



Civil Enforcement of the Clean Air Act, Updates and Trends

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Discussion with:
Association of Air Pollution Control Agencies
October 25, 2021



THE WHITE HOUSE



Executive Order 13990 of January 20, 2021

Protecting Public Health and the Environment and Restoring Science To Tackle the Climate Crisis

“It is, therefore, the policy of my Administration to listen to the science; to improve public health and protect our environment; to ensure access to clean air and water; to limit exposure to dangerous chemicals and pesticides; to hold polluters accountable, including those who disproportionately harm communities of color and low-income communities; to reduce greenhouse gas emissions”

Executive Order 14008 of January 27, 2021

Tackling the Climate Crisis at Home and Abroad

“We must deliver environmental justice in communities all across America.”

“[EPA shall] strengthen enforcement of environmental violations with disproportionate impact on underserved communities”





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MEMORANDUM

SUBJECT: Strengthening Enforcement in Communities with Environmental Justice Concerns

FROM: Lawrence E. Starfield
Acting Assistant Administrator

**LAWRENCE
STARFIELD**

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LAWRENCE STARFIELD
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- ✓ Targeting: Increase inspections in overburdened communities
- ✓ Remedies: remedies with tangible benefits for the community
 - Prevent further pollution, mitigate harm, seek penalties
 - Seek early and innovative relief, e.g., fence-line monitoring and transparency
 - Incorporate Supplement Environmental Projects (SEPs) in settlements
- ✓ Information: Increase engagement with communities about enforcement cases
 - Provide more information to communities about facilities, pollution, and enforcement activities
 - Make it easier for the public to search for EJSCREEN information and Enforcement and Compliance History Online (ECHO) compliance history data



News Releases from Headquarters > Office of the Administrator (AO)

EPA Releases Draft Strategic Plan to Address Climate Change and Advance Environmental Justice and Equity

October 1, 2021

Contact Information

EPA Press Office (press@epa.gov)

WASHINGTON – Today, the Environmental Protection Agency announced that its Draft Fiscal Year (FY) 2022-2026 EPA Strategic Plan has been published in the Federal Register and is available for public comment through November 12, 2021. The Strategic Plan communicates and provides a roadmap to achieve EPA's and the Biden-Harris Administration's priorities over the next four years.

EPA Mission

To Protect Human Health and the Environment

Principles

Follow the Science

Follow the Law

Be Transparent

Advance Justice and Equity

Strategic Goals

Goal 1: Tackle the Climate Crisis

Goal 2: Take Decisive Action to Advance Environmental Justice and Civil Rights

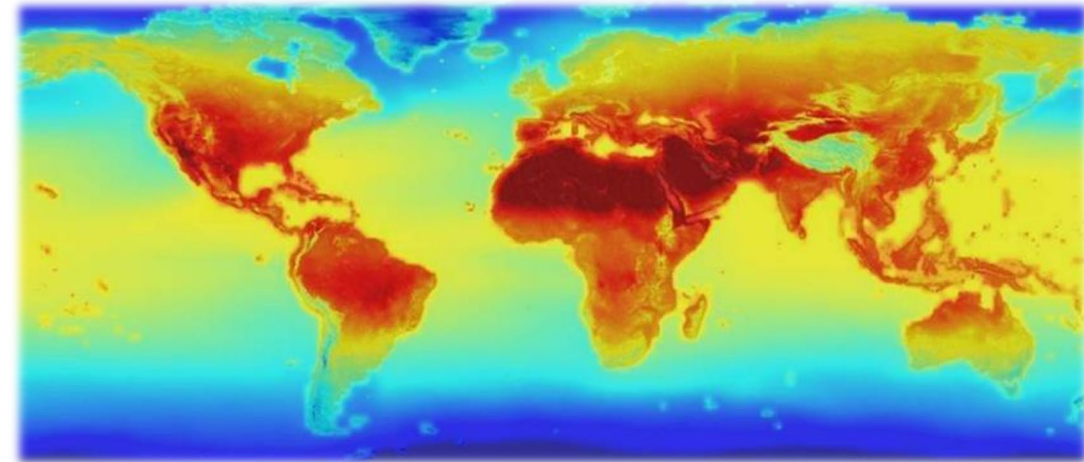
Goal 3: Enforce Environmental Laws and Ensure Compliance

