Mobile Source Committee Update

OTC Committee Meeting

September 13th, 2012

Washington, DC

Overview

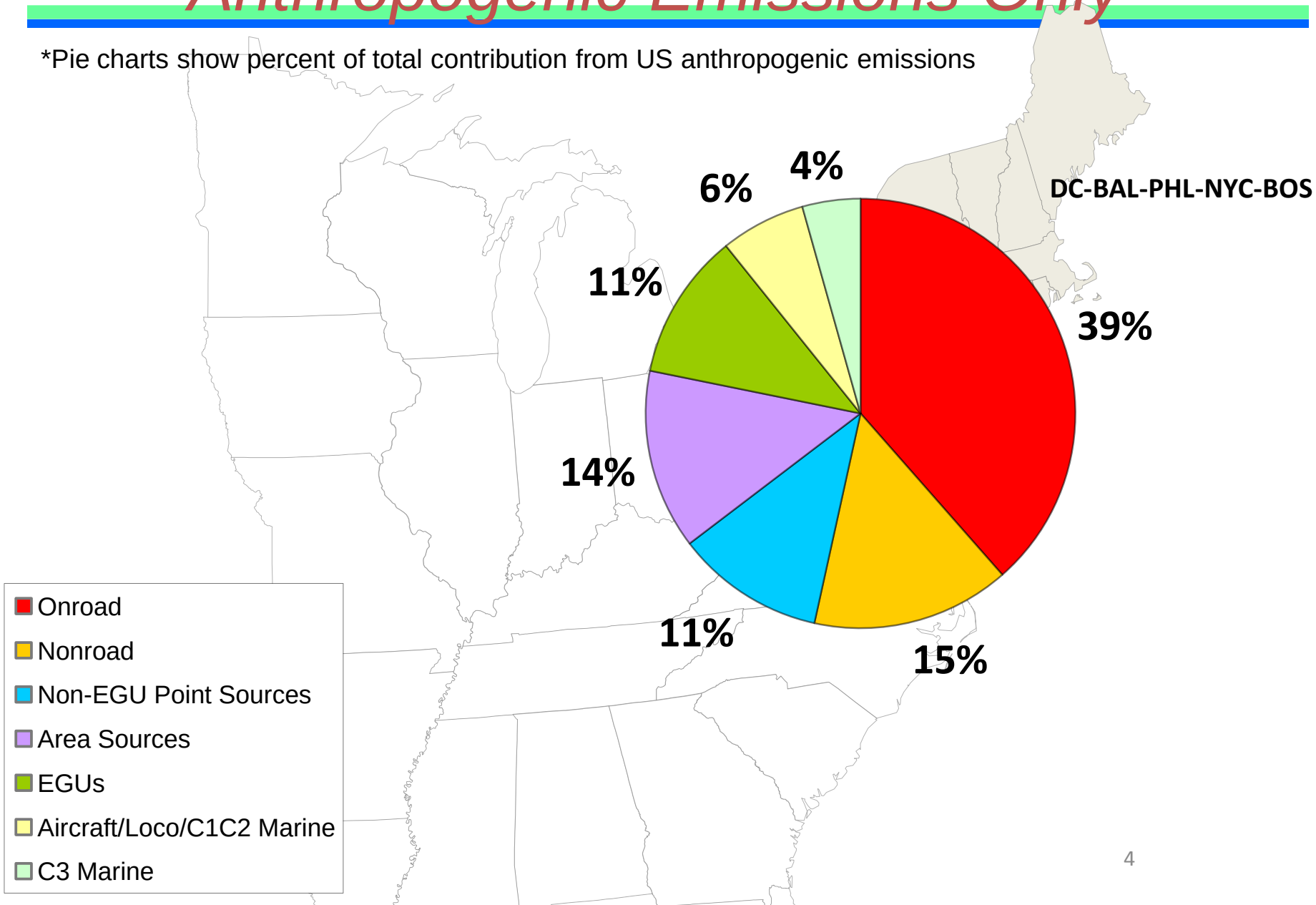
1. EPA Source Contribution Modeling
2. Committee Work
    1. Success Stories
    2. Aftermarket Catalysts
    3. Heavy Duty Diesel I/M
    4. Ongoing Efforts
3. Federal Measure Update

