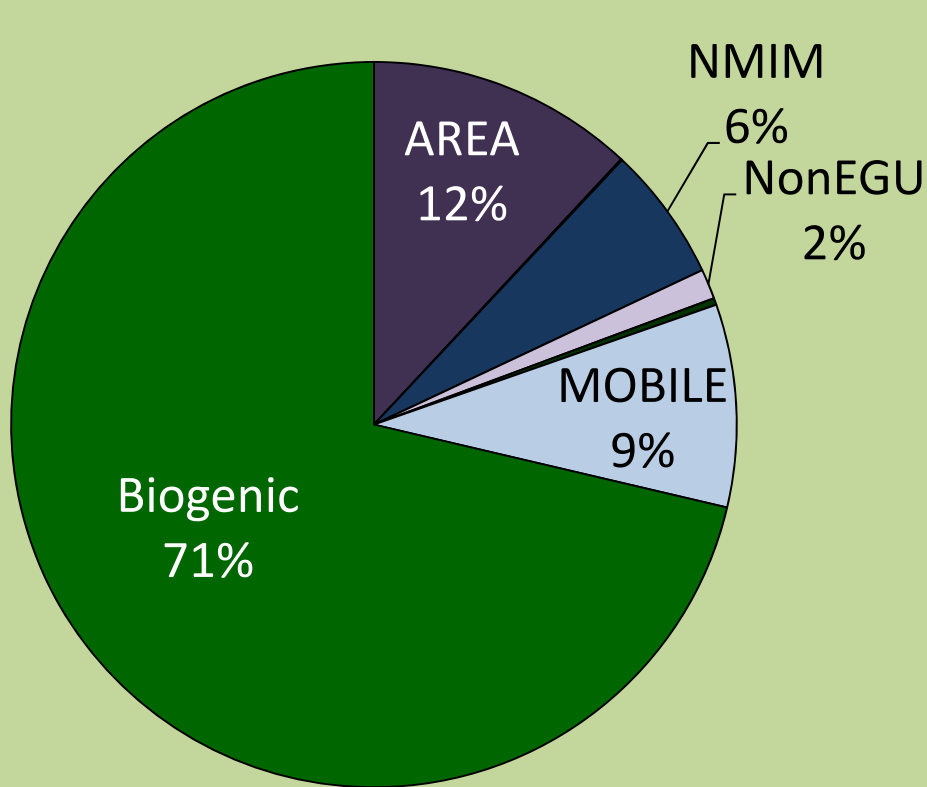


Overall reduction of 70% expected



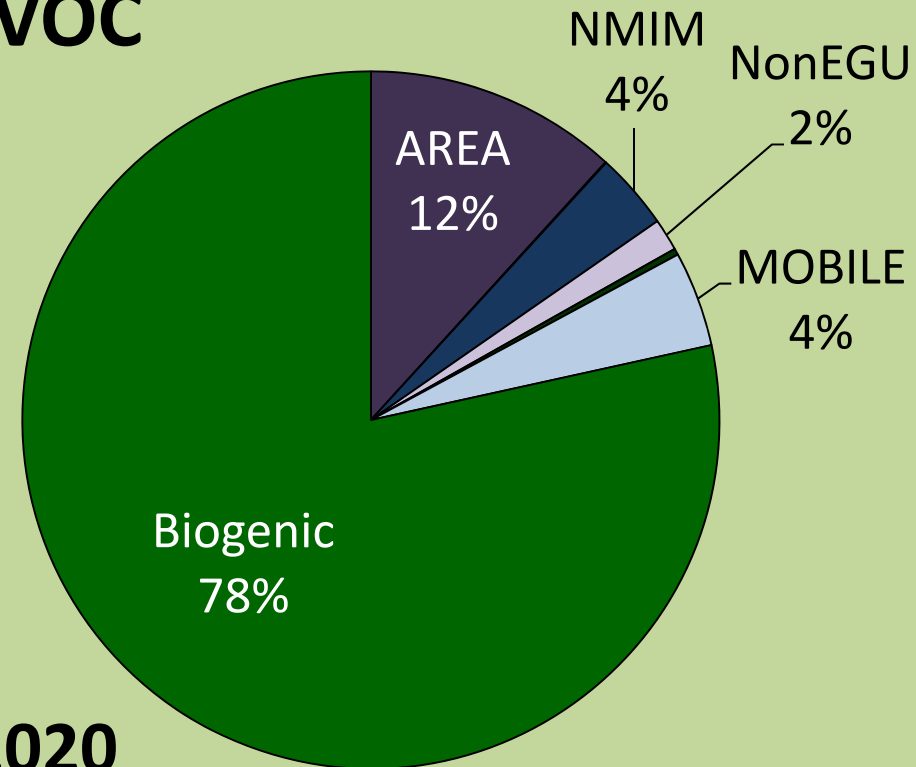
EGU 2020 Estimated by applying CSAPR Caps

