



2019

If It Ain't Broke: The Case Against "Rolling Back" Vehicle Emissions Regulations in the United States

Alexandria E. Pierce

Follow this and additional works at: <https://scholarlycommons.law.emory.edu/eilr>

Recommended Citation

Alexandria E. Pierce, *If It Ain't Broke: The Case Against "Rolling Back" Vehicle Emissions Regulations in the United States*, 33 Emory Int'l L. Rev. 619 (2019).

Available at: <https://scholarlycommons.law.emory.edu/eilr/vol33/iss4/5>

This Comment is brought to you for free and open access by the Journals at Emory Law Scholarly Commons. It has been accepted for inclusion in Emory International Law Review by an authorized editor of Emory Law Scholarly Commons. For more information, please contact law-scholarly-commons@emory.edu.

**IF IT AIN'T BROKE: THE CASE AGAINST "ROLLING BACK"
VEHICLE EMISSIONS REGULATIONS IN THE
UNITED STATES**

INTRODUCTION	620
A. <i>"Fixing" a Working System Can Only Break It</i>	620
B. <i>38,000 Premature Deaths and Counting</i>	622
C. <i>An Argument for Continued Success in the United States</i>	623
I. "A CAMPAIGN OF TRICKERY": THE VW EMISSIONS CHEATING SCANDAL	625
II. HOW DID WE GET THERE? THE REGULATION OF VEHICLE EMISSIONS IN THE UNITED STATES AND GERMANY	629
A. <i>The Development of Agencies to Regulate Vehicle Emissions</i> .	629
B. <i>Statutory Structure of Vehicle Emissions Control</i>	632
C. <i>Approval of New Motor Vehicles</i>	634
D. <i>Post-approval Compliance Assurance</i>	635
E. <i>Enforcement Mechanisms Available Upon Finding Emissions Violations</i>	637
III. DON'T FIX IT: AN ARGUMENT FOR CONTINUING SUCCESSFUL VEHICLE EMISSION REGULATIONS IN THE UNITED STATES	642
A. <i>A Race to the Bottom Is Not a Competition the United States Wants to Win</i>	642
B. <i>Already on Top: Two Examples of Regulatory Tools That the United States Used to Prevail in the Volkswagen Emissions Scandal</i>	645
1. <i>Compliance Assurance Requirements in the United States Helped to Catch Volkswagen</i>	646
2. <i>Enforcement Mechanisms Allowed Both the United States and Consumers to Hold Volkswagen Accountable</i>	648
CONCLUSION	650

INTRODUCTION

A. “Fixing” a Working System Can Only Break It

U.S. environmental regulations are under attack. The Trump Administration is pushing for a more industry-driven environmental protection policy,¹ asserting that it plans to “roll-back” long-standing, effective environmental regulations to bring back more blue-collar jobs.² Industry-forward environmental policies like those favored by the current administration exist worldwide, particularly in Germany.³ Although, in theory, broad promises to bring back industrial jobs sound appealing; in practice, industry-driven environmental regulation is largely ineffective. Rather, the current U.S. environmental regulations for vehicle emissions are far more effective in both fostering clear communication with regulated industries about what is expected to better deter environmental harms as well as holding manufacturers accountable if they violate these clear expectations.⁴

The drastic difference in these regulatory approaches is best illustrated by both the United States’ and Germany’s responses to the Volkswagen (VW) emissions-cheating scandal.⁵ In 2015, news emerged that VW installed “defeat devices” in about eleven million light-duty diesel vehicles that they marketed as

¹ Coral Davenport, *Counseled by Industry, Not Staff, E.P.A. Chief Is Off to a Blazing Start*, N.Y. TIMES (July 1, 2017), <https://www.nytimes.com/2017/07/01/us/politics/trump-epa-chief-pruitt-regulations-climate-change.html?mcubz=0>; Ryan Beene et al., *Trump to Seek Repeal of California Smog-Fighting Power*, BLOOMBERG (July 23, 2018, 12:07 PM), <https://www.bloomberg.com/news/articles/2018-07-23/trump-is-said-to-look-for-repeal-of-california-s-smog-fighting-power>.

² Brady Dennis & Juliet Eilperin, *EPA Remains Top Target with Trump Administration Proposing 31 Percent Budget Cut*, WASH. POST (May 23, 2017), https://www.washingtonpost.com/news/energy-environment/wp/2017/05/22/epa-remains-top-target-with-trump-administration-proposing-31-percent-budget-cut/?utm_term=.69819f7032f8 (“Candidate Donald Trump vowed to get rid of the Environmental Protection Agency ‘in almost every form,’ leaving only ‘little tidbits’ intact.”); see *Id.* also Scott Simon, *Trump’s EPA Has Rolled Back Dozens of Environmental Regulations*, NPR (August 12, 2017, 7:55 AM), <http://www.npr.org/2017/08/12/542998622/trump-s-epa-rolls-back-dozens-of-environmental-regulations> (interviewing Gina McCarthy, former U.S. EPA Administrator).

³ Alison Smale, *In Germany, a Cozy Relationship Between Carmakers and Government*, N.Y. TIMES (Oct. 1, 2015), <https://www.nytimes.com/2015/10/02/world/europe/germany-volkswagen-autos-merkel.html>.

⁴ Bill Vlasic & Aaron M. Kessler, *It Took E.P.A. Pressure to Get VW to Admit Fault*, N.Y. TIMES (Sept. 21, 2015), <https://www.nytimes.com/2015/09/22/business/it-took-epa-pressure-to-get-vw-to-admit-fault.html>; Jack Ewing, *In the U.S., VW Owners Get Cash. In Europe, They Get Plastic Tubes*, N.Y. TIMES (Aug. 15, 2016), <https://www.nytimes.com/2016/08/16/business/international/vw-volkswagen-europe-us-lawsuit-settlement.html>.

⁵ Peter Whoriskey et al., *VW Emissions Cheating Affects 11 Million Cars Worldwide*, WASH. POST (Sept. 22, 2015), https://www.washingtonpost.com/business/economy/vw-emissions-cheating-affects-11-million-cars-worldwide/2015/09/22/30f59bca-6126-11e5-9757-e49273f05f65_story.html?utm_term=.9e8eca9f1038.

“eco-diesel.”⁶ These devices temporarily limited the emissions of nitrous oxide and other pollutants to be within threshold emissions limits when the vehicles detected driving conditions of federal testing procedures, but then ceased to work when those vehicles detected “real-world” driving conditions.⁷ In effect, VW light-duty diesel vehicles worldwide emitted far more nitrous oxide than threshold limits allowed.⁸

The aftermath of the VW emissions-cheating scandal reveals the serious harms that result when a country is unable to enforce vehicle-emissions regulations against worldwide manufacturers like VW—companies that have harmed not only the environment, but also the public health of its citizens.⁹ Germany has been widely criticized for its lack of enforcement response to the VW crisis.¹⁰ Although it has recently fined VW for the diesel scandal, it took nearly three years and worldwide criticism before the country acted against the manufacturer.¹¹ In contrast, the United States entered consent decrees with VW and instituted recalls and buy-backs of affected vehicles from consumers far quicker.¹² Many credit the U.S. Environmental Protection Agency’s (EPA) strong enforcement approach with causing VW to admit both to cheating

⁶ Letter from Philip A. Brooks, Dir., Env’tl. Prot. Agency, to Volkswagen AG, Audi AG, and Volkswagen Grp. of Am., Inc. (Sept. 18, 2015), <https://www.epa.gov/sites/production/files/2015-10/documents/vw-nov-caa-09-18-15.pdf> (regarding notice of violation) [hereinafter Notice of Violation]; Whoriskey et al., *supra* note 6.

⁷ Guilbert Gates et al., *How Volkswagen’s ‘Defeat Devices’ Worked*, N.Y. TIMES (Mar. 16, 2017), <https://www.nytimes.com/interactive/2015/business/international/vw-diesel-emissions-scandal-explained.html?mcubz=0>; see Moritz Contag et al., *How They Did It: An Analysis of Emission Defeat Devices in Modern Automobiles*, 2017 IEEE SYMP. ON SECURITY & PRIVACY 231, 231 (2017), <http://ieeexplore.ieee.org/document/7958580?reload=true>; see also Notice of Violation, *supra* note 7; Whoriskey et al., *supra* note 6.

⁸ Notice of Violation, *supra* note 7; Whoriskey et al., *supra* note 6.