USEPA Analysis: Approach

- 2011 USEPA Analysis
- Used the CAMx Model
- Modeling projected from a 2002 base inventory to 2016
  - Includes the benefits from the “proposed transport rule”
- Contributions were calculated for monitors above 70 ppb
- Caveats:
  - Modeling does not reflect the latest base year and projected emissions inventories.
- Conclusion
  - Modeling is Dated, but Informative

Percent Contribution Based on US Anthropogenic Emissions Only*

*Pie charts show percent of total contribution from US anthropogenic emissions



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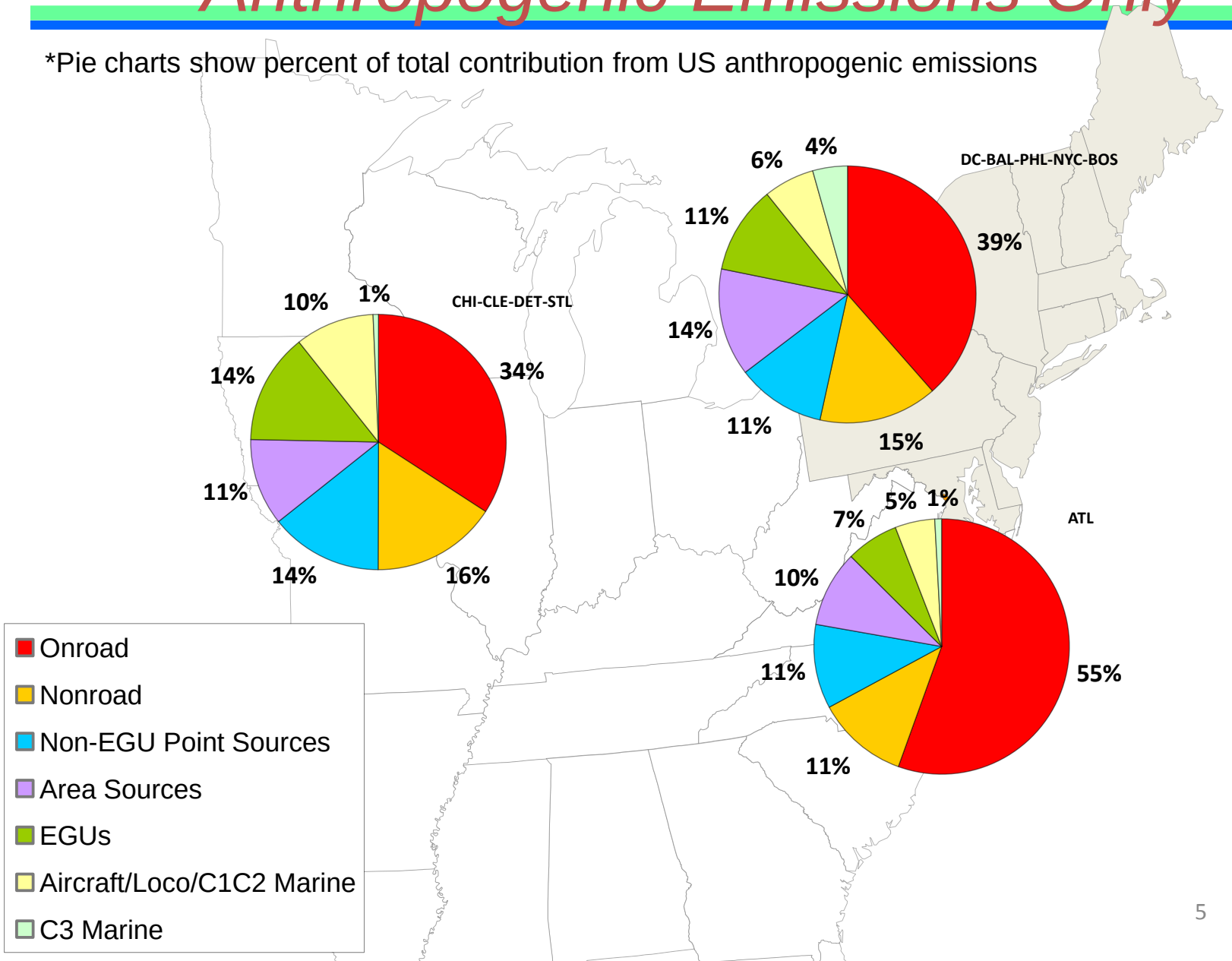


