OTAQ’s Partnership Programs

• Complementary to regulatory program
• Address important air quality issues associated with existing fleet
• Extremely partner driven
  • Collaborations to help them do their job
• Consumer (individual and commercial) education to help inform purchasing and activity decisions
Update on EPA’s Ports Initiative

Army Corps “Principal Ports” and EPA Regions
Launched MSTRS Ports Initiative Workgroup
May 2014

<table>
<thead>
<tr>
<th>Ports:</th>
<th>Maryland, Charleston, Long Beach, New Orleans, Virginia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminals:</td>
<td>Ports America</td>
</tr>
<tr>
<td>Shippers:</td>
<td>Cargill, Walmart, HP</td>
</tr>
<tr>
<td>Equipment:</td>
<td>Caterpillar, Manufacturers of Emission Controls Association</td>
</tr>
<tr>
<td>Marine:</td>
<td>Maersk Line</td>
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<tr>
<td>Rail:</td>
<td>Burlington Northern Santa Fe</td>
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<tr>
<td>Trucking:</td>
<td>Evans Delivery</td>
</tr>
<tr>
<td>Port Community Advocates:</td>
<td>East Yard Communities for Environmental Justice, Southeast CARE Coalition, Steps Coalition</td>
</tr>
<tr>
<td>Tribes:</td>
<td>Fond du Lac Air Program</td>
</tr>
<tr>
<td>NGOs:</td>
<td>Environmental Defense Fund, Natural Resources Defense Council</td>
</tr>
<tr>
<td>Research/analysis:</td>
<td>International Council on Clean Transportation</td>
</tr>
<tr>
<td>Government:</td>
<td>New Jersey DEP, South Carolina DHEC, MARAD, CMTS</td>
</tr>
<tr>
<td>Non-voting:</td>
<td>American Association of Port Authorities, StarCrest</td>
</tr>
<tr>
<td>EPA support:</td>
<td>Office of Transportation Air Quality, Office of Environmental Justice, Office of Water, Region 1, Region 2, Region 6, Region 9</td>
</tr>
</tbody>
</table>
Received CAAAC recommendations September 2016

**Overarching recommendation:** provide funding, technical resources, and expertise to enable and encourage environmental improvements.

**Focal Areas**
- Increasing and Targeting Funding
- Community-Port Engagement
- Guidance on Inventories and Metrics
- Guidance on Emission Reduction Strategies
- Coordinating Relevant Government Programs
- Information Clearinghouse and Communications

[www.epa.gov/CAAAC](http://www.epa.gov/CAAAC)
Working to raise port industry standard practices

Through EPA tools and assistance in the five program areas, we are accelerating adoption of:

- **Clean air planning practices** (emissions inventories, clean air plans, community engagement) that inform strategic clean air investments

- **Clean technologies and other strategies**
40% of top 150 ports are located in NAAQS nonattainment or maintenance areas
Providing tools to help identify smart infrastructure investments

National Port Strategy Assessment: Reducing Air Pollution and Greenhouse Gases at U.S. Ports
September 2016

Shore Power Technology Assessment at U.S. Ports
April 2017

EPA, Port Everglades Report Shines Light on New Methods for Analyzing Potential Air Pollution Reductions
June 2018
Stay tuned

Other upcoming EPA resources

**Update to port inventory guidance** (published in 2009) to reflect new methods and emissions factors
Public review draft target date: Dec 2019

**Assessment of fuel cell applications at ports**

**Best practices for metrics and indicators** that ports can use to measure, evaluate and set goals to improve air quality and community engagement

**Factsheets on operational strategies** that can reduce emissions and increase efficiency such as vessel speed reduction and gate management
Promoting community-port collaboration for effective planning

• EPA recently completed pilot projects where we convened stakeholder dialogues, delivered technical assistance, and tested three draft tools.
  
  • Toolkit: Ports Primer for Communities, Community Action Roadmap, and EJ Primer for Ports
  
  • Pilot locations: Savannah, GA; New Orleans, LA; Seattle, WA; and Providence, RI

• Now updating tools and finalizing other resource materials from pilots (e.g. case studies, training modules).
Increasing efficiency in federal government and port operations

- Federal coordination to support clean air projects as part of major federal infrastructure projects.
  - Strong OTAQ involvement in Committee on Marine Transportation System (e.g., co-leading Marine Innovative Science & Technology team) and FACA group advising MARAD (MTSNAC).

- Coordination with other EPA offices to amplify efforts and ensure effective implementation of activities.
Creating a knowledge clearinghouse

HQ and Regions developing web resources, hosting public events, and engaging stakeholders to promote clean port projects.

Examples:

- Updated website, enhancements ongoing.
- Regular e-newsletters.
- Events as part of regional Diesel Collaborative forums.
Supporting on-the-ground activities

2019 activities spurring clean air advancements at ports and railyards across the country

- Clean air projects
- Emissions assessments
- Community Engagement
DERA: Diesel Emissions Reduction Program
Why DERA?

- Nearly 10 million legacy diesel engines remain in service in the USA

- These engines are not equipped with modern emission control systems like Diesel Particulate Filters (DPFs) and Selective Catalytic Reduction systems (SCRs) that help achieve current emission standards

- Without incentives for faster fleet turnover, the longevity of diesel engines means these 10 million engines will continue to emit significant amounts of PM and NOx for many years to come

- Between 2008 and 2016, DERA yielded $7 to $19 billion in health benefits and prevented 1000 to 2300 premature deaths
DERA – Unique Federal Program

- Only Federal program that has specific purpose of reducing mobile source diesel emissions (2012 GAO Report)
- Other programs can target certain subsets of engines but those programs do not cover the entire legacy fleet
- Covers holistic suite of medium and heavy duty diesel engines
- Requires that results be reported (emissions reductions, cost-effectiveness, etc.)
- Continual bi-partisan and stakeholder support
- Always oversubscribed
The Diesel Emissions Reduction Act (DERA) was first authorized in 2005, funded in 2008, and reauthorized in 2010 through 2016.

