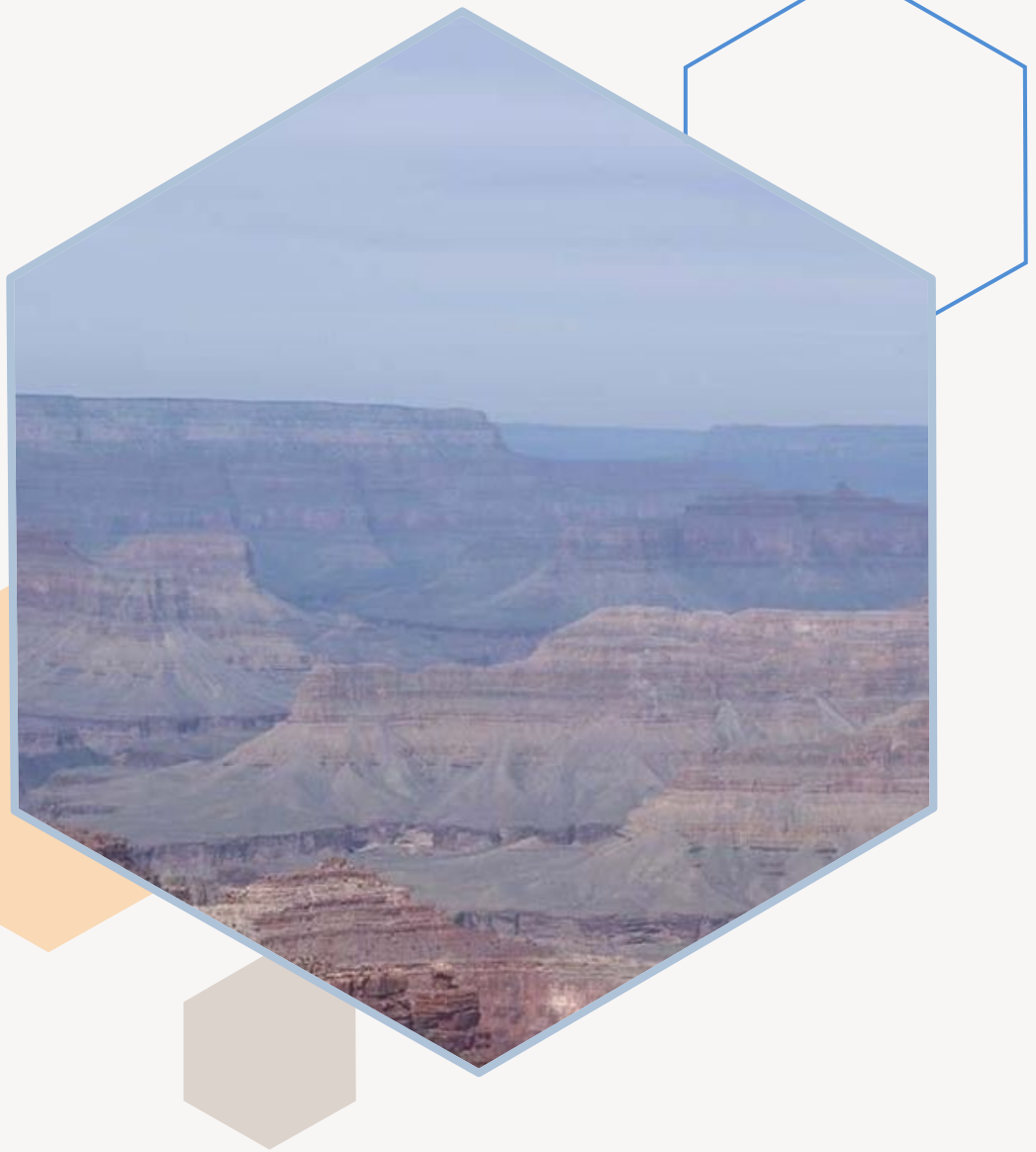
Mobile Emission Reduction Credits (MERCs)