⁹ For reporting on inability of individual owners of affected VW vehicles to receive remedy for harm done in purchasing affected vehicles, see Ewing, *supra* note 5. For public health impacts of the VW emissions cheating scandal, see Guillaume P. Chossiere et al., *Public Health Impacts of Excess NOx Emissions from Volkswagen Diesel Passenger Vehicles in Germany*, 12 ENVTL. RES. LETTERS, Mar. 3, 2017, at 1, 1.

¹⁰ Ewing, *supra* note 5; Jack Ewing, *As German Election Looms, Politicians Face Voters’ Wrath for Ties to Carmakers*, N.Y. TIMES (Sept. 13, 2017), <https://www.nytimes.com/2017/09/13/business/germany-diesel-election.html>; Kevin Tarsa, *Won’t Get Fooled Again: Why VW’s Emissions Deception Is Illegal in Europe and How to Improve the EU’s Auto Regulatory System*, 40 B.C. INT’L & COMP. L. REV. 315, 342 (2017) (arguing that Volkswagen’s use of defeat devices in light duty diesel vehicles also violates European environmental regulations).

¹¹ Charles Riley, *Germany Fines Volkswagen \$1.2 Billion Over Diesel Scandal*, CNN MONEY (June 13, 2018, 1:11 PM), <https://money.cnn.com/2018/06/13/investing/volkswagen-fine-germany/index.html>.

¹² Rule 11 Plea Agreement, *United States v. Volkswagen AG*, No. 16-CR-20394 (E.D. Mich. Jan. 11, 2017); Press Release, U.S. Dep’t of Justice, Volkswagen AG Agrees to Plead Guilty and Pay \$4.3 Billion in Criminal and Civil Penalties; Six Volkswagen Executives and Employees Are Indicted in Connection with Conspiracy to Cheat U.S. Emissions Tests (Jan. 11, 2017), <https://www.justice.gov/opa/pr/volkswagen-ag-agrees-plead-guilty-and-pay-43-billion-criminal-and-civil-penalties-six> [hereinafter Volkswagen Press Release].

emissions tests worldwide and to committing federal fraud and conspiracy.¹³ This led to the manufacturer paying nearly \$26 billion,¹⁴ the largest fine an automaker has seen to date.¹⁵

B. 38,000 Premature Deaths and Counting

Worldwide, diesel vehicles are emitting far more pollutants, like nitrous dioxide (NO_x), than their threshold limits allow.¹⁶ In 2014, the International Council on Clean Transportation¹⁷ (ICCT) reported that light-duty diesel vehicles emit far more NO_x under real-world driving conditions than when those same vehicles are tested under federal regulatory emissions tests.¹⁸ In May 2017, a study published in *Nature* found that light-duty diesel vehicles in major markets, such as the United States and Europe, produce over fifty percent more NO_x than official certification limits indicated.¹⁹

Selling vehicles that will emit far more NO_x than legal limits allow is not only breaking the law, but also damaging the natural environment and contributing to widespread respiratory problems and even death.²⁰ NO_x reacts in the atmosphere to form ozone (O₃), which creates smog²¹ and combines with

¹³ Vlasic & Kessler, *supra* note 5; Jack Ewing, *10 Monkeys and a Beetle: Inside VW's Campaign for 'Clean Diesel'*, N.Y. TIMES (Jan. 25, 2018), <https://www.nytimes.com/2018/01/25/world/europe/volkswagen-diesel-emissions-monkeys.html> (“[There is] a global emissions scandal that has already forced Volkswagen to plead guilty to federal fraud and conspiracy charges in the United States and to pay more than \$26 billion in fines.”).

¹⁴ Ewing, *supra* note 14.

¹⁵ Paul A. Eisenstein, *Volkswagen Slapped with Largest Ever Fine for Automakers*, NBC NEWS (Apr. 21, 2017, 12:33 PM), <https://www.nbcnews.com/business/autos/judge-approves-largest-fine-u-s-history-volkswagen-n749406>.

¹⁶ See generally Susan Anenberg et al., Letter, *Impacts and Mitigation of Excess Diesel-Related Emissions in 11 Major Vehicle Markets*, 545 NATURE 467, 468 (2017); Vicente Franco et al., *Real World Exhaust Emissions from Modern Diesel Cars: A Meta-Analysis of PEMS Emissions Data from EU (Euro 6) and U.S. (TIER 2 BIN 5/ULEV II) Diesel Passenger Cars* (ICCT White Paper, Oct. 2014).

¹⁷ The International Council on Clean Transportation (ICCT) is an independent research group that provides data to government entities that regulate the environment. *Mission // History*, INT'L COUNCIL CLEAN TRANSP., <https://www.theicct.org/mission-history> (last visited Mar. 4, 2019).

¹⁸ Franco et al., *supra* note 17.

¹⁹ Anenberg et al., *supra* note 17. The study examined markets representing over 80% of diesel sales in 2015. This included Australia, Brazil, China, the European Union, India, Japan, Mexico, Russia, South Korea, and the United States. *Id.* Press Release, Ray Minjares & Joe Schultz, Int'l Council on Clean Transp., *New Study Quantifies Global Health, Environmental Impacts of Nitrous Oxide Emissions from Diesel Vehicles* (May 15, 2017), <http://www.theicct.org/news/nature-impacts-diesel-nox-may2017>.

²⁰ United States' Amended Complaint at 8, U.S. v. Volkswagen AG, No. 3:16-cv-00295 (N.D. Cal. Oct. 7, 2016) (No. 2009-03) [hereinafter United States' Amended Complaint]; Chossiere et al., *supra* note 10; *Nitrogen Oxides (NO_x), Why and How They Are Controlled*, E.P.A. Technical Bulletin No. 456/F-99-006R (1999); Anenberg et al., *supra* note 17.

²¹ United States' Amended Complaint, *supra* note 21; *Nitrogen Oxides (NO_x), Why and How They Are*

sulfur oxides and condensation to create acid rain.²² Excess NOx emissions were attributed to approximately 38,000 premature deaths worldwide in 2015.²³ Experts have estimated that the VW “eco-diesel” vehicle emissions in Germany alone have caused a mortality impact of 1200 premature deaths since 2008.²⁴ Additionally, the economic impact for the added healthcare costs to treat the respiratory effects of excess NOx emissions throughout the European Union (EU) is estimated to be nearly €1.9 billion.²⁵ The same study determined that if VW had reduced the emissions of its “eco-diesel” vehicles to the legal limits in the EU by the end of 2017, nearly €4.1 billion in health costs could have been saved.²⁶

VW is not the only car company producing vehicles that have emitted far higher than certification limits in real-world driving conditions. In May 2017, the United States filed a complaint against Fiat Chrysler alleging the company installed defeat devices to cheat on federal emissions test procedures in violation of the Clean Air Act (CAA).²⁷ Researchers believe it is likely that other diesel manufacturers have cheated on emissions testing.²⁸ If there is not an effective regulatory system in place to hold future automakers accountable and keep emissions within legal limits, the harms to public health and our environment will only continue to grow.

C. *An Argument for Continued Success in the United States*

“Rolling back” the United States’ existing regulations for the emissions of new light-duty diesel motor vehicles will result in a structure that is far too

Controlled, *supra* note 21.

²² United States’ Amended Complaint, *supra* note 21; *Nitrogen Oxides (NOx), Why and How They Are Controlled*, *supra* note 21.

²³ Anenberg et al., *supra* note 17; Minjares & Schultz, *supra* note 20; *see also Nitrogen Oxides (NOx), Why and How They Are Controlled*, *supra* note 21.

²⁴ Chossiere et al., *supra* note 10, at 11.

²⁵ *Id.* at 10. Based on the value of the Euro in 2015. *Id.*

²⁶ *Id.* at 9. Based on the value of the Euro in 2015. *Id.*

²⁷ Currently, the United States is in an enforcement proceeding with Fiat Chrysler. Press Release, Dep’t of Justice, United States Files Complaint Against Fiat Chrysler Automobiles for Alleged Clean Air Act Violations (May 23, 2017), <https://www.justice.gov/opa/pr/united-states-files-complaint-against-fiat-chrysler-automobiles-alleged-clean-air-act> [hereinafter DOJ Press Release].