Goal 4: Ensure Clean and Healthy Air for All Communities



Enforceable **Greenhouse Gas** Standards and Programs

- ✓ Vehicle and engine standards for fuel economy
 - ✓ Renewable Fuels Standard (RFS) Program
 - ✓ Methane from landfills
 - ✓ Methane from oil and gas operations
 - ✓ Hydrofluorocarbons (HFCs), under the AIM Act
 - ✓ Chlorofluorocarbons (CFCs) and Hydrochlorofluorocarbons (HCFCs), under CAA Title VI
 - ✓ EPA Greenhouse Gas Reporting Program
- + enforcement of standards for air pollutants (besides GHGs) at stationary sources may also reduce GHGs (e.g., flares)



Enforceable Standards related to Environmental Justice

- ✓ Most or all of the Clean Air Act; really, the question is whether enforcement and compliance will protect a community with environmental justice concerns
- ✓ Criteria Air Pollutants (ground-level ozone, particulate matter, carbon monoxide, lead, sulfur dioxide, nitrogen dioxide)
- ✓ Hazardous air pollutants



Hydrofluorocarbons

- HFCs are potent greenhouse gases used in the refrigeration, air conditioning, aerosols, fire suppression, and foam blowing sectors
- The American Innovation and Manufacturing (AIM) Act (2020) aims to phase down HFCs by 85% in the United States by 2036
- Phase down in a stepwise manner through an allowance allocation and trading program; entities will need to expend allowances in order to produce or import bulk HFCs



Administration is taking the following actions:

- **Creating an Interagency Task Force on Illegal HFC Trade:** Today, the Administration is announcing a new, nimble interagency task force led by experts from the Department of Homeland Security (DHS), EPA's Office of Air and Radiation, and EPA's Office of Enforcement and Compliance Assurance. In partnership with the Departments of Justice, State, and Defense, these agencies will execute a strategy to detect, deter, and disrupt any attempt to illegally import or produce HFCs in the United States. This coordination builds on the agencies' long experience collaborating to prevent illegal imports, including imports of ozone-depleting substances and vehicles that fail to comply with Clean Air Act standards.



Refinery Fence Line Monitoring for **Benzene**

- 40 CFR 63 Subpart CC
- Maintain fence line concentration of benzene below 9 ug/m³ (rolling annual average)
- Approximately a dozen facilities in any given calendar quarter have annual average concentrations that exceed the 9 ug/m³ limit; many pose environmental justice concerns
- EPA enforces the requirement to conduct adequate root cause analysis and timely corrective actions
- EPA targets refineries above limit in repeated calendar quarters



Civil Enforcement of the Clean Air Act, Updates and Trends: October 2021 Presentation with AAPCA

Excess Emissions from Storage Tanks

- NSPS Subpart Kb and XX, NESHAP Subpart WW, NSPS/NESHAP General Provisions
- EPA uses Optical Gas Imaging to measure excess emissions from tank vents (e.g., internal floating roof tanks) beyond normal breathing losses
- Agency is measuring, or requiring sources to measure, the lower explosive limit (LEL) in the tank head space to determine if there are safety concerns (concentrations above 25% of the LEL) which is an indication of tank issues (e.g., defective rim seals, open hatches on floating roof)



Flare Efficiency and Minimization

- NSPS Subparts A, Kb, DDD and NNN; NESHAP Subparts A, F, G, H, Y, SS, XX, YY, and FFFF; NSR/PSD, Title V; and State SIPs
- The EPA targets unnecessary/wasteful flaring and the addition of excess steam and air to flares
- Also: visible emissions limitations; failure to operate with a flame present; exit velocity violations; failure to operate a flare when emissions are vented; and combusting gases in flares that have a net heating value of less than 300 British Thermal Units per standard cubic foot

Dow Chemical Company, settlement (2021)

- ✓ 26 flares at four olefins facilities
- ✓ Injunctive Relief
 - waste gas minimization plans
 - root cause analysis and corrective action for significant flaring events
 - new flare gas recovery systems
 - Ensure high combustion efficiency at all flares
 - VOCs reduced by 5,689 tons per year (tpy); Hazardous Air Pollutants by 480 tpy; GHG emissions by approximately 517,000 tpy (CO₂e)
- ✓ \$3 million civil penalty