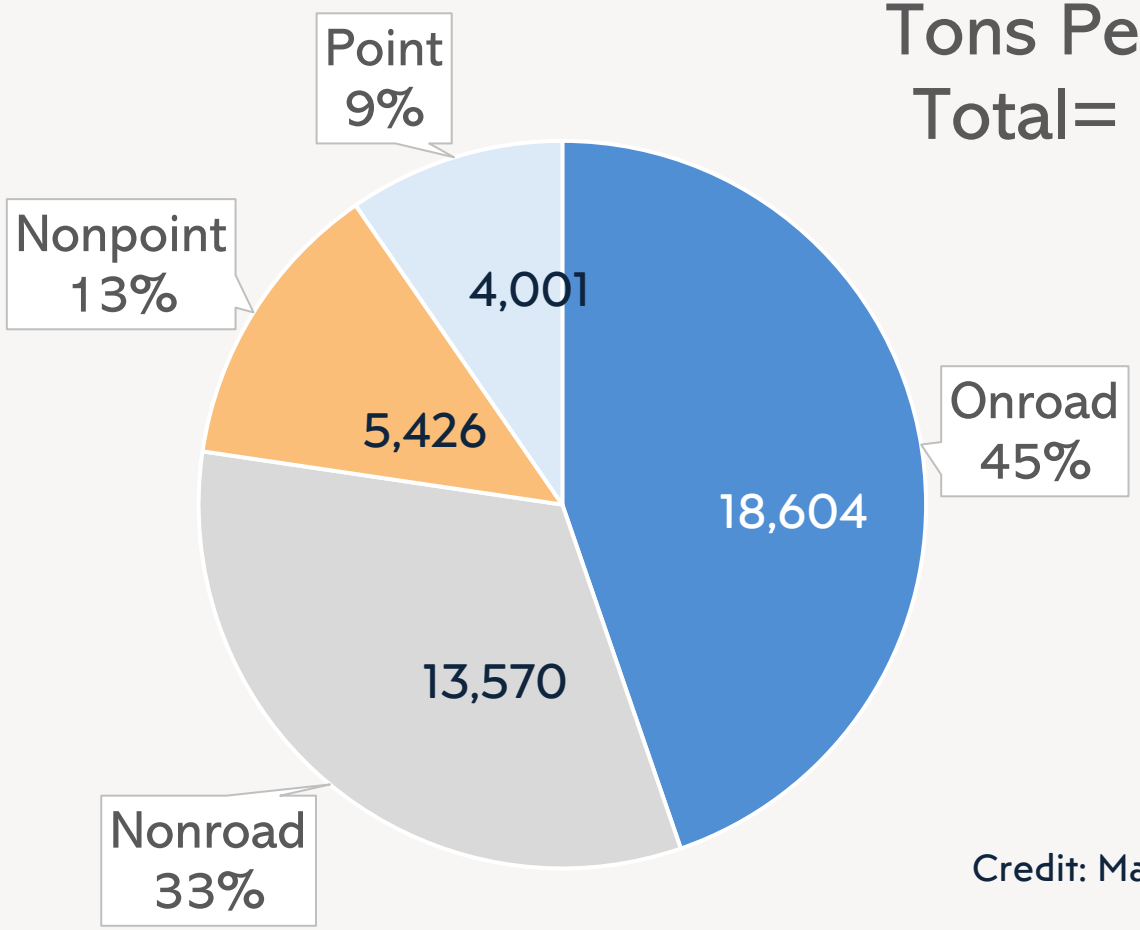
AAPCA 2025 Spring Meeting
April 30, 2025
Matthew Lakin, Director
EPA Region 9, Air and Radiation Division

Acknowledging the Challenge

Securing Emissions Reductions Credits (ERCs) is a challenge.

- ERCs are hard to come by from traditional stationary sources
- ERCs can be expensive

Maricopa: NOx by Source Category



Credit: Maricopa County AQD

Offset Integrity Criteria

Before emissions reductions can be converted to marketable offsets, the reductions must first meet several critical, regulatory elements:

- **Surplus** - Emission reductions must be surplus at the time they are used.
- **Permanent** - Reductions will last for the life of the project needing offsets.
- **Quantifiable** - Must be able to determine emission reductions using standardized calculation methodologies.
  - Need records to support baseline actual emissions (e.g., fuel use records, stack tests), use replicable methods (e.g., EPA test methods, EPA models)
- **Federally Enforceable** - must be legally and practicably enforceable by EPA.
  - Must be able to verify compliance (e.g., monitoring, recordkeeping, and reporting)

Options for Finding Offsets

The easiest ERCs to obtain are the ones you don't need.