MANEVU + VA: MARAMA Version 3



Total: 7,779,329 TPY

VOC



Total: 7,073,176 TPY

Overall reduction of 9% expected

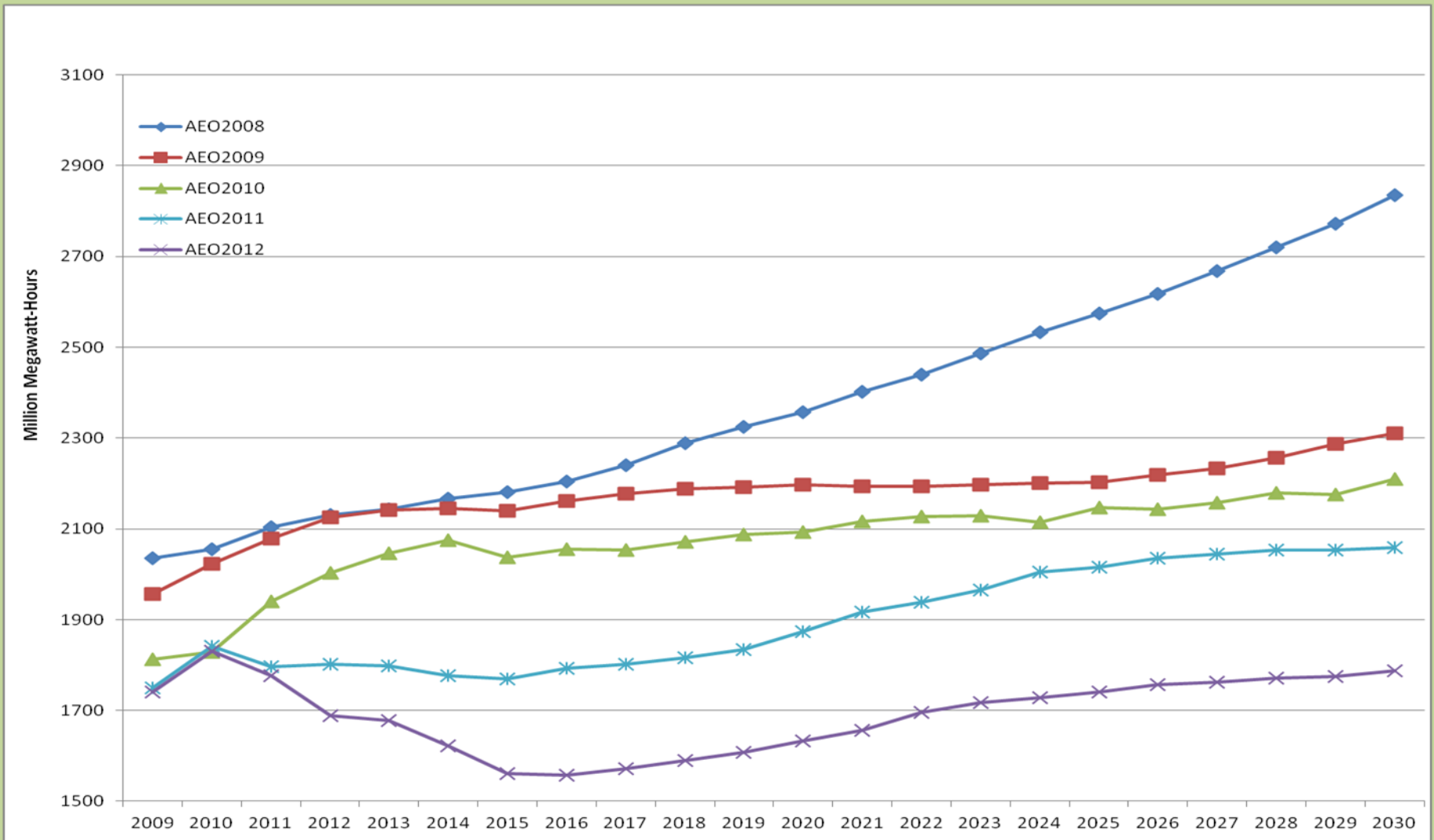
ERTAC EGU Model

- Conservative predictions
 - No big swings in generation
 - No unexpected unit shutdowns
- Inputs are completely transparent
- Software is not proprietary
- Output files are hourly and reflect base year meteorology
 - Hourly emissions reflect HEDD concerns
- Quickly evaluates various scenarios
 - Regional and fuel modularity
 - Can test retirements, growth, and controls