Clean Air Act Emergency Orders, “§ 303 Orders”

- EPA may unilaterally order a facility to take action to address an “imminent and substantial endangerment to public health or welfare, or the environment”
- In May 2021, EPA ordered two facilities to take immediate steps to protect nearby communities
- Only the 7th and 8th instances in the ~50-year history of the Clean Air Act
- Both facilities now subject to supervision of a federal court

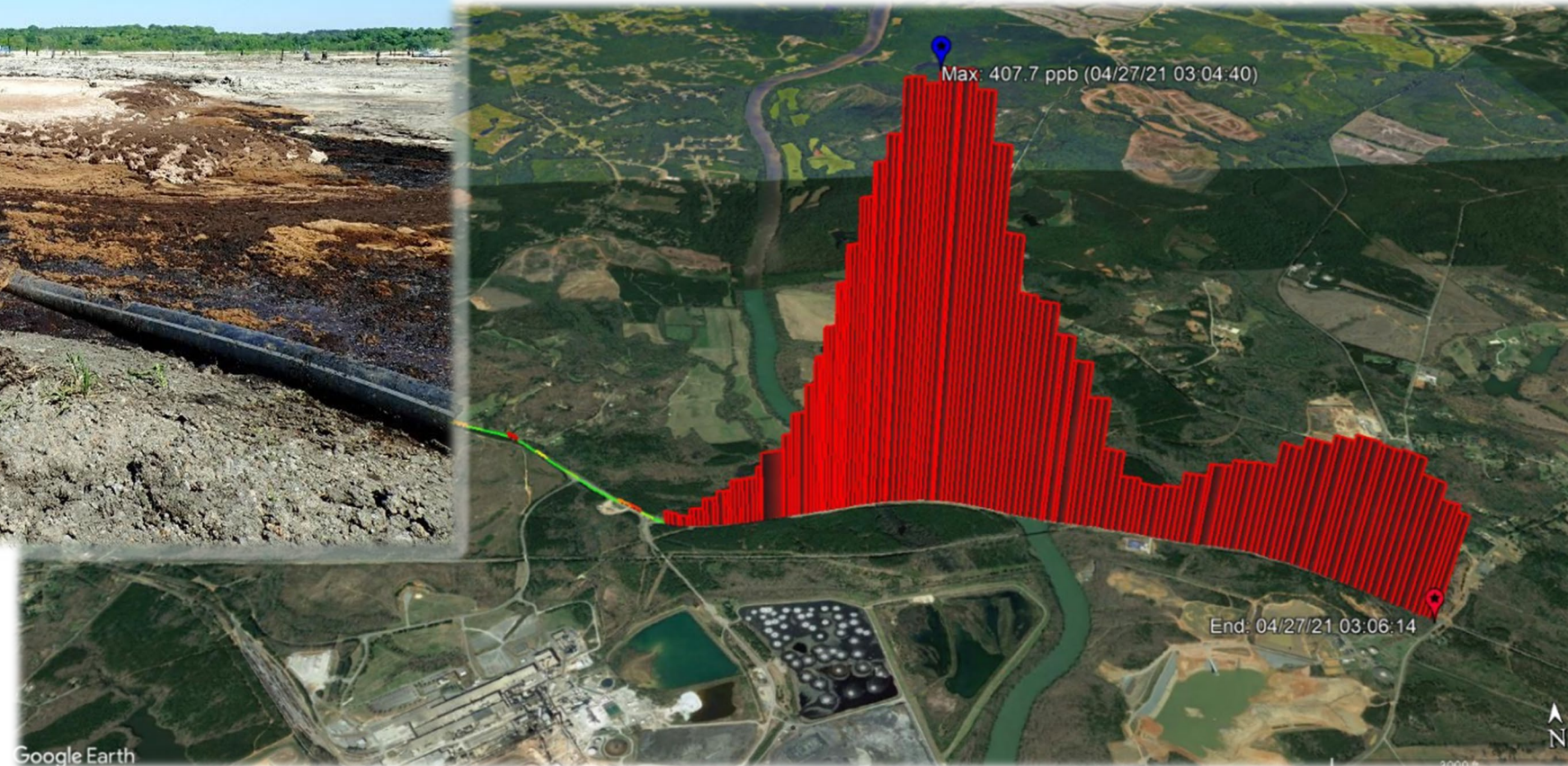


Limetree Bay, a petroleum refinery in St. Croix, U.S. Virgin Islands





New Indy Containerboard, a pulp and paper mill in South Carolina



Mobile Monitoring to Identify Excess Emissions in Environmental Justice Communities