- Consider ways to innovate to reduce emissions for the permitted facility

Traditional ERCs

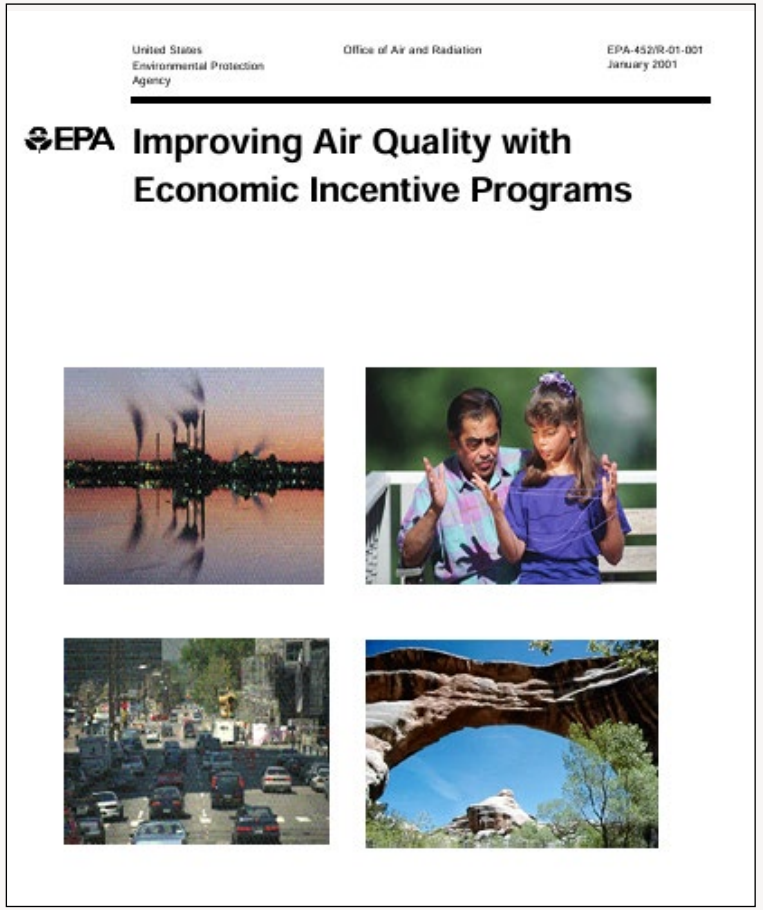
- Historically traditional ERCs have come from power plant projects that reduce emissions and repowering or replacing older boilers and engines

Additional options - mobile ERCs

- Replacement of mobile source equipment using the framework of a SIP-approved rule – it's generally easiest for captured on-road fleets (e.g., garbage trucks or streetsweepers) or geographically constrained non-road sources (e.g., airport ground support equipment or locomotive switchers).
- Replacement of mobile sources equipment with offset integrity criteria captured in a federally-enforceable permit (e.g., Intel and Waste Management in the Phoenix area).