²⁸ Press Release, Mass. Inst. of Tech., Study: Volkswagen’s Excess Emissions Will Lead to 1,200 Premature Deaths in Europe (Mar. 3, 2017), https://www.eurekaalert.org/pub_releases/2017-03/miot-sve030217.php. Steven Barrett, a co-author for a recently published study on Volkswagen diesel emissions, warned that “it seems unlikely that Volkswagen is the only company with issues with excess emissions We don’t know if other manufacturers have these defeat devices, but there is already evidence that many other vehicles in practice emit more than the applicable test-stand limit value. So we’re trying to do this for all diesel vehicles.” *Id.*

flexible to support any strong enforcement response against potential future violators. By comparing the U.S. and Germany's separate responses to the VW emissions cheating scandal, this Comment demonstrates the serious potential harm of eliminating existing U.S. regulations to be more flexible and thus more amenable to industry. Currently, the EPA is strong enough not only to hold violators responsible, but also to deter other automakers from following in VW's footsteps. Meanwhile, Germany's regulatory body for vehicle emissions, the Kraftfahrt-Bundesamt (KBA), lacks enough leverage to keep its own manufacturer in line and enforce emissions standards for the vehicles it approves.

While this Comment argues that the United States has a far stronger approach to regulating emissions from light-duty diesel vehicles than Germany, the U.S. approach is not perfect. Because emissions test parameters are public knowledge,²⁹ automakers can design their emissions control devices "to the test."³⁰ For example, the VW "eco-diesel" family of vehicles had a software device that controlled emissions to the legal limits for the first thirty minutes that the vehicle ran but then gradually stopped working as the engine continued to run.³¹ This is likely because the federal emissions testing procedure used in the United States is approximately twenty minutes long, thus providing an opportunity for VW to evade notice of its practices for seven years.³²

Additionally, compliance assurance testing of emissions from vehicles that have been approved by EPA may be improved using Portable Emissions Measurement Systems (PEMS).³³ PEMS are devices placed on the tailpipes of vehicles to monitoring the real-time emissions from the vehicle in everyday driving.³⁴ These systems can gather a large amount of data on a wide variety of vehicles to analyze any overall discrepancies in the emissions that vehicles may have.³⁵ A federal PEMS program may have the potential to gather even more data and aid in discovering potential emissions issues nationwide.

²⁹ Control of Air Pollution from Mobile Sources, 40 C.F.R. § 86.127-00 (1977).

³⁰ Contag et al., *supra* note 8, at 1.

³¹ *Id.*

³² Control of Air Pollution from Mobile Sources, 40 C.F.R. § 86 App. I (1977).

³³ PEMS (Portable Emissions Measurement System), Science Inventory Library, EPA.GOV, https://cfpub.epa.gov/si/si_public_record_Report.cfm?dirEntryId=72469 (last visited Oct. 14, 2018).

³⁴ Marina Kousoulidou et al., *Use of Portable Emissions Measurement Systems (PEMS) for the Development and Validation of Passenger Car Emission Factors*, 64 *ATMOSPHERIC ENV'T* 329, 329 (2013).

³⁵ *See generally Id.* Some states, like Colorado, began testing out PEMS on their roads to determine if a wide-spread system will be possible. *See, e.g.,* Colo. Dept. of Pub. Health & the Env't, Final Draft, Guidelines for State-Only Required Continuous Monitoring Systems in the State of Colorado (2005) at 13, https://www.colorado.gov/pacific/sites/default/files/AP_Continuous-Monitoring-System-Guidelines.pdf.

Before improvements like PEMS can be entertained, the current vehicle emissions regulations must remain in place. There cannot be any progress in this area of regulatory and administrative law if the United States reverts to a system like that of Germany's in which there is effectively no emissions regulation of automakers. In a time of "regulatory backlash," and attempts by the Trump Administration to "roll-back" environmental regulations,³⁶ this Comment will focus on the benefits of preserving the regulatory system that is in place today.

This Comment proceeds in three parts. Part I discusses the VW emissions cheating scandal in detail—how the automaker fooled regulatory agencies world-wide to cheat emissions tests and both the United States' and Germany's widely different responses. Part II explores the development of vehicle emission regulation in both countries and the major differences in their regulatory systems and highlights the tools that the United States has at its disposal. Part III then argues that Germany's regulatory structure is ineffective because it must compete with other European countries for automaker business. Because the United States is not similarly situated, it should not compromise its strong vehicle emission regulatory structure. This could risk the loss of those regulatory tools that helped it hold VW accountable for harming the environment and public health. This Comment concludes that it is in the United States' best interest not to "roll-back" regulations that have proven effective over more flexible approaches.

I. "A CAMPAIGN OF TRICKERY": THE VW EMISSIONS CHEATING SCANDAL

The discrepancy between the emissions of new motor vehicles in federal testing and emissions in real-world driving entered the public awareness with the revelation of VW's "Dieselgate" scandal in 2015—VW's "campaign of trickery."³⁷ VW admitted to violating the Clean Air Act (CAA) by installing devices in approximately eleven million light-duty diesel vehicles world-wide.³⁸ These devices detected when the vehicles were undergoing emissions tests or experiencing conditions like those in emissions tests.³⁹ During certification test cycles the devices would control emissions but stopped working under real-

³⁶ Davenport, *supra* note 2; Dennis & Eilperin, *supra* note 3 ("Candidate Donald Trump vowed to get rid of the Environmental Protection Agency 'in almost every form,' leaving only 'little tidbits' intact."); *see also* Simon, *supra* note 3.

³⁷ Jack Ewing, *Inside VW's Campaign of Trickery*, N.Y. TIMES (May 6, 2017), <https://www.nytimes.com/2017/05/06/business/inside-vws-campaign-of-trickery.html>; Whoriskey et al., *supra* note 6.

³⁸ Gates et al., *supra* note 8.

³⁹ Notice of Violation, *supra* note 7; Whoriskey et al., *supra* note 6.

world driving conditions.⁴⁰ While the vehicles met emissions standards during certification tests, under real-world driving conditions, the same vehicles emitted up to forty times the threshold emission limits for NOx.⁴¹

The deception was discovered in 2013 when a team of researchers at West Virginia University (WVU), working with a grant from the ICCT, conducted studies of “eco-diesel” vehicles sold in the United States to determine if the cars emitted the same amount of Nox in real-world driving as in the federal emissions tests conducted before certification.⁴² The WVU team found that two VW vehicles in the study emitted far more Nox than the threshold limits allowed—sparking further investigation by both California Air Resources Board (CARB) and the EPA.⁴³

Both regulatory bodies re-tested the VW “eco-diesel” vehicles, using supplementary real-world driving tests that used different driving conditions than the tests previously performed, and confirmed the WVU lab’s findings.⁴⁴ In response, VW recalled thousands of diesel vehicles in the United States, claiming that a simple software update could fix the emissions issues.⁴⁵ Meanwhile, EPA and CARB requested additional information from the company, but VW provided false and misleading information to both regulatory bodies and destroyed thousands of potentially incriminating documents.⁴⁶ EPA threatened to withhold certification of Model Year (MY) 2016 vehicles if VW did not comply in the investigation—prompting VW to admit to equipping eleven million of its “eco-diesel” vehicles with defeat devices and cheating on emissions tests for nearly seven years.⁴⁷

Despite a world-wide scandal, United States and Germany responded very differently to the revelation of the emissions cheating. In the U.S., the EPA issued a notice of violation in September 2015—publicizing the scandal and

⁴⁰ Gates et al., *supra* note 8.

⁴¹ *Id.*

⁴² Jack Ewing, *Engineering a Deception: What Led to Volkswagen’s Diesel Scandal*, N.Y. TIMES (Mar. 16, 2017), https://www.nytimes.com/interactive/2017/business/volkswagen-diesel-emissions-timeline.html?_r=1.

⁴³ GREGORY J. THOMPSON ET AL., W. VA. UNIV. CTR. FOR ALT. FUELS, ENGINES, & EMISSIONS, FINAL REPORT: IN-USE EMISSIONS TESTING OF LIGHT-DUTY DIESEL VEHICLES IN THE UNITED STATES (2014), https://www.theicct.org/sites/default/files/publications/WVU_LDDV_in-use_ICCT_Report_Final_may2014.pdf.

⁴⁴ Ewing, *supra* note 43.