Geospacial Monitoring of Air Pollution (**GMAP**)

- Measures multiple pollutants (BTEX, H₂S, SO₂, CH₄, Total VOC) in real-time
- Wind Speed/Wind Direction/GPS
- Mobile (up to 25 mph)
- Capable of pulling summa air samples

Data Acquisition in Real Time (**DART**)

- Measures Total VOCs in real-time
- Wind Speed/Wind Direction/GPS
- Mobile (up to 25 mph)
- Capable of pulling summa air samples
- Portable/Economical



Recent & Planned Deployments

- 10+ EJ communities in the last year (e.g., Tuscaloosa, Memphis, Nashville, Birmingham, Pascagoula, Baltimore, Philadelphia, Providence, Newark, Hartford)
- 200+ specific facility surveys
- 10+ planned community surveys for 2022
- EPA is finding:
 - leaking tanks, excess emissions from wastewater treatment operations, vents/open lines, open sumps, leaking drums, noncompliant flares, etc.
 - in a broad range of industry sectors (e.g., refineries, chemical plants, bulk storage facilities, asphalt plants, metal recyclers, waste treatment facilities, landfills, and steel manufacturers)



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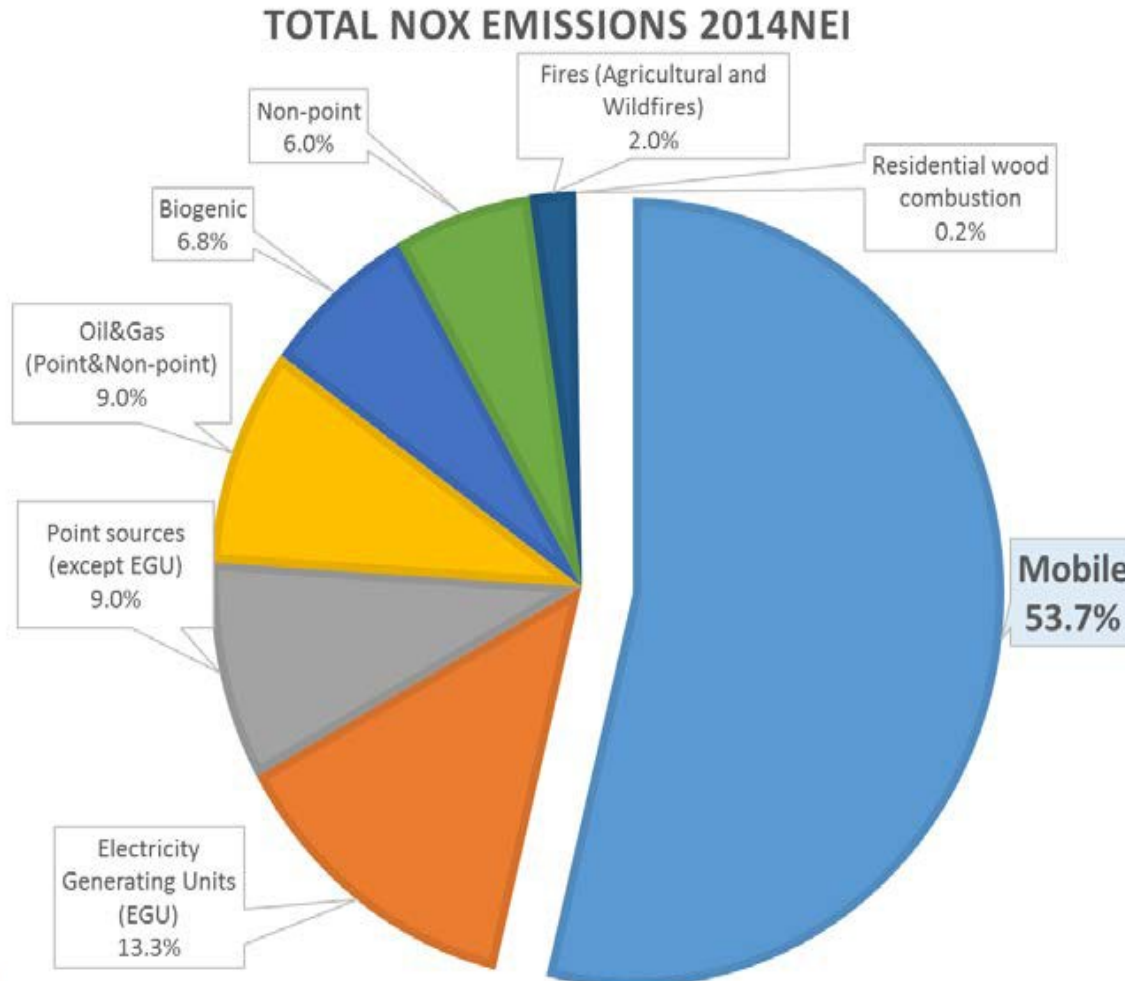