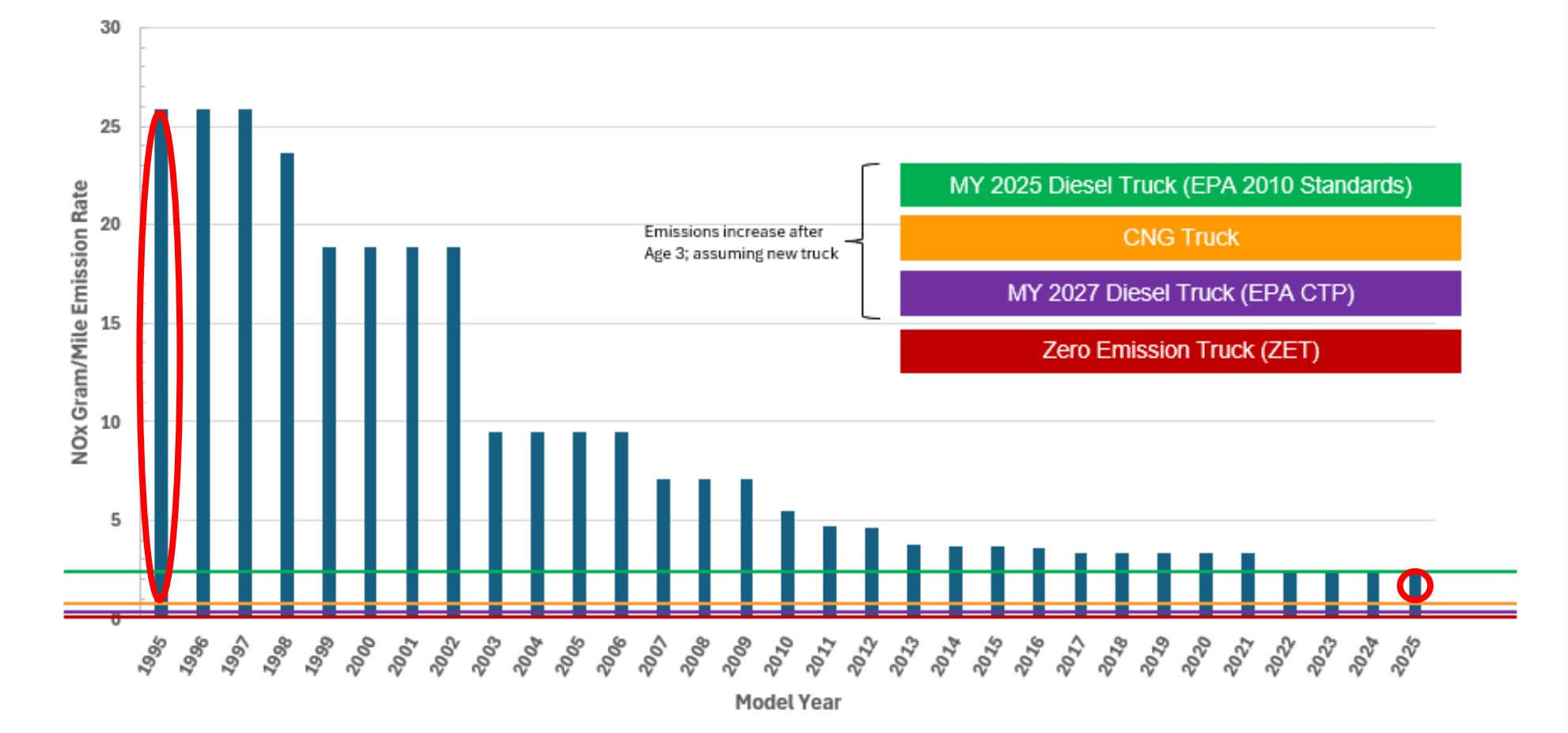
EPA Guidance: Economic Incentive Programs

- Economic incentive programs (EIPs) use market-based strategies to encourage people to reduce emissions of air pollutants efficiently.
- Under some circumstances, emissions reductions generated from EIPs may qualify for use as permitting offsets.
- Guidance:
  - EPA's October 24, 1997 "Guidance on Incorporating Voluntary Mobile Source Emission Reduction Programs in State Implementation Plans"
  - EPA's January 2001 guidance on "Improving Air Quality with Economic Incentive Programs" provides information on how a state or local agency can develop an EIP rule for EPA approval into the State Implementation Plan (SIP).



Calculation Methodology

MOVES Class 8 Diesel NOx Emission Rates with Replacement Options Superimposed



Credit: Maricopa County AQD

Timeline for Construction vs. Operation

To start construction (break ground)

- Emission reductions used to offset emissions increases must be federally enforceable, e.g., required by a permit issued pursuant to a SIP-approved rule, at time of issuance of NSR permit authorizing construction.

To start operation

- Emission reductions used to offset emissions increases must have occurred by the time newly constructed / modified units commence operation.

Stationary and Mobile Sources

Stationary Sources

- E.g., engine generator upgrades from tier 0 or 1 to tier 4 using ultra-low NOx burner; cost often is <$50k/ton.
- Reductions from out of compliance equipment is not considered surplus, only reductions below applicable requirements would be creditable.

Mobile Sources

- ERCs from on-road vehicles are most typically generated within vehicle fleets.
- Need records that demonstrate baseline emissions.
- Other considerations




Questions?