⁴⁵ *Id.*

⁴⁶ *Id.*

⁴⁷ *Id.*

initiating the enforcement process in the United States.⁴⁸ However, in Europe, VW argued—and continues to argue—that it did not violate EU or German law, despite its admission of guilt to U.S. regulators.⁴⁹

Following the notice of violation in the U.S., both the United States and individual consumers filed suit against VW.⁵⁰ Individuals that had purchased the affected vehicles joined together in a class action to receive a \$14.7 billion settlement.⁵¹ Class members harmed by purchasing or leasing an affected vehicle had two options in their remedy in addition to a restitution payment: the consumer could elect to either have VW “buy-back” the vehicle or submit the vehicle to VW to have appropriate fixes to the software made.⁵² VW agreed to pay an additional \$1.3 billion in a consumer settlement for another model of affected vehicles.⁵³ In contrast, there is no class action system for individual complaints in Germany.⁵⁴ Thus, the remedy primarily available for individuals in Germany is a software fix in the emissions control system that VW claims will bring the Nox emissions within EU threshold levels.⁵⁵

The United States also filed a separate complaint against VW for Clean Air Act violations and conspiring to defraud the U.S. Government.⁵⁶ VW reached a settlement with the U.S. DOJ in which it agreed to plead guilty to the alleged

⁴⁸ Notice of Violation, *supra* note 7.

⁴⁹ Danny Hakim, *VW Admits Cheating in the U.S., but Not in Europe*, N.Y. TIMES (Jan. 21, 2016), <https://www.nytimes.com/2016/01/22/business/international/vw-admits-cheating-in-the-us-but-not-in-europe.html>. See Tarsa, *supra* note 11, at 331 (arguing that Volkswagen has violated EU law in addition to U.S. law).

⁵⁰ Consolidated Consumer Class Action Complaint, *In re: Volkswagen “Clean Diesel” Marketing, Sales Practices, and Products Liability Litigation*, No. 1230 (N.D. Cal. Feb. 22, 2016) MDL 2672 CRB (JSC) [hereinafter Consumer Class Action Complaint].

⁵¹ Amended Order Granting Preliminary Approval of Settlement (2.0 Liter Vehicles), *In re: Volkswagen “Clean Diesel” Marketing, Sales Practices, and Products Liability Litigation*, No. 1698 (N.D. Cal. July 29, 2016) MDL No. 2672 CRB (JSC) [hereinafter 2.0 L Settlement]. See also Executive Summary of Final Class Settlement Program (2.0 Liter Vehicles), *In re: Volkswagen “Clean Diesel” MDL* (N.D. Cal. 2016) MDL No. 2672 CRB (JSC), <http://www.cand.uscourts.gov/crb/vwmdl/final-settlement-2-Liter> (last visited Dec. 21, 2017) [hereinafter 2.0 L Settlement Executive Summary]. Rule 11 Plea Agreement, *supra* note 13. Volkswagen Press Release, *supra* note 13.

⁵² 2.0 L Settlement, *supra* note 52, at 5–6. See also 2.0 L Settlement Executive Summary, *supra* note 52, at 2.

⁵³ Order Granting Final Approval of the Consumer and Reseller Dealership 3.0 – Liter Class Action Settlement at 13, *In re: Volkswagen “Clean Diesel” Marketing, Sales Practices, and Products Liability Litigation*, No. 3229 (N.D. Cal. May 17, 2017) MDL No. 2672 CRB (JSC) [hereinafter 3.0 L Settlement]. See also Executive Summary of Final Class Settlement Program for 3.0 Liter Engines, *In Re: Volkswagen “Clean Diesel” MDL*, <http://www.cand.uscourts.gov/vwmdl/final-settlement-3-liter> (last visited Dec. 21, 2017) [hereinafter 3.0 L Settlement Executive Summary].

⁵⁴ Ewing, *supra* note 5.

⁵⁵ *Id.*

⁵⁶ United States’ Amended Complaint, *supra* note 21, at 2.

charges and to pay an additional \$4.3 billion fine.⁵⁷ Additionally, the U.S. has separately indicted former executives of VW for criminal conspiracy charges.⁵⁸

In Germany, the KBA has a practice of not filing a complaint against VW, and the German government itself has a harder time acting against the company.⁵⁹ German prosecutors have said that they believe individuals at the company took part in the scandal but have only recently begun to act on these statements.⁶⁰ VW maintains that it has not violated any German or European law and that any wrongdoing can be attributed to rogue low-level employees and not to the company or its executives.⁶¹ While the United States acted rapidly to initiate an enforcement action against VW, Germany sought to remedy the environmental harms and held a “diesel summit” during which VW presented another software fix as a solution for the “eco-diesel” vehicles sold in Europe.⁶² Germany’s hesitance to hold VW accountable has not gone unnoticed. The EU has initiated infringement procedures against Germany for failing to hold VW accountable.⁶³ Additionally, an environmental non-governmental organization in Germany, Deutsche Umwelthilfe (DUH) filed suit against KBA for its failure to adequately respond to the scandal.⁶⁴ Following this pressure from the EU and

⁵⁷ Rule 11 Plea Agreement, *supra* note 13, at 13; Volkswagen Press Release, *supra* note 13.

⁵⁸ Rule 11 Plea Agreement, *supra* note 13; Ewing, *supra* note 43.

⁵⁹ Tarsa, *supra* note 11, at 338. See Barbara Lewis & Kirstin Ridley, *Facing U.S. Storm, VW Set for Easier Ride in Europe on Emissions Scandal*, REUTERS (Jan. 9, 2016), <https://www.reuters.com/article/us-volkswagen-emissions-fine/facing-u-s-storm-vw-set-for-easier-ride-in-europe-on-emissions-scandal-idUSKBN0UN0A920160109> (noting circumstances that may cause Volkswagen to face reduced backlash in Germany).

⁶⁰ Jack Ewing, *Former VW Engine Chief Arrested, Signaling Widening Emissions Case*, N.Y. TIMES (Sept. 28, 2017), <https://www.nytimes.com/2017/09/28/business/volkswagen-diesel-cheating.html?rref=collection%2Fbyline%2Fjack-ewing>. Jack Ewing, *Ex-Volkswagen Chief Investigated by Germany in Emissions Cheating Scandal*, N.Y. TIMES (Jan. 27, 2017), <https://www.nytimes.com/2017/01/27/business/volkswagen-germany-winterkorn-diesel-emissions.html>. See generally, Ewing, *supra* note 43.

⁶¹ Jack Ewing, Alexandra Stevenson, and Matthew Goldstein, *Ex-VW Chief knew of Diesel Scheme Years Earlier Than He Admitted*, S.E.C. SAYS, N.Y. TIMES (Mar. 15, 2019) (Volkswagen’s position was that “the plot to deceive American regulators about the exhaust levels of the company’s diesel vehicles was entirely the work of lower-level employees, and that...top managers only learned of its shortly before the [EPA] publicly accused [VW] of carrying it out in September 15.”), <https://www.nytimes.com/2019/03/15/business/volkswagen-winterkorn-sec-fraud.html>; see also Ewing, *supra* note 5 (VW originally stated in response to German customer requests for civil action that, “our view is that there is no legal basis for customer claims.”); Tarsa, *supra* note 11.

⁶² Janosch Delcker & Joshua Posaner, *3 Takeaways from Germany’s Diesel Summit*, POLITICO (Aug. 2, 2017), <https://www.politico.eu/article/3-takeaways-from-germanys-diesel-summit/>; Melissa Eddy & Jack Ewing, *As Europe Sours on Diesel, Germany Fights to Save It*, N.Y. TIMES (Aug. 2, 2017), <https://www.nytimes.com/2017/08/02/business/energy-environment/germany-diesel-car-emissions.html>.

⁶³ European Commission Press Release IP/16/4214, The Comm’n, *Car Emissions: Commission Opens Infringement Procedures Against 7 Member States for Breach of EU Rules* (Dec. 8, 2016) [hereinafter *Infringement Procedures* Press Release].

⁶⁴ *DUH Sues the KBA over Its Handling of the Emissions Scandal as BUND Calls for a Diesel Sales Ban*,

from the example set in the United States, Germany finally penalized the carmaker nearly three years after the scandal was discovered.⁶⁵

II. HOW DID WE GET HERE? THE REGULATION OF VEHICLE EMISSIONS IN THE UNITED STATES AND GERMANY

Vehicle emissions regulations in the United States and Germany is markedly different with respect to the relationship the countries have with their vehicle manufacturing industries. Although both countries have regulatory structures that allow for direct communication between industries and regulators, the German regulations are more flexible while the United States' regulations are far more concrete. This section discusses both countries' development of regulatory agencies to combat vehicle emissions, statutory structures of vehicle emissions control, processes for approving new motor vehicles, post-approval testing of light-duty diesel vehicles, and enforcement mechanisms triggered when violation of those regulations are discovered.

