

Future of US Clean Drayage Programs

Harbors, Navigation, and Environment Seminar
American Association of Port Authorities

Elena Craft, PhD
Health Scientist
Environmental Defense Fund
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- Founded in 1967 by scientists concerned about pesticide DDT
- 700,000 members nationally
- Over \$100 million annual budget
- Over a dozen regional offices
- 300 scientists, economists, and other professional staff who emphasize
 - Sound science
 - Power of partnerships
 - Power of incentives

4 Principle Goals



Stabilize the Earth's climate by reducing greenhouse gas emissions.

Safeguard human health from exposure to toxic chemicals and pollution.

Protect the world's oceans from pollution and overfishing.

Preserve and restore biodiversity.

The Dangerous Health Costs of Diesel

- Emissions from diesel engines, the most common engines in freight, are estimated to shorten nearly 21,000 lives per year.



Report to Congress on Black Carbon

Department of the Interior, Environment, and Related Agencies
Appropriations Act, 2010



- Studies demonstrate that people who work around diesel equipment, including truck drivers, railroad workers and equipment operators are more likely to develop lung cancer than workers who are not exposed to diesel emissions.
- A recent report highlights climate and health impacts of black carbon, a product of incomplete combustion of fossil fuels and the most light-absorbing component of particulate matter.
- It is estimated that for every dollar spent on reducing freight-related pollution, health and productivity benefits would be between \$3 and \$8.

Port Drayage Programs

- Where we are
- Where we are going
- How we will get there

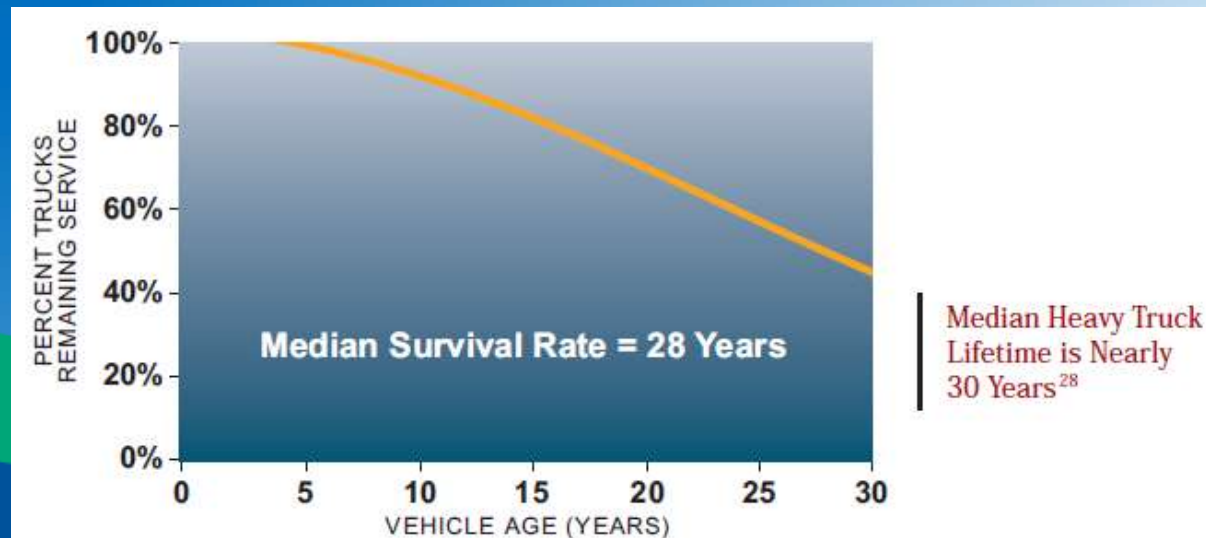


Top 20 US Container Ports by TEU



Current status

- About ½ of highest volume container ports have established a port drayage program
- Varied implementation practices
- Varied performance metrics and goals
- Inconsistent financial support
- Issues of transparency
- Unlevel playing field



