Welcome: Panel Session 2

Panel Leader: Ezra Finkin Diesel Technology Forum

Moving People and Product with High Efficiency Vehicles and Smart Business Strategies

William Wolfgang, Director of Vehicle Engineering, Massachusetts Bay Transportation Authority

Mike Derrig, Fleet Director, Fresh Direct, LLC

Building a More Robust Northeast Transportation Infrastructure with Clean Construction and Off Road Equipment

Leah Pilconis, Senior Environmental Advisor to The Associated General Contractors of America

Dorian Bailey, Senior Environmental Project Manager/Senior Environmental Chemist, The Port Authority of New York and New Jersey

September 16, 2015
MEET THE LEADERS IN ADVANCED CLEAN DIESEL

The members of the Diesel Technology Forum are leaders of the diesel industry including engine and equipment makers, key component manufacturers, fuel producers and emissions control technology manufacturers.

WWW.DIESELOMENAGEMENT.ORG
Moving People and Freight in the Northeast with Clean Equipment

Engine Emissions Standards for Heavy-Duty Vehicles

MY 1988 – MY 2010: 98% reduction in NOx and PM
What is the population of these clean diesel trucks?

<table>
<thead>
<tr>
<th>Northeast States</th>
<th>MY 2010 as a Share of the Heavy Duty Fleet</th>
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<tbody>
<tr>
<td>PENNSYLVANIA</td>
<td>24.6</td>
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<tr>
<td>National Average</td>
<td>20.7</td>
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<tr>
<td>NEW YORK</td>
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<td>NEW JERSEY</td>
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<td>RHODE ISLAND</td>
<td>20.5</td>
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<tr>
<td>DISTRICT OF COLUMBIA</td>
<td>11.4</td>
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</tbody>
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Benefits of Clean Diesel on the Road

Update 3

Heavy Duty Diesel Engine Benefits

Nationwide:
- 21.0M barrels of crude
- 9.0M tonnes of CO2
- ~1.5 M tonnes NOx
- 39,500 tonnes of particulate matter

In Perspective:
- NOx emissions from 154 coal power plants over one year
- Particulate Matter emissions from all light duty vehicles for 15 months
Benefits of Clean Diesel on the Road in the Northeast

Pennsylvania
- 350,000 tonnes CO2
- 900,000 barrels of crude
- 1,600 tonnes of PM
- 6,000 tonnes of NOx

New York
- 240,000 tonnes CO2
- 600,000 barrels of crude
- 1,300 tonnes PM
- 5,000 tonnes NOx

New Jersey
- 150,000 tonnes CO2
- 300,000 barrels of crude
- 780 tons PM
- 3,000 tons NOx
Why Are Clean Diesel Trucks Important?

Average Daily Tons of NOx

OTR+VA Top 10 Categories

- 2020 Daily Estimates
  - 1. Heavy Duty Diesel Trucks
  - 2. Passenger Cars
  - 3. Passenger Trucks
  - 4. Railroad
  - 5. Commercial Marine

SOURCE: Ozone Transport Commission
Next in the Clean Diesel Story…
Off-Road Equipment

Tier 4 Standards at work delivering clean air and fuel savings

Depending on Equipment Type and Horsepower range, Tier 4 compliant engines deliver more than a 90% reduction in NOx and PM
Thank you...

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Please Visit us at Dieselforum.org