A. *The Development of Agencies to Regulate Vehicle Emissions*

In the United States, emission regulation for new motor vehicles began in the early 1960s in California as a response to growing concern over environmental and public health harms caused by air pollution.⁶⁶ "Smog episodes," which caused burning eyes and lungs as well as nausea, plagued Los Angeles; experts determined that limiting emissions from vehicles could improve the terrible air quality.⁶⁷ California responded by forming the California Motor Vehicle Pollution Control Board, which approved exhaust control devices and set emissions standards starting with MY 1966 vehicles.⁶⁸

Amidst growing pressure from the States and President Johnson to implement similar nation-wide limits on automobile emissions, the U.S. Congress passed the Clean Air and Solid Waste Amendments of 1965.⁶⁹ The purpose of the amendments was to establish uniformity among vehicle emission

AUTOVISTA GRP. (Mar. 27, 2017), <https://www.autovistagroup.com/news-and-insights/duh-sues-kba-over-its-handling-emissions-scandal-bund-calls-diesel-sales-ban>. Deutsche Umwelthilfe translates to "German Environmental Action." *Id.*

⁶⁵ Charles Riley, *Germany Fines Volkswagen \$1.2 Billion over Diesel Scandal*, CNN MONEY (June 13, 2018, 1:11 PM ET), <https://money.cnn.com/2018/06/13/investing/volkswagen-fine-germany/index.html>.

⁶⁶ *Auto Pollution, Waste Disposal Act Passed*, in CQ ALMANAC 780–86 (21st ed., 1965).

⁶⁷ *History*, CALIFORNIA AIR RESOURCES BOARD (2017), <https://ww2.arb.ca.gov/about/history>.

⁶⁸ *Auto Pollution, Waste Disposal Act Passed*, *supra* note 67; Christopher Brestel, *The California Motor Vehicle Pollution Control Law*, 50 CALIF. L. REV. 121, 122 (1962).

⁶⁹ *Auto Pollution, Waste Disposal Act Passed*, *supra* note 67.

controls by barring any new motor vehicle from entering the market unless it “is in conformity with [Clean Air Act] regulations.”⁷⁰ Emission control technology already existed, but hearings in the House and the Senate noted that manufacturers would not implement emissions controls unless ordered to do so by the federal government.⁷¹ To meet these purposes, the Department of Health Education and Welfare (HEW), now the EPA, created testing methods and emissions standards to ensure that new motor vehicles would be equipped with effective emissions controls.⁷²

Today, the EPA is the regulatory body that promulgates all federal emissions regulations and approves all new motor vehicles for sale in the United States. CARB, through a special carve-out provision in the CAA, also sets standards and tests vehicles for sale in California.⁷³ Both the EPA and CARB have maintained consistent missions to protect the public health and the environment since their creation.⁷⁴

In contrast, in 1951, Germany developed its vehicle emissions regulatory body, the KBA, with the main purpose of regulating safety and traffic.⁷⁵ The KBA controlled the issuance of drivers’ licenses, kept a registration of vehicle titles, and created a points system for violations of traffic laws.⁷⁶ Following in the footsteps of U.S. emissions control, some EU member states, such as Germany and France, began adopting legislation on vehicle emissions and type-approvals of new motor vehicles in 1970.⁷⁷

⁷⁰ S. REP. NO. 89-192, at 1–2 (1965).

⁷¹ *Clean Air and Solid Waste Amendments of 1965: Hearings Before a Special Subcommittee on Air and Water Pollution of the Committee on Public Works Senate*, 89 Cong. 1-10 (1965) (letter from Anthony J. Calabrezze, Secretary of Department of Health, Education, and Welfare to Hon. Pat McNamara, Chairman, Committee on Public Works, Senate); *Clean Air and Solid Waste Amendments of 1965: Hearings Before a Special Subcommittee on Air and Water Pollution of the Committee on Public Works Senate*, 89 Cong. 1-10 (1965) (letter from Anthony J. Calabrezze, Secretary of Department of Health, Education, and Welfare to Hon. Edmund S. Muskie, Chairman of the Subcommittee on Air and Water Pollution, Public Works Committee, Senate).

⁷² *Auto Pollution, Waste Disposal Act Passed*, *supra* note 67.

⁷³ Clean Air Act, 42 U.S.C. § 7543(d) (1955).

⁷⁴ CALIFORNIA AIR RESOURCES BOARD, *supra* note 68; *About EPA: Our Mission and What We Do*, U.S. EPA (last updated Mar. 28, 2017), <https://www.epa.gov/aboutepa/our-mission-and-what-we-do> [hereinafter EPA Mission].

⁷⁵ *Looking Back: Chronology*, KRAFTFAHRT-BUNDESAMT, (last updated Jan. 1, 2017), https://www.kba.de/EN/DasKBA_en/Rueckblick_en/Zeittafel_en/zeittafel_inhalt_en.html?nn=642842 (translated from German) [hereinafter *Looking Back*].

⁷⁶ *Id.*

⁷⁷ *Comparative Study on the Differences Between the EU and US Legislation on Emissions in the Automotive Sector*, at 23, Study IP/A/EMIS/2016-2, PE 587.331 (Dec. 2016) [hereinafter *Comparative Study*].

The EU was concerned not with ensuring uniform regulation of emissions from new motor vehicles, but rather with the fact that individual state type-approval systems could potentially “hinder the establishment and proper functioning of the common market.”⁷⁸ In other words, the EU sought to prevent the enabling of individual states to control their internal vehicle market by approving their own manufacturers’ new vehicles and not those of manufacturers from other Member States.⁷⁹ In 1970, the EU predecessor,⁸⁰ consisting of only Germany and five other Member States at the time, adopted Directive 70/220⁸¹ to ensure “free circulation of vehicles in the European market.”⁸² This provision requires a manufacturer only to have a vehicle approved by one Member States in order to sell that vehicle in all Member States of the EU, putting regulatory bodies among Member States in competition with one another.⁸³

The EU did not set any emissions standards for light-duty diesel vehicles until 1992 with the passage of EURO 1.⁸⁴ Although the EU sets emissions standards for all its member states, the states maintain their own regulatory bodies to oversee type-approval processes and emissions standards for new motor vehicles.⁸⁵ There have been six levels of EU emissions standards so far, with the most recent set of standards for new light-duty diesel vehicle emissions, EURO 6, issued in September 2014.⁸⁶

Within Germany, the KBA now regulates the type-approval of new motor vehicles in addition to its longstanding authority over traffic and vehicle safety.⁸⁷ While the scope of the KBA’s control has increased, the predominant purpose of that regulatory body remains traffic safety rather than the protection of the public health and natural environment.⁸⁸

⁷⁸ Council Directive 70/220/EEC, 1970 O.J. SPEC. ED. (L 76/1) (EC).

⁷⁹ *Comparative Study*, *supra* note 78.

⁸⁰ At this time, the EU went by several other names, such as the European Economic Community (EEC). *The History of the European Union*, European Union, https://europa.eu/european-union/about-eu/history_en (last accessed April 2, 2019). For simplicity, this Comment refers to the “EU” rather than its previous names.

⁸¹ Council Directive 70/220/EEC, *supra* note 79.

⁸² *Comparative Study*, *supra* note 78, at 12.

⁸³ Council Directive 70/220/EEC, *supra* note 79.

⁸⁴ *Comparative Study*, *supra* note 78, at 14.

⁸⁵ *Id.* at 32.

⁸⁶ *Id.* at 21.

⁸⁷ *Type-approval Issuing*, KRAFTFAHRT-BUNDESAMT (last visited Sept. 17, 2017), https://www.kba.de/EN/Typgenehmigung_en/Typgenehmigung_en/Typgenehmigungserteilung_en/typgenehmigungserteilung_no_de_en.html.

⁸⁸ *Comparative Study*, *supra* note 78, at 23; *Looking Back*, *supra* note 76.