Comparison of drayage truck standards adopted at US Ports

Model Year	LA/LB	CARB	SEATAC	OAKLAND	NY/NJ	HOUSTON
ADOPTED	NOV 2007	DEC 2008	APRIL 2009	JUNE 2009	MAR 2010	JAN 2011
PRE-1994	BANNED JAN 2010	BANNED JAN 2010	BANNED JAN 2011	BANNED JAN 2010	BANNED JAN 2011	10% REDUCTION BY 2014
1994-2003	RETROFIT BY JAN 2010 BANNED JAN 2012	RETROFIT BY JAN 2010 BANNED JAN 2014	BANNED JAN 2018	RETROFIT BY JAN 2010 BANNED JAN 2014	BANNED JAN 2017	-
2004-2006	BANNED JAN 2012	RETROFIT BY JAN 2012 BANNED JAN 2014	BANNED JAN 2018	RETROFIT BY JAN 2012 BANNED JAN 2014	BANNED JAN 2017	-
2007+	REQUIRED JAN 2012	REQUIRED JAN 2014	REQUIRED JAN 2018	REQUIRED JAN 2014	REQUIRED JAN 2017	RECCOMEN- DED BY 2021

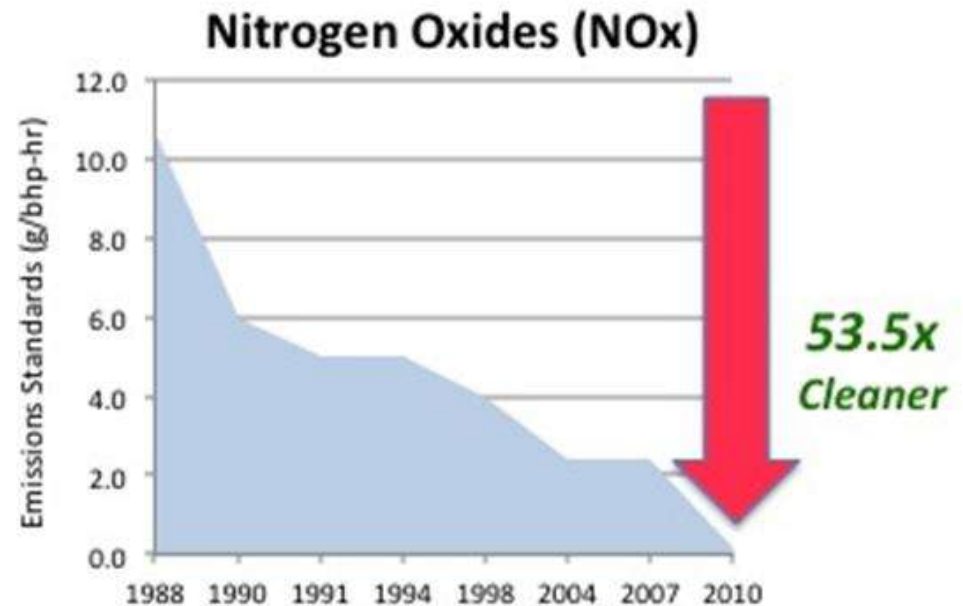
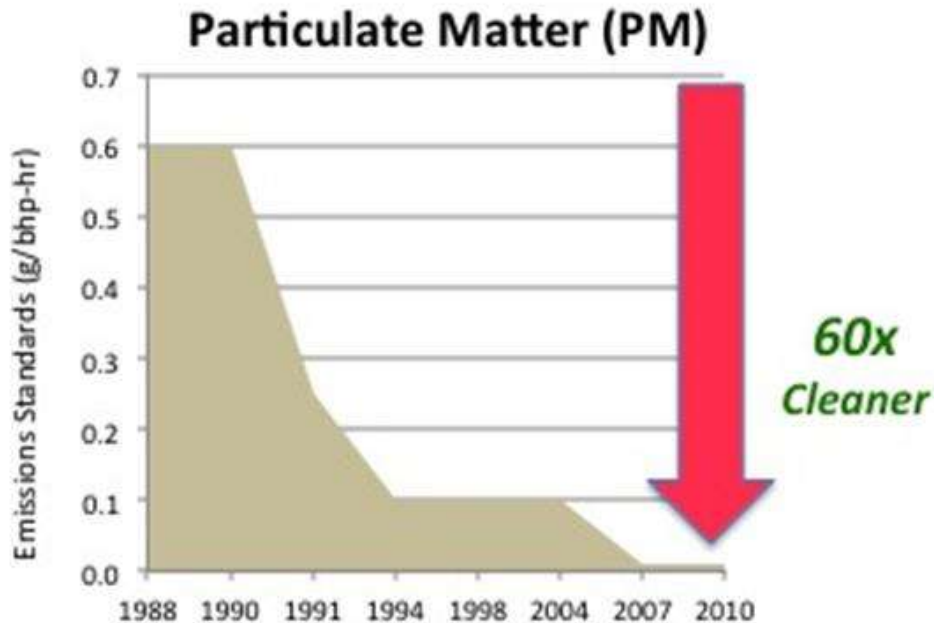
Progress to Date