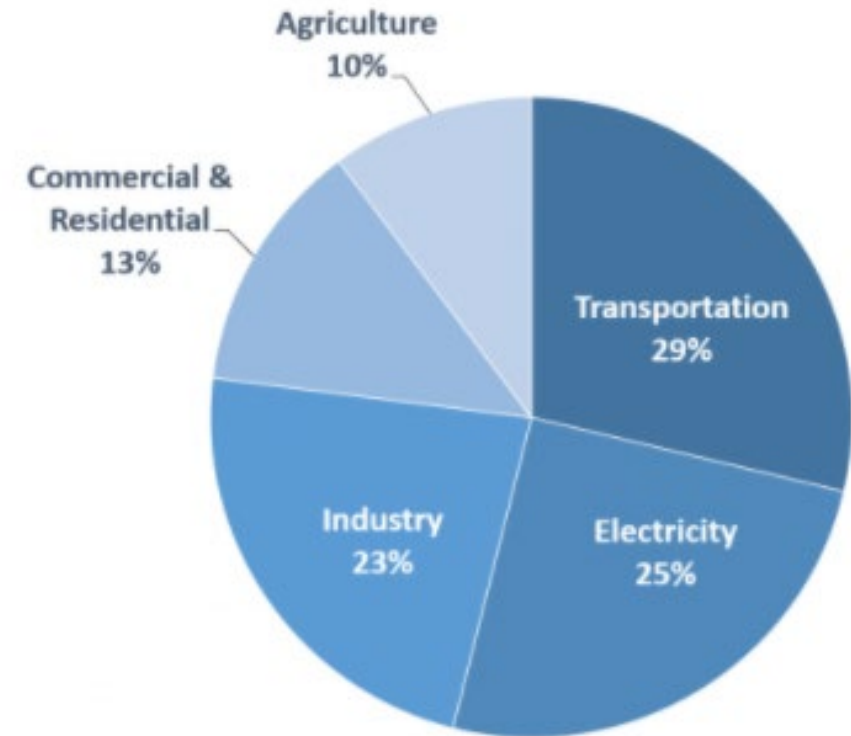
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Air Pollution from **Mobile Sources** Adds Up



**Total U.S. Greenhouse Gas Emissions
by Economic Sector in 2019**



Excess air pollution is not a victimless offense

- It is easy to become desensitized to air pollution from mobile sources. Driving, transit, and equipment powered by internal combustion engines are ubiquitous. With modern emissions controls, many of these sources do not smell or create visible emissions as was the case just a short time ago.
- But the threat is very real, and air pollution from mobile sources takes years off some people's lives and causes preventable respiratory and cardiovascular suffering.



Ella Kissi-Debrah was only nine years old when she died from cardiac arrest, according to news reports. Ella had severe asthma and lived in a neighborhood that had high levels of NO_x and PM from nearby roadways. Ultimately the authorities amended Ella's death certificate to state that she "died of asthma contributed to by exposure to excessive air pollution."