B. *Statutory Structure of Vehicle Emissions Control*

To market and sell a new motor vehicle in the United States, a manufacturer must obtain approval by the EPA with a certificate of conformity that indicates the vehicle complies with both federal environmental law set in the CAA and agency regulations.⁸⁹ The CAA authorizes the EPA to promulgate regulations that set emissions standards as well as requirements for approval of new motor vehicles, confirmatory testing, and post-approval enforcement for violations of the CAA.⁹⁰ Emissions standards for new light-duty diesel vehicles from 2004 to 2017 were the “Tier 2” standards.⁹¹ New, more stringent, “Tier 3” standards took effect in early 2017.⁹² EPA regulations set requirements for the certification process and describe the test cycles performed on vehicles submitted for approval in 40 C.F.R. Part 86, Subpart B.⁹³

The CAA sets out prohibited acts under Section 203, including provisions prohibiting tampering with and negatively affecting the emissions control systems within motor vehicles under 203(a)(3)(A) and (B).⁹⁴ The enforcement measures and penalties for violating the prohibited acts of Section 203 are set out in Sections 204 and 205, respectively.⁹⁵ The EPA has promulgated rules to further regulate the new light-duty diesel certification process (40 C.F.R. 86)⁹⁶ and created a recall procedure for vehicles that violate these requirements (40 C.F.R. 85).⁹⁷

In Germany, emissions from new motor vehicles are both broadly regulated by EU policy directives and more specifically set through KBA oversight.⁹⁸ Through the European framework, Member States set and implement more specific approval procedures for certifying new light-duty diesel vehicles to enter commerce in compliance with EU directives.⁹⁹ Within this system, new

⁸⁹ Clean Air Act, 42 U.S.C. §7525(a) (1977).

⁹⁰ *Id.*

⁹¹ 40 C.F.R. § 86.1811-04 (2000) (“Tier 2 standards”).

⁹² *Id.* 40 C.F.R. § 86.1811-04 (2016) (“Tier 3 standards”).

⁹³ 40 C.F.R. § 86.101-166-17 (1977).

⁹⁴ Clean Air Act, 42 U.S.C. § 7522 (2013).

⁹⁵ Clean Air Act, 42 U.S.C. §§ 7523, 7524 (2013).

⁹⁶ 40 C.F.R. §§ 86.101–66-12 (1977).

⁹⁷ 40 C.F.R. §§ 85.1801–08 (1974).

⁹⁸ *Comparative Study*, *supra* note 78, at 35.

⁹⁹ Council Directive 2007/46, 2007 O.J. (L 263) 1, 7–8 (EC); *Air Pollution from the Main Sources - Air Emissions from Road Vehicles*, EUROPEAN COMM’N, <http://ec.europa.eu/environment/air/sources/road.htm> (last visited Sept. 26, 2018).

light-duty diesel vehicles only need to be approved in one Member State of the EU to be approved for sale in all other EU Member States.¹⁰⁰

The common legal framework in the EU for type-approval of cars and other vehicles is EU Directive 2007/46/EC.¹⁰¹ Euro 6 (715/2007/EC) sets the emission limits for cars for regulated pollutants, particularly NOx.¹⁰² Regulation 692/2008/EC implements and amends the 715/2007/EC on new light-duty diesel vehicles.¹⁰³ The EU may sue member countries in an infringement procedure for failure to comply with these directives when approving new vehicles to enter commerce.¹⁰⁴

While the EU sets broader policy, it relies on Member States, like Germany, to set more detailed requirements for new motor vehicles.¹⁰⁵ The principal law for emission control from new vehicles is the Federal Emission Control Act (*Bundes-Immissionsschutzgesetz*) (BImSchG).¹⁰⁶ However, there is no principal environmental regulator in Germany.¹⁰⁷ Individual states within Germany tend to carry out day-to-day responsibilities.¹⁰⁸ The Federal Environmental Agency (*Umweltbundesamt*) (UBA) only has limited regulatory authority over emission trading.¹⁰⁹ However, the Federal Motor Transport Authority (*Kraftfahrt-Bundesamt*) (KBA) has the authority to approve vehicle types and parts, monitor testing of motor vehicles, and “accompan[y] recall actions made by manufacturers of vehicles and vehicle parts.”¹¹⁰ The KBA also has its own type-approval requirements and testing procedure separate from the UBA.¹¹¹

¹⁰⁰ Council Directive 2007/46, art. 6, 2007 O.J. (L 263) 1, 8 (EC); Council Directive 70/220, 1970 O.J. (L 76/1) 171, 172 (EC).

¹⁰¹ Council Directive 2007/46, 2007 O.J. (L 263) 1, 1 (EC).

¹⁰² Council Directive 715/2007, 2007 O.J. (L 171) 1, 1 (EC).

¹⁰³ Council Directive 692/2008, 2008 O.J. (L 199) 1, 1 (EC). The European Commission has stated that it will implement a new testing procedure for vehicles called the Real Driving Emissions test procedure (RDE) starting in September 2017. Press Release, European Comm’n Testing of Emissions from Cars (May 4, 2018), http://europa.eu/rapid/press-release_MEMO-18-3646_en.pdf.

¹⁰⁴ *Infringement Procedure*, EUROPEAN COMM’N (2017), https://ec.europa.eu/info/law/law-making-process/overview-law-making-process/applying-eu-law/monitoring-implementation-eu-directives/infringement-procedure_en.

¹⁰⁵ *Comparative Study*, *supra* note 78, at 23.

¹⁰⁶ David Elshorst & Amrei Fuder, *Environmental Law and Practice in Germany: Overview*, Westlaw: Practical Law (Aug. 1, 2015), [https://content.next.westlaw.com/4-503-0486?transitionType=Default&contextData=\(sc.Default\)&__lrTS=20170510140044708&firstPage=true&bhcp=1](https://content.next.westlaw.com/4-503-0486?transitionType=Default&contextData=(sc.Default)&__lrTS=20170510140044708&firstPage=true&bhcp=1).

¹⁰⁷ *Id.*

¹⁰⁸ *Id.*

¹⁰⁹ *Id.*

¹¹⁰ Kraftfahrt-Bundesamt (KBA) - Federal Motor Transport Authority, KRAFTFAHRT-BUNDESAMT, https://www.kba.de/EN/Home/home_node.html (last visited Sept. 17, 2018).

¹¹¹ *Information Sheet on Approvals for “New Technologies or Concepts”*, KRAFTFAHRT-BUNDESAMT (June 2011), https://www.kba.de/EN/Typgenehmigung_en/Zum_Herunterladen_en/

C. Approval of New Motor Vehicles

In the United States, a vehicle manufacturer must submit an application to the EPA that provides a description of the vehicle model, a list of any auxiliary emissions control devices (AECDs) that are within the vehicle and may alter its emissions, and justifications for including those AECDs.¹¹² Additionally, the manufacturer submits emissions data from its own testing on the new model.¹¹³ Because vehicle manufacturers generally issue new model year versions of a vehicle for each fiscal year, these applications are submitted annually, and the information contained within those applications cannot rely on past approvals for earlier model years of the same vehicle family.¹¹⁴ The EPA then evaluates the information in the application and verify the emissions data the manufacturer submits through its own emissions tests.¹¹⁵ The EPA then makes the test results and emissions data for certified vehicles publicly available.¹¹⁶

In Germany, KBA approval of a new motor vehicle allows for its sale not only in Germany but also throughout the entire European Union.¹¹⁷ In fact, European manufacturers often choose to send applications for type-approval for component parts of vehicles to Luxembourg, and then submit whole vehicle type-approval (WVTA) applications to Germany's KBA—a method which is often favored due to a common belief that those regulatory bodies are more amenable to manufacturers.¹¹⁸

In Germany, only one test vehicle is required for approval applications to be the representative of all possible configurations of a vehicle for type-approval.¹¹⁹ In effect, the vehicle tested and approved in Germany may not actually be sold.¹²⁰ Additionally, applications for approval do not need to be made

ErteilungTypgenehmigungen_en/mtk_2011_07_pdf_en.pdf?__blob=publicationFile&v=4; see also Elshorst & Fuder, *supra* note 107; KRAFTFAHRT-BUNDESAMT, *supra* note 111.

¹¹² *Certification and Fuel Economy for Light-Duty Passenger Cars and Trucks*, U.S. EPA (last updated Dec. 8, 2017) (citing Application for Certification, Control of Air Pollution from Mobile Sources, 40 C.F.R. § 86 (1977)), <https://www.epa.gov/vehicle-and-engine-certification/certification-and-fuel-economy-light-duty-passenger-cars-and-trucks> [hereinafter *Certification for Light-Duty Trucks*].

¹¹³ Application for Certification, Control of Air Pollution from Mobile Sources, 40 C.F.R. § 86 (1977).

¹¹⁴ *Comparative Study*, *supra* note 78, at 32.

¹¹⁵ *Certification for Light-Duty Trucks*, *supra* note 113.

¹¹⁶ Clean Air Act, 42 U.S.C. § 7525(e) (2013); 40 C.F.R. 2.301(d) (1976).

¹¹⁷ Council Directive 2007/46, 2007 O.J. (L 263) 1, 14–15 (EC); see also *Type-Approval Issuing*, KRAFTFAHRT-BUNDESAMT, https://www.kba.de/EN/Typgenehmigung_en/Typgenehmigung_en/Typgenehmigungserteilung_en/typgenehmigungserteilung_node_en.html (last visited Sept. 17, 2017).