Port	Start Date	New(er) Trucks	Retrofit Trucks	Total Millions	Funding	Grant
Oakland	July 2009	200	800	\$22	Port (\$5 million); BAAQMD (\$5 million); CARB (\$10 million); EPA (\$2 million)	Up to \$50,00 for scrapping pre-94
Boston	Jan. 2012			\$1.5	Port (\$1 million); EPA/DERA (\$500,000)	Up to \$25,000 for 2007 or newer
Virginia	Jan. 2008	80	160	\$3	Port (\$445,000); EPA/DERA (\$1.2 million)	Up to \$6,000 for retrofit; 15/20k for 07 or newer
Baltimore				\$3	EPA/DERA	Up to \$15,000 for scrapping pre-03
Houston	Aug. 2009	50		\$9	Port (\$50,000); EPA/DERA (\$9 million); TCEQ (\$5 million)	Up to \$50,000 for new truck
LA/LB	2007	2,100		\$202	Port (\$166 million); Other (\$36 million)	Up to \$50,000 for new truck
NY/NJ	May 2010			\$28	Port (\$21 million); EPA/DERA (\$7 million)	Up to \$60,000 for 04 or newer
Seattle	2009	269		\$2	Port (\$1.5 million); State DEP (\$350,000)	Up to \$5,000 for scrapping pre-94
Tacoma	Nov. 2011			\$3	CMAQ (\$2.5 million); State DEP (\$400,000)	Up to \$5,000 for scrapping pre-94 for 04 to 06 & up to \$30,000 for scrapping pre-94 for 07 or newer
Charleston	Sep. 2011	30		\$3	Port/SCDHEQ (\$2-\$3 million)	Up to \$5,000 for scrapping pre-94 for 04 or newer

The Future

- 2007+ models
- Transparency in performance metrics
- Higher dray rates to drivers
- Additional port support
- Inland ports
- Panama Canal
- Additional shipper/exporter support
- Incorporation of operational efficiencies
- Level playing field
- Mandate versus no mandate

Improvements in Heavy Duty Engine Standards



How we can get there

- Clean air strategy plans
- Truck registries
- Emission inventories
- Leverage existing tools
 - ❖ SmartWay Drayfleet model
 - ❖ IANA

Other Considerations

- Price of diesel
- Driver shortages
- Shale gas operations
- Availability of grant funds
- Clean air standards
- Congestion
- New engine standards
- New technologies

Year	\$/gallon ULSD
March 2012	\$ 4.13
March 2011	\$ 3.90
March 2010	\$ 2.92
March 2009	\$ 2.10
March 2008	\$ 3.89
March 2007	\$ 2.68