DERA provides grant funding to eligible entities to achieve significant reductions in diesel emissions.

Each DERA subprogram targeted to stakeholders and fleet types.
DERA Funding Amounts by Fiscal Year

- 2008-2019 DERA funding total: $887 million
The 4th DERA Report to Congress was released in July 2019. Previous Reports covered DERA 2008-2013. This Report specifically focused on FY 2014-2016 but also contains cumulative results.

### DERA Program Benefits and Accomplishments FY 2008-2016

<table>
<thead>
<tr>
<th>Investment of DERA Program</th>
<th>Emission and Fuel Reductions</th>
</tr>
</thead>
<tbody>
<tr>
<td>$629 million in awarded funds</td>
<td>472,200 tons of NOx</td>
</tr>
<tr>
<td>67,300 engines retrofitted or replaced</td>
<td>15,490 tons of PM</td>
</tr>
<tr>
<td>Up to $19 billion in monetized health benefits</td>
<td>17,700 tons of HC</td>
</tr>
<tr>
<td>Up to 2,300 fewer premature deaths</td>
<td>61,550 tons of CO</td>
</tr>
<tr>
<td>64% of projects targeted to areas with air quality challenges</td>
<td>5,089,170 tons of CO2</td>
</tr>
<tr>
<td>3:1 leveraging of funds from non-federal sources</td>
<td>454 million gallons of fuel saved</td>
</tr>
</tbody>
</table>

5,089,170 tons of CO2
DERA: Future Steps

• Continued emphasis on ports and goods movement

• Continued emphasis on environmental justice areas with populations disproportionately affected by diesel exhaust

• Next funding opportunity: December, 2019
  • Incorporates changes designed to make program even more accessible

• [www.epa.gov/cleandiesel](http://www.epa.gov/cleandiesel) for more info
Freight: Significant, complex, disruptive

Moving goods is essential to businesses & communities
- $18.1 trillion in value of goods shipped
- 5.26 trillion ton-miles of freight (55 tons/person) each year
- 13 million U.S. jobs related to freight
- 8% of U.S. GDP ($1.6 trillion)

Freight is not just one source or mode - it’s an ecosystem of many actors across diverse sectors

..& it’s growing faster than passenger transport
- Freight activity could quadruple by 2050

Technology is also changing faster than policy
- Calls for innovative solutions to complement policies
Partnerships can enable more efficient, greener freight choices

- SmartWay partners voluntarily submit freight activity information using EPA’s assessment and tracking tools.
- Data merged with EPA emission factors to create environmental performance scores for each carrier type (e.g. truckload, tanker, logistics, rail).
- Results let companies readily see which carriers are greener choices.
- EPA incentivizes further improvement:
  - Technical assistance and knowledge-sharing
  - Recognition and awareness
Positive results and influence

As companies improve the efficiency of moving goods, they cut emissions and save money.

- Since 2004, SmartWay’s over 3,700 partners have saved 37 billion dollars in fuel costs while cutting 134 million tons of harmful emissions

Demonstrating new practices and technologies with SmartWay helps these strategies gain traction and acceptance across industry

The partnership builds trust and accelerates change to complement policy development

Th SmartWay approach has served as a role model for other nations in N. America, Asia, S. America and elsewhere

“EPA’s SmartWay Transport Partnership is an example of how the trucking industry can work in a way that improves the environmental sustainability of the global supply chain.”
- Chris Spear, President and CEO, American Trucking Associations
Travel Efficiency Assessment Method (TEAM) Technical Assistance Cases Studies

- 2014
  - Tucson
  - Kansas City
  - Boston

- 2016
  - St. Louis
  - Atlanta
  - Orlando

- 2018
  - Lake Charles
  - Seattle
  - Champaign
  - Connecticut

- 2019
  - Austin
  - Pittsburgh
Travel Efficiency Strategies

Strategies to reduce emissions by affecting travel activity – examples:

• Travel demand management
  • Telecommuting
  • Transit Subsidies
  • Carpool and Vanpool Programs

• Changes to public transit
  • Reduced Fares
  • Increased Frequency, Range

• Travel pricing
  • Road Pricing, Parking Pricing

• Changes to land use
  • TOD, Mixed Use,
    Jobs/Housing Balance
The Travel Efficiency Assessment Method (TEAM)

• A method to rapidly assess multi-pollutant emission reductions from hypothetical travel efficiency strategies and scenarios at the local, state and national level

• TEAM substitutes a sketch planning tool for the traditional 4-step transportation model

• MOVES is then applied based on streamlined activity inputs
Major Findings

- **Pricing strategies**, such as parking pricing and VMT fees, have the biggest potential to reduce light-duty VMT and emissions
  - Generally, around 3.8% - 9.6% decrease from the BAU

- **Smart growth and land use strategies** also have large impact
  - Up to 6.4% decrease from the BAU

- **Range of reduction potential** is based on:
  - Level of implementation in proposed scenario, and
  - Policies/strategies already implemented in area, since we are comparing against the “business as usual” case
  - Ex: areas with current or planned high access to transit will have smaller additional VMT reduction from BAU than areas with limited transit access.
Green Racing Partnership
Thank you!

For additional information, see:

- https://www.epa.gov/ports-initiative
- https://www.epa.gov/cleandiesel
- https://www.epa.gov-smartway
- https://www.imsa.com/imsagreen