¹¹⁸ *Comparative Study*, *supra* note 78, at 34.

¹¹⁹ A single test vehicle can be sufficient to represent numerous engine sizes and even models of the same vehicle. *Comparative Study*, *supra* note 78, at 33–34.

¹²⁰ *Id.* at 34.

annually—a manufacturer can rely on past approvals for earlier model year versions of a vehicle to sell new model years without applying for approval again.¹²¹

In its application, the manufacturer submits the data from emissions tests it has completed on the test vehicle itself.¹²² The KBA does not have to re-test the vehicle to ensure conformity with the results presented by the manufacturer.¹²³ Rather, it will do an “initial assessment” where it will inspect the premises of the manufacturer to determine that there are measures in place to ensure quality control.¹²⁴ Approval may be granted simply because the manufacturer has demonstrated that there is a “quality-management system . . . in place.”¹²⁵ Even if the KBA decides to conduct its own emissions tests, the results are not made public because they are protected as competitive information.¹²⁶

D. Post-approval Compliance Assurance

The United States and Germany differ drastically in whether and how their regulatory bodies continue to communicate with vehicle manufacturers after a vehicle has been approved for sale. There are two key differences in the compliance measures that both countries utilize: continued on-road compliance testing and market surveillance testing.

In the United States, both manufacturers and the EPA conduct on-road testing of vehicles after they have been issued a certificate of conformity.¹²⁷ Manufacturers are required to complete compliance testing for an approved vehicle after it has reached 10,000 miles and then again at 50,000 miles.¹²⁸ The EPA also completes on-road testing at 20,000 miles and at 90,000 miles.¹²⁹ Both

¹²¹ *Id.*; STRABENVERKEHRS-ZULASSUNGS-ORDNUNG [STVZO] [ROAD TRAFFIC LICENSING REGULATIONS], § 19, para. 2, https://www.gesetze-im-internet.de/stvzo_2012/_19.html (“The vehicle’s type-approval, if not expressly withdrawn, shall remain in effect until its final decommissioning. It expires when (1) the vehicle type approved in the type-approval is changed, (2) danger to road users is to be expected, or (3) the exhaust or noise behavior is deteriorated.”). The translation is provided by GOOGLE TRANSLATE, <https://translate.google.com> (last visited Mar. 27, 2019).

¹²² *Type Approval*, KRAFTFAHRT-BUNDESAMT, https://www.kba.de/EN/Typgenehmigung_en/Zum_Herunterladen_en/zum_Herunterladen_node_en.html (last visited Oct. 27, 2017).

¹²³ *Comparative Study*, *supra* note 78, at 32.

¹²⁴ *Id.* at 36.

¹²⁵ *Id.*

¹²⁶ *Id.* at 35; *Vehicle Emissions Testing in the European Union, Fact Sheet: Europe*, INT’L COUNCIL ON CLEAN TRANSP. 2 (June 2016), https://www.theicct.org/sites/default/files/ICCT_facts_EU-emissions-testing_jun2016.pdf.

¹²⁷ Clean Air Act, 42 U.S.C. § 7525(a) (1977).

¹²⁸ *Comparative Study*, *supra* note 78, at 39; Clean Air Act, 42 U.S.C. § 7525(a) (1977).

¹²⁹ *Comparative Study*, *supra* note 78, at 39.

groups thus continue to communicate results with each other about the emissions and long-term performance of approved vehicles.¹³⁰

Additionally, states conduct market surveillance testing.¹³¹ Depending on the state, additional inspection and maintenance requirements are imposed on vehicles.¹³² For example, in Georgia, emissions testing is required for state registration purposes.¹³³ For California and other states that adopt CARB standards, vehicles are legally mandated to have an on-board diagnostics system (OBD).¹³⁴ This is an operating system on a vehicle that alerts drivers of any problems that the vehicle may be having—whether it is a failure of an emissions control device or a tire that needs more air.¹³⁵

In the EU and Germany, there are far fewer post-approval requirements for vehicles. In the EU, post-approval compliance testing is required up to five years after approval or when the vehicle has reached 100,000 kilometers, whichever comes first.¹³⁶ The testing performed does not need to be under real-world driving conditions for light duty vehicles, although it is required for heavy duty vehicles.¹³⁷ But, because the results of these tests are not published, it is unclear whether Member State regulatory bodies and manufacturers are completing these post-approval tests.¹³⁸

If there is any testing performed post-approval, it is because vehicle manufacturers voluntarily commissioned it themselves.¹³⁹ There is no independent testing conducted by either EU or German regulatory bodies;¹⁴⁰ either manufacturers or third-party labs conduct additional on-road emissions tests.¹⁴¹

¹³⁰ *Id.*

¹³¹ *Id.*

¹³² *Id.* at 48.

¹³³ *View an Overview of Emissions Testing*, GA. CLEAN AIR FORCE, <http://www.cleanairforce.com/motorists/emissions-testing/> (last visited Oct. 27, 2017).

¹³⁴ *On-Board Diagnostics (OBD) Program*, CAL. AIR RES. BD., <https://www.arb.ca.gov/msprog/obdprog/obdprog.htm> (last visited Jan. 28, 2018).

¹³⁵ David Sosnowski & Edward Gardetto, *Performing Onboard Diagnostic System Checks as Part of a Vehicle Inspection and Maintenance Program*, U.S. EPA, Report No. EPA420-R-01-015 (June 2001); *What is OBD?*, OBD SOLUTIONS, <http://www.obdsol.com/knowledgebase/on-board-diagnostics/what-is-obd>.

¹³⁶ Council Directive 715/2007, art. 4, 2007 O.J. (L 171) 6 (EC).

¹³⁷ *Comparative Study*, *supra* note 78, at 37.

¹³⁸ *Id.*

¹³⁹ Peter Mock & John German, *White Paper on The Future of Vehicle Emissions Testing and Compliance*, INT'L COUNCIL ON CLEAN TRANSP. (ICCT) at 12–13 (Nov. 2015), https://www.theicct.org/sites/default/files/publications/ICCT_future-vehicle-testing_20151123.pdf.

¹⁴⁰ *See id.* at 13.

¹⁴¹ *Id.* at 12.

The EU leaves it to Member States to determine additional requirements for a market surveillance program that will comply with broad EU policy mandates.¹⁴² However, in practice most state programs for post-approval market surveillance have been discontinued.¹⁴³ The most recent form of any market surveillance data gathering was an *ad hoc* investigation of VW light-duty diesel vehicles.¹⁴⁴ Germany conducted this surveillance only after the United States had initiated enforcement actions against VW for its emissions cheating scandal.¹⁴⁵ Currently, Member States, including Germany, remain reluctant to maintain regular market surveillance programs in place to gather on-road emissions data as a preventative measure.¹⁴⁶

E. Enforcement Mechanisms Available Upon Finding Emissions Violations

The availability of enforcement actions in the event of a violation of environmental law by a vehicle manufacturer is wildly different between the United States and Germany. In the United States, recourse for violations comes in several forms: agency enforcement, civil and criminal claims brought by the U.S. government, citizen-suits, and private consumer claims.¹⁴⁷

If the EPA finds a manufacturer's vehicle to be non-compliant, the CAA requires the agency to issue a recall of those vehicles.¹⁴⁸ Additionally, the EPA can withdraw its certification of conformity for a previously-approved vehicle and withhold certification for new model years of that vehicle that present the same problems.¹⁴⁹ Withholding or removing certification can cause the manufacturer to lose a significant amount of revenue from potential U.S. sales, so this can be a powerful tool to engage a non-compliant manufacturer in assisting the EPA to remedy harms done.¹⁵⁰

¹⁴² *Comparative Study*, *supra* note 78, at 37–38.

¹⁴³ *Id.* at 37–38.

¹⁴⁴ *Id.* at 38–39.

¹⁴⁵ *Id.* at 49.

¹⁴⁶ *Id.* at 38–39.

¹⁴⁷ *Infra*, nn. 149–162 and accompanying text.

¹⁴⁸ See 42 U.S.C. § 7541 (2013).

¹⁴⁹ 42 U.S.C. § 7525(b)(2)(A)(i) (2013).