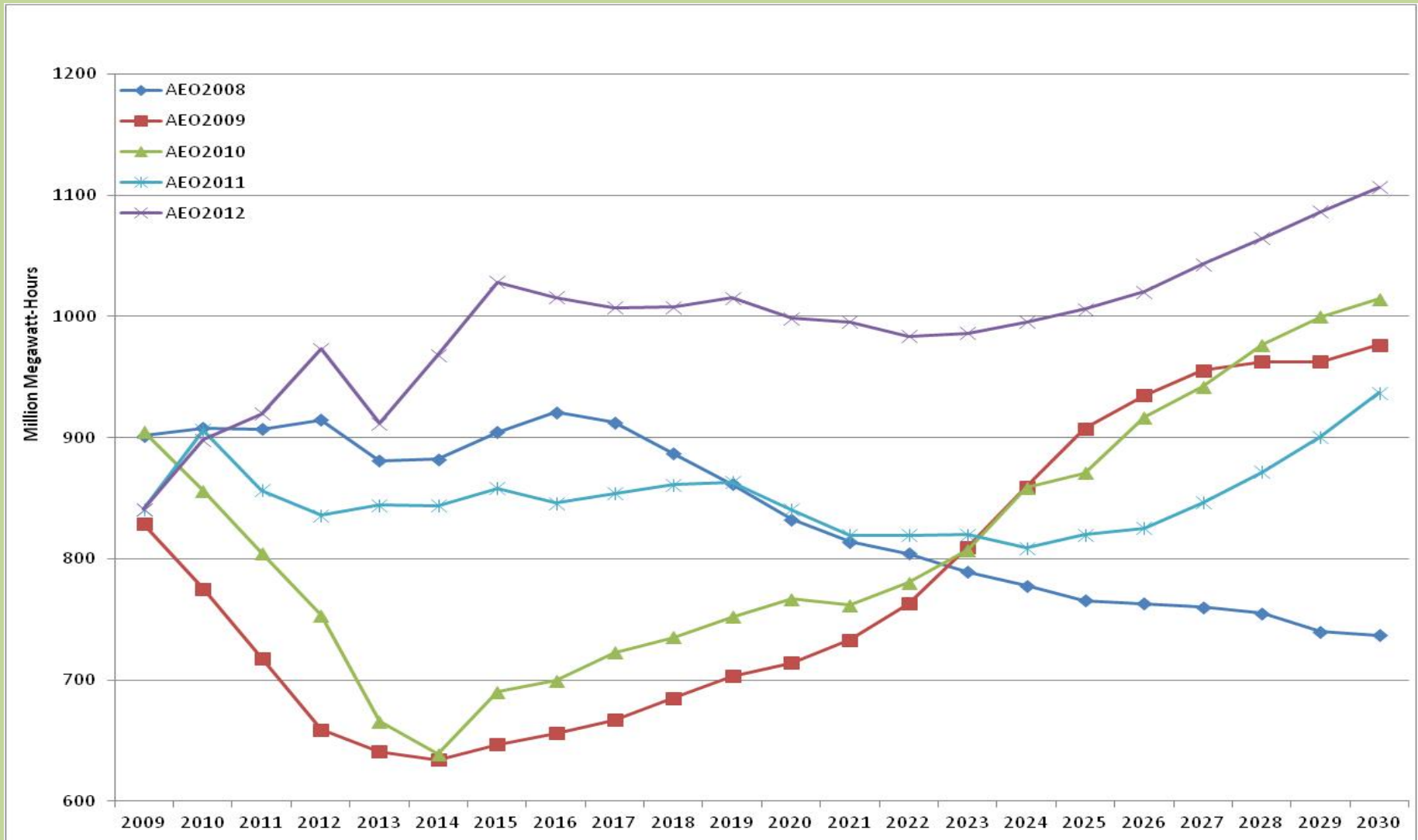
How does it work?

- Starting point: 2007 CEM data by region
- States provide info: new units, controls & other changes
- Regional growth rates
 - Base – Department of Energy (EIA) Annual Energy Outlook (AEO)
 - Peak – North American Electric Reliability Corporation (NERC)
- Growth beyond regional capacity may result in creating “Generic New Units”

EIA's AEO Projection of Coal Consumption for Electricity Generation



EIA's AEO Projection of Gas Consumption for Electricity Generation



ERTAC: Next Steps

- Continuing work with the states to improve inputs
- Upgrading to AEO 2012 is a necessity due to recent shifts in predicted fuel type usage
- Presentation on the “Proof of Concept” to EPA technical staff in December
- Outreach with stakeholders in the Spring of 2013

Questions?

Burlington, VT



Brigantine, NJ