Approximate Sector Contributions in the Northeast / Mid-Atlantic Region

Onroad Mobile
- ~ 21 ppb

Nonroad mobile
- ~ 14 ppb

Area
- ~7 ppb

EGUs
- ~ 6 ppb

Non-EGU Point
- ~ 6 ppb

Success Stories

- Goal: A source for OTC states of successful projects to reduce emissions from mobile sources
- Projects involve Marine, Rail, Bus, and Truck categories
- Though PM focused, some projects provide NO_X benefits
  - Projects with biggest NO_X benefits:
    - Tugboat repowering,
    - Locomotive repowering and Idling reduction
    - Vehicle Idling

Success Stories: Background

- Funding Sources:
  - DERA (Diesel Emissions Reduction Act)
  - ARRA (American Recovery & Reinvestment Act)
- Voluntary or Required Actions
  - General Conformity
  - VALE (Voluntary Airport Low Emissions)
  - Port Plans

Aftermarket Catalyst Recommendation

- EPA's policy was set in 1986 and has not been updated to reflect improvements in technologies & emission standards
- OTC submitted a finalized recommendation for an updated catalyst program to EPA in April, 2011

Current Catalyst Program vs Rec.

Non-OBD Equipped	Current Program	Recommended Program
Warranty	25K, 5yrs.	50K, 5yrs.
Cost	$100	$200 - $300
Standard	Efficiency based (70-70-30)	Mass Based (grams/mile)
Certification/Applicability Procedures	Worst case vehicle	Worst case vehicles within 4 general classes of vehicles

OBD Equipped	Current Program	Recommended Program
Warranty	25K, 5yrs.	50K, 5yrs.
Cost	$100	$350 - $550
Standard	Efficiency based (70-70-30) and must meet 1 of 2 Options	Mass Based (grams/mile)
Certification/Applicability Procedures	Worst case vehicle	Aggregation of similar vehicles permitted for a limited worst case

Aftermarket Catalyst White Paper

- Goal: To improve the emission benefit analysis of the catalyst program in the OTR.
- Process:
  - Analyzed 2010 I/M program data from MA, MD, NH, NJ, NY and PA
  - Developed statistical model to estimate data for entire OTR
  - Used test data from MECA studies to estimate emission benefits

Diesel I/M

- Lead: NESCAUM Heavy Duty Workgroup
- Goal: Proposal to USEPA for SIP Credit for I/M Programs
- Results in Emission Reductions of:
  - Oxides of Nitrogen (NO_X)
  - Fine Particulate Matter ($PM_{2.5}$)
- Methodology:
  - MOVES includes deterioration
  - Deterioration mitigated through maintenance and deterrence through I/M
  - Translates to emissions benefits
- Activities:
  - Gathered & analyzed studies that quantify effect of repairs
  - Developed white paper
  - Working with OTAQ
  - Determining if additional data is needed

Ongoing Efforts

- Pleasure Craft
- Lightering
- Emission Inventory Analysis
  - MOVES
  - Goods Movement

Status of OTC Federal Measure Asks

OTC Request	Action	Status
Mar 2009	Ships - Emission Control Area	✓
June 2009	Catalyst Replacements (April 2011 – OTC Program Design Recommendation)	✗
Nov 2009	Onroad Mobile Gasoline and Diesel Sources (November 2010 Statement on Tier 3)	✗
	Locomotive Engines	½
	Marine Engines	½