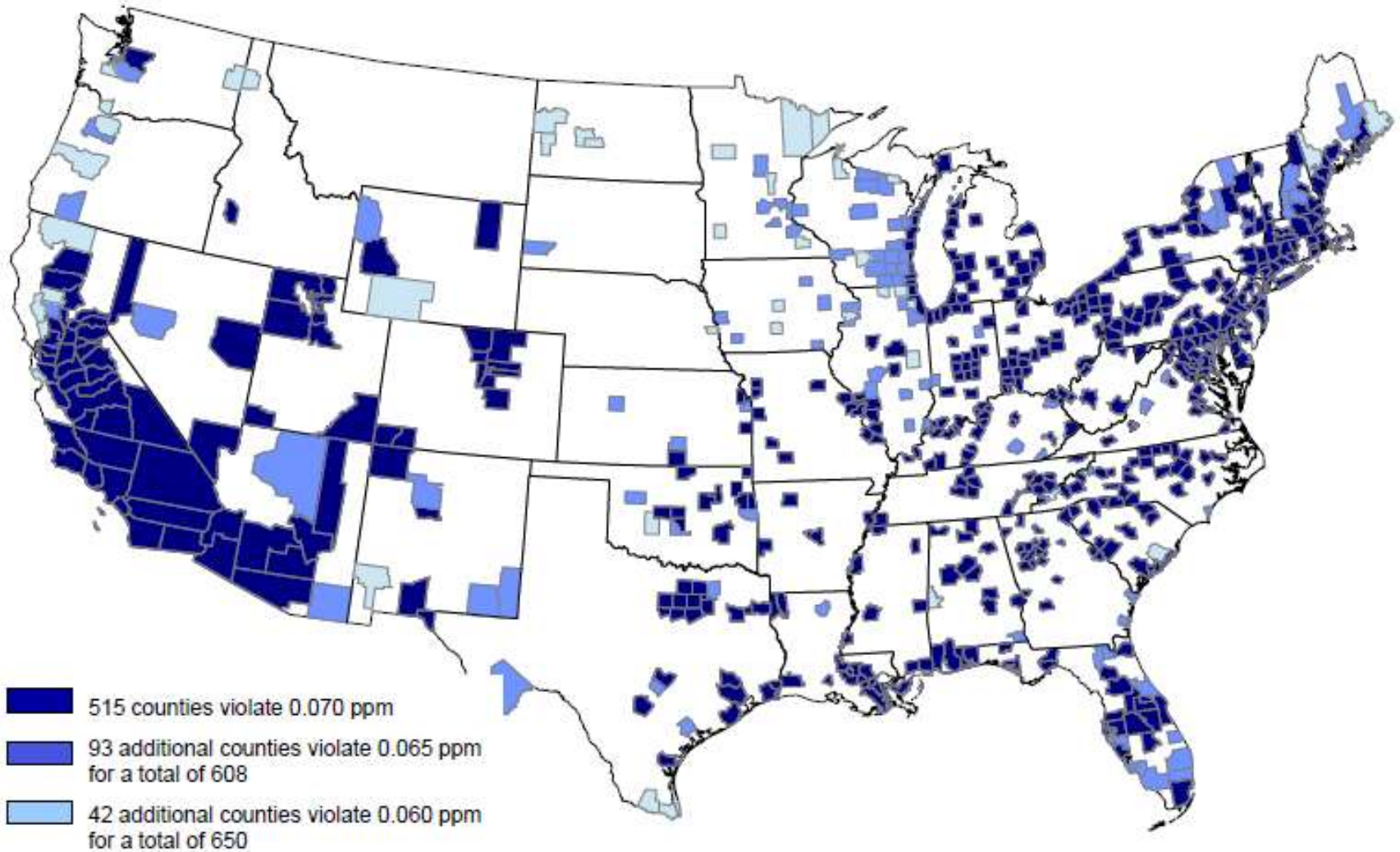
<http://www.eia.gov/petroleum/gasdiesel/>



Counties With Monitors Violating Primary 8-hour Ground-level Ozone Standards 0.060 - 0.070 parts per million

(Based on 2006 - 2008 Air Quality Data)

EPA will not designate areas as nonattainment on these data, but likely on 2008 - 2010 data which are expected to show improved air quality.



Notes:

1. No monitored counties outside the continental U.S. violate.
2. EPA is proposing to determine compliance with a revised primary ozone standard by rounding the 3-year average to three decimal places.

Heavy duty engine standards MY 2017

	EPA Emissions Standards (g CO2/ton-mile)			NHTSA Fuel Consumption Standards (gal/1,000 ton-mile)		
	Low Roof	Mid Roof	High Roof	Low Roof	Mid Roof	High Roof
Day Cab Class 7	104	115	120	10.2	11.3	11.8
Day Cab Class 8	80	86	89	7.8	8.4	8.7
Sleeper Cab Class 8	66	73	72	6.5	7.2	7.1

These final standards will achieve from nine to 23 percent reduction in emissions and fuel consumption from affected tractors over the 2010 baselines.



Elena Craft, PhD
ecraft@edf.org
512-691-3452

Marcelo Norsworthy
mnorsworthy@edf.org
512-691-3422



Cost per Ton for Issued Grants