Legal Framework for Federal Mobile Source Enforcement

Clean Air Act, Title II, Part A (42 USC § 7521 – 7554)

§ 7521: Emission standards for new motor vehicles or new motor vehicle engines

§ 7522: Prohibited acts

§ 7523: Actions to restrain violations

§ 7524: Civil penalties

§ 7525: Compliance testing and certification

§ 7541: Compliance in actual use

§ 7542: Information collection

§ 7543: State standards

§ 7544: State grants

§ 7545: Regulation of fuels

§ 7547: Nonroad engines and vehicles



Conventional Fuels Enforcement

Streamling Rule (2020)

Update to EPA's existing gasoline, diesel, and other fuels programs to improve overall compliance assurance and reduce compliance costs for industry and EPA while maintaining environmental performance



Civil Enforcement Cases Concerning Fuel Quality Standards

- *Chevron* (2021): volatility, sulfur, benzene credit reporting requirements; \$647,988 civil penalty
- *American Refining Group* (2021): maximum average gasoline benzene standard; \$220,000 civil penalty
- *Valero* (2020): VOCs, sulfur, and sampling, testing, and reporting requirements; \$2.85M civil penalty; compliance plan and projects to reduce VOCs and benzene
- *Gulf Oil* (2020): VOCs, benzene, and reporting requirements; \$2.4M civil penalty
- *George E. Warren* (2020): VOCs, sulfur, and reporting requirements; \$5.1M civil penalty



Renewable Fuel Standard (**RFS**) Enforcement

- To reduce dependence on foreign oil, grow renewable energy industry, and reduce greenhouse gas emissions
- The RFS program creates multi-billion-dollar market in which:
 - producers or importers of renewable fuel generate fuel credits, known as Renewable Identification Numbers (RINs);
 - petroleum refiners and importers, known as obligated parties, and renewable fuel exporters obtain valid RINs and retire those RINs
- Extensive civil and criminal enforcement to address fraud and invalid RINs
(<https://www.epa.gov/enforcement/civil-enforcement-renewable-fuel-standard-program>)
- Ongoing cases to ensure obligated parties properly calculate and satisfy their renewable volume obligation (RVO)



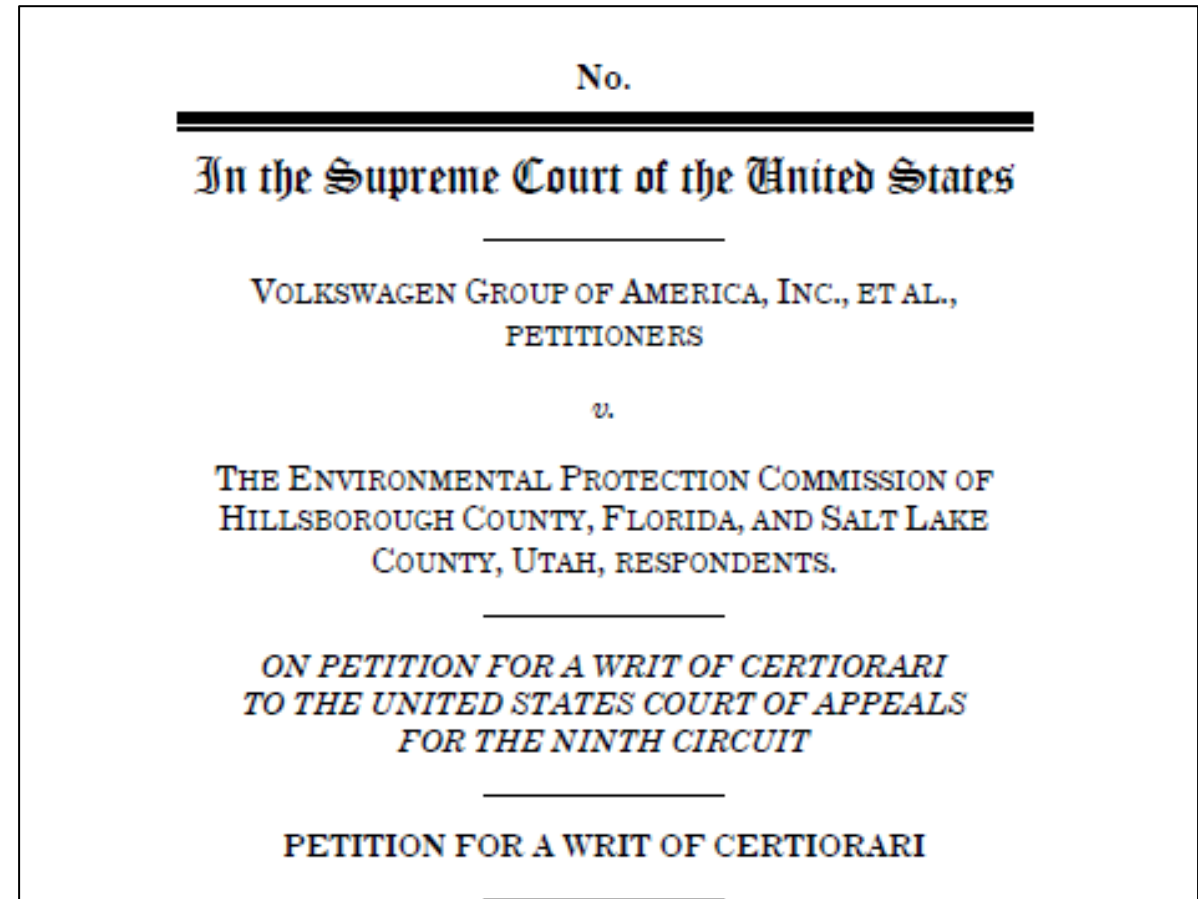
Unprecedented Remedies in **Automaker** Cases