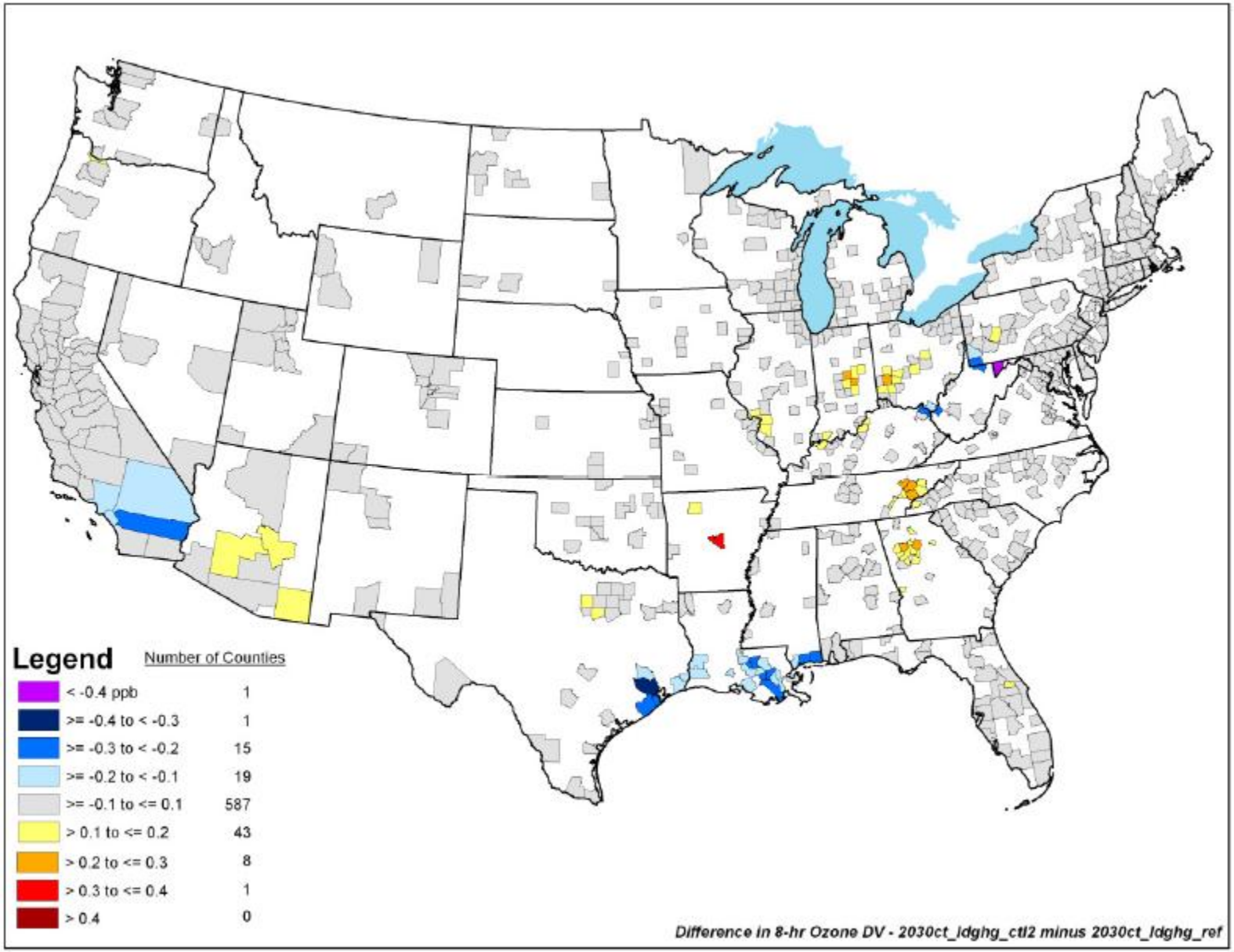
Status of Federal Measure Commitments

Date	Action	Status
Dec 2010	RFS2 Anti-Backsliding	✗
2011	E15 Partial Waiver Decision MY 2001-2006 Motor Vehicles	✓
2012	Heavy Duty Truck Greenhouse Gas Standards	✓
2014	Clean Vehicles 75 ppb Ozone NAAQS Regulatory Impact Analysis	✗