¹⁵⁰ See, e.g., Ryan Beene & Jamie Butters, *Fiat Chrysler Can Resume Sales of Diesel Jeeps, Rams, in U.S.*, BLOOMBERG (July 28, 2017, 11:41 AM), <https://www.bloomberg.com/news/articles/2017-07-28/flat-chrysler-gets-approval-to-sell-diesel-jeeps-rams-in-u-s> (“The [E.P.A. and CARB] had withheld certification that emissions-control software on the vehicles complied with clean-air standards after finding violations in earlier models.”); Vlasic & Kessler, *supra* note 5 (“VW made the admission only when the Environmental Protection Agency took the extraordinary action of threatening to withhold approval for the company’s 2016 Volkswagen and Audi diesel models”).

The EPA may also initiate an enforcement action with the manufacturer.¹⁵¹ To begin this process, the EPA sends a notice of violation to the manufacturer that has allegedly violated environmental law and regulations.¹⁵² This opens a line of dialogue between the manufacturer and the EPA to determine how best to remedy the alleged harms caused.¹⁵³ If the manufacturer does not adequately work with EPA to remedy the harms alleged, the EPA refers the case to the U.S. Department of Justice (DOJ).

The DOJ will generally first seek to work cooperatively with the defendant to achieve a negotiated resolution in the form of a consent decree.¹⁵⁴ However, if this fails, the DOJ may use its prosecutorial discretion, after considering the litigation risks, to decide whether to litigate the matter in federal district court.¹⁵⁵ Additionally, it may bring criminal claims for some violations of environmental law.¹⁵⁶ If a large manufacturer allegedly conspired with other manufacturers to cheat emissions tests, the DOJ can bring a conspiracy claim.¹⁵⁷

Even if the U.S. government fails to sue for environmental law violations, a private person can bring a citizen-suit to enforce the CAA.¹⁵⁸ Private plaintiffs can file complaints against the manufacturer for personal harms. For example, individual consumers that purchase vehicles that are CAA non-compliant can file suit for the personal harms caused by purchasing a vehicle they believed would comply with emissions regulations. These private plaintiffs can join to form a class action.¹⁵⁹

¹⁵¹ See 42 U.S.C. § 7523 (2013); Recall Regulations, 40 C.F.R. §§ 85.1801–08 (1974).

¹⁵² See, e.g., Notice of Violation, *supra* note 7.

¹⁵³ See, e.g., *id.*

¹⁵⁴ See U.S. DEP'T OF JUSTICE, JUSTICE MANUAL § 5-12.530 (2018). The DOJ will generally attempt to reach a negotiated resolution with the defendant...but will maintain an action parallel to settlement negotiations to induce active participation from the defendant. *Id.* The DOJ will seek public comment for thirty days on any proposed judgment reached through settlement negotiations. 28 C.F.R. § 50.7 (1973). After the public comment period ends, and all the comments are considered, the DOJ will move to enter the consent decree by filing a motion to enter stating that the consent decree is fair, reasonable, and in the public interest. See U.S. DEP'T OF JUSTICE, JUSTICE MANUAL § 5-12.620 (2018).

¹⁵⁵ *Comparative Study*, *supra* note 78, at 62; *Basic Information on Enforcement*, U.S. EPA, <https://www.epa.gov/enforcement/enforcement-basic-information> (last visited Sept. 10, 2018).

¹⁵⁶ *Basic Information on Enforcement*, *supra* note 156.

¹⁵⁷ Cf. Adam Goldman, Hiroko Tabuchi & Jack Ewing, *F.B.I. Arrests Volkswagen Executive on Conspiracy Charge in Emissions Scandal*, N.Y. TIMES (Jan. 9, 2017), <https://www.nytimes.com/2017/01/09/business/volkswagen-diesel-emissions-investigation-settlement.html>.

¹⁵⁸ Citizen Suits, 42 U.S.C. § 7604 (1955).

¹⁵⁹ Consumer Class Action Complaint, *supra* note 51.

Sometimes, the class action of private plaintiffs can join in a multi-district litigation (MDL) with the United States.¹⁶⁰ This mechanism has benefits for both those bringing claims and the manufacturer at issue. Those bringing claims may, through consolidated discovery, use the technical expertise brought by the EPA and the United States as well as the data that EPA has amassed through its rigorous approval and compliance testing.¹⁶¹ The manufacturer may benefit by avoiding potentially inconsistent outcomes from multiple small actions across the country.¹⁶²

Meanwhile, in Germany, there are far fewer options for remedying harms caused from vehicle manufacturers violating German and EU environmental law. The KBA may withdraw the type-approval for a vehicle found to no longer follow emissions limits.¹⁶³ But in this case, this was not done.¹⁶⁴ Because a manufacturer may take their business elsewhere for EU type-approval, there is pressure on the KBA to keep the manufacturer's business.¹⁶⁵ Withdrawing a type-approval may be perceived as the State agency failing in its job rather than as a recourse for violations.¹⁶⁶ Compounding these difficulties, the KBA appeared to lack the express authority to initiate a recall of vehicles.¹⁶⁷ Rather, KBA stated that it may "accompany" a recall that has been initiated by the manufacturer, making it unlikely to happen.¹⁶⁸ However, after mounting global

¹⁶⁰ Multidistrict Litigation, 28 U.S.C. § 1407 (1968).

¹⁶¹ David F. Herr, Ann. Manual Complex Lit. § 20.14 (4th ed. 2018) ("Judges should encourage techniques that coordinate discovery and avoid duplication. . . Relevant discovery already completed should ordinarily be made available to litigants in the other cases."); *see also*, Michael Sant'Ambrogio & Adam S. Zimmerman, Inside the Agency Class Action, 126 ULJ 1634, 1644–45 (April 2017) (In a case studies of various agency-initiated aggregate litigation, a noted benefit is the pooling of information and securing of expert assistance.).

¹⁶² Linda S. Mullenix, *Ending Class Actions as We Know Them: Rethinking the American Class Action*, 64 EMORY L.J. 399, 427 n.112, 416 (2014). Of course, there can be some negatives to a class action for a defendant. The cost of being liable increases dramatically and some believe that it is harder for a defendant to succeed in a federal class action. Sullivan, Floyd, Freer, & Clary, COMPLEX LITIGATION, 131–32 (2d ed. 2014).

¹⁶³ *Comparative Study*, *supra* note 78, at 50.

¹⁶⁴ *Cf. id.* at 50.

¹⁶⁵ *See* Council Directive 2007/46, 2007 O.J. (L 263) (EC).

¹⁶⁶ *Comparative Study*, *supra* note 78, at 49.

¹⁶⁷ Kraftfahrt-Bundesamt (KBA) - Federal Motor Transport Authority, KRAFTFAHRT-BUNDESAMT, https://www.kba.de/EN/Home/home_node.html (last visited April 3, 2019) (KBA's website states that it "accompanies recall actions by manufacturers of vehicles and vehicle parts."); Recalls, Kraftfahrt-Bundesamt (KBA) - Federal Motor Transport Authority, KRAFTFAHRT-BUNDESAMT, https://www.kba.de/EN/Marktueberwachung_en/Rueckrufe_en/rueckrufe_node_en.html (last visited April 3, 2019) ("Recalls are carried out by manufacturers to be able to eliminate product faults."). *See also Information Sheet on Approvals for "New Technologies or Concepts"*, KRAFTFAHRT-BUNDESAMT (June 2011), https://www.kba.de/EN/Typgenehmigung_en/Zum_Herunterladen_en/ErteilungTypgenehmigungen_en/mtk_2011_07_pdf_en.pdf?_blob=publicationFile&v=4.

¹⁶⁸ Kraftfahrt-Bundesamt (KBA) - Federal Motor Transport Authority, KRAFTFAHRT-BUNDESAMT, https://www.kba.de/EN/Home/home_node.html (last visited April 3, 2019) (KBA's website states that it

pressure to address the Volkswagen emissions scandal, KBA initiated a recall of un-retrofitted affected VW diesels for the first time in June 2018—three years after the admission of fault in the U.S.¹⁶⁹ This recall applied to consumers that did not get their vehicle repaired—not to the entire fleet of affected cars.¹⁷⁰

Additionally, because of the flexible approval mechanisms for type-approval in the EU and the lack of defined penalties for violations, it is difficult for a Member State to file civil claims against an allegedly violating manufacturer.¹⁷¹ There is no precedent for Germany filing such a claim in its federal courts.¹⁷² States of Germany may bring claims against a manufacturer, but no action has been taken with respect to environmental harms at the national level.¹⁷³ If a German state files a claim, the action tends to be an investor suit alleging harm relating to its holdings in a manufacturer whose stock has decreased due to ongoing litigation in