- *Toyota* (Jan. 2021): failure to report on emissions-related defects; civil penalty \$180M
- *Daimler AG* (Sept. 2020): undisclosed software and defeat devices in approx. 250,000 vehicles; remedies valued at \$1.5B
- *Fiat Chrysler Automobiles* (Jan. 2019): undisclosed software and defeat devices in approx. 100,000 vehicles; remedies valued at \$490M
- *Volkswagen* (2016-17): undisclosed software and defeat devices in approx. 590,000 vehicles; remedies valued at \$17.4B (including mitigation trust and Electrify America)
- *Hyundai & Kia* (2014): underreported GHG emissions; remedies valued at \$350M
- ✓ **Civil penalties from these cases (~\$2.9B) is *double* the sum of all other civil penalties under the Clean Air Act (stationary and mobile, since the Act's inception)**



Unprecedented State Involvement in Automaker Cases

- CARB has been and remains an invaluable partner and co-plaintiff in major national cases
- But now other states are involved as never before
- *Volkswagen* (2016-17): 50 states, DC, Puerto Rico, and Tribes became beneficiaries to a \$2.9B mitigation trust
- Multiple parallel civil enforcement cases by:
 - § 177 states
 - Other states, counties; US Supreme Court may review appeal from Ninth Circuit
- Novel jurisdictional questions:
 - “new” versus “in-use” vehicles
 - automakers versus others



Heavy-Duty Onroad Enforcement

- *US v. Navistar* (N.D.Ill.): Navistar disregarded 2010 deadline to meet tighter NOx standard; after litigation, settled for \$52M civil penalty and \$30M+ mitigation
- *US v. Detroit Diesel Corp.* (2016): disregarded 2010 deadline to meet tighter NOx standard; settled for \$14M civil penalty and \$14.5M mitigation
- California “Truck and Bus” rule: EPA Region 9 complements CARB enforcement with cases against national fleets who violate state SIP requirements
- Phase 1 and Phase 2 GHG standards



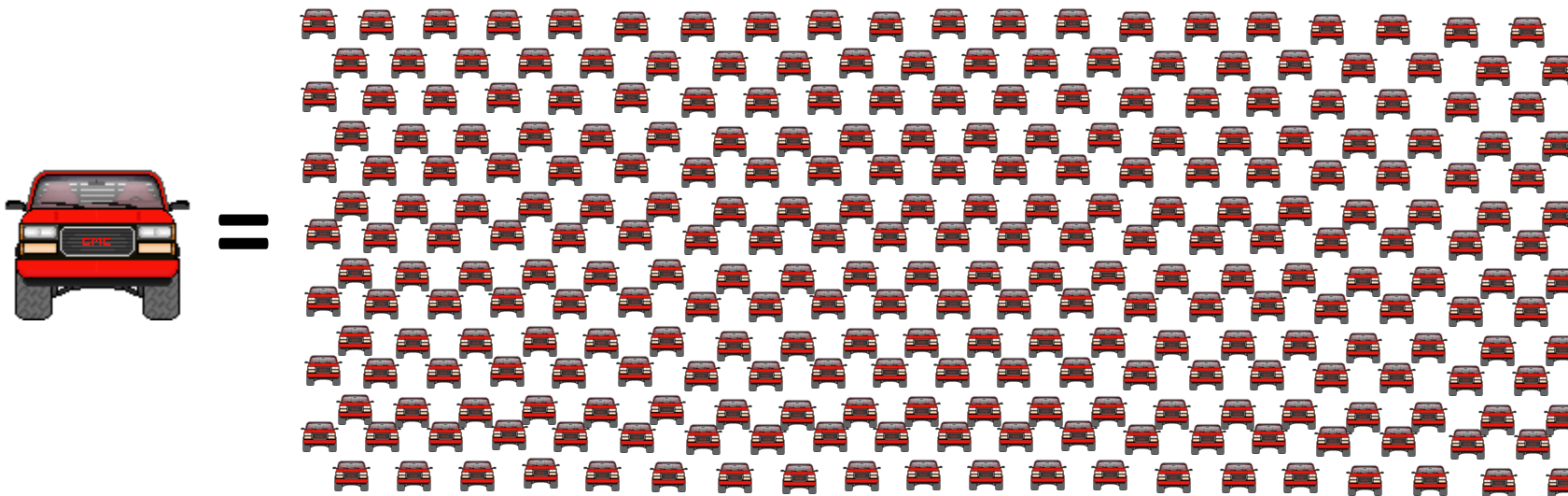
Nonroad Vehicle and Engine Enforcement

- *Kohler* (2020): systemic problems with testing and certification of gasoline engines; defeat devices in 144K engines; \$20M civil penalty and forfeiture of emissions credits
- *Hyundai Construction* (2019): disregarded deadlines to meet tighter NOx standard; litigation then settlement for \$47M civil penalty
- Constant work with CBP to stop illegal imports



Aftermarket Defeat Devices for Vehicles and Engines

Problem: Defeat devices and tampering cause **excess emissions** of NO_x, PM and other pollutants. They are **prevalent nationwide**.



Emissions Increase Due to “Full Delete”

Oxides of nitrogen	~310x
Non-methane hydrocarbons	~1,140x
Carbon monoxide	~120x
Particulate matter	~40x



Nationwide Prevalence of Tampering?

- Hard to say
- Evidence from recent EPA investigations concerning diesel pickup trucks (“trucks”) show cause for concern → →
- This is only the tampering the EPA has identified during recent investigations concerning diesel pickup trucks and is not an estimate of nationwide tampering rates.



EPA-Identified Tampered Diesel Pickup Trucks as a Percent of Total Diesel Pickup Trucks in 2016

US EPA Report: *Tampered Diesel Pickup Trucks: A Review of Aggregated Evidence from EPA Civil Enforcement Investigations* (Nov. 20, 2021), <https://www.epa.gov/enforcement/air-enforcement-policy-guidance-and-publications#Mobile>

It's not just pickup trucks . . .

- EPA investigations find tampering and aftermarket defeat devices for heavy-duty trucks, light-duty cars, agriculture equipment, forestry equipment, construction equipment, and more.
- Like diesel pickup trucks, tampering substantially increases harmful air pollution from these vehicles and engines.



National Initiative:

Stopping Aftermarket Defeat Devices for Vehicles and Engines

- ✓ More than 100 cases in recent years
<https://www.epa.gov/enforcement/clean-air-act-vehicle-and-engine-enforcement-case-resolutions>
- ✓ EPA enforcement personnel are now active in the criminal- and civil-enforcement programs and in every region
- ✓ EPA is partnering with states; employees from 26 states have attended inspector trainings conducted by EPA; some states have subsequently performed inspections and taken enforcement for violations of state laws concerning tampering
- ✓ To complement the case work:
 - 2020 EPA Tampering Policy
 - 2020 Report: *Tampered Diesel Pickup Trucks*
 - 2021 Penalty Policy
 - 2021 Enforcement Alert
 - Ongoing: update to 1986 catalyst policy
 - All available at <https://www.epa.gov/enforcement/air-enforcement-policy-guidance-and-publications#Mobile>