Light Duty GHG Rule

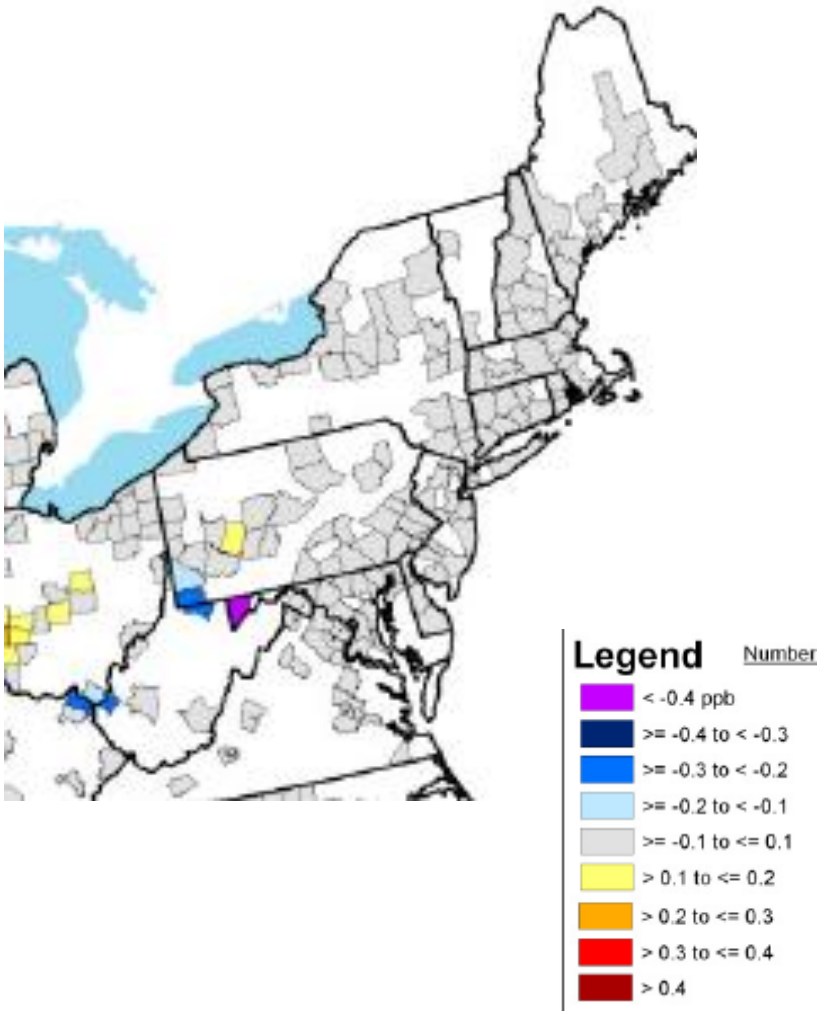
- Covers Light Duty Vehicles MY 2017-2025
- Reduces GHG emissions by 2 billion metric tons through increased vehicle efficiency and improved EV penetration
- Emission Changes considered:
  - Increased Vehicle Usage - NO_X increases
  - VOC and NO_X reductions from the refinery sector
  - Increased Electricity Generation due to EV Charging - NO_X increases

Light Duty GHG Rule: 2030 Ozone Changes



Light Duty GHG Rule: Ozone Changes

No Significant Change in Ozone Concentration is Expected in the Northeast / Mid-Atlantic Region



Summary of the Next Steps

- Success Stories
  - Present to the Air Directors
- Aftermarket Catalytic Converters
  - Present at the ADs Meeting
- Heavy Duty Diesel I/M
  - Continue EPA outreach
- Federal Measures
- Emissions Inventory Analysis w/ 2020 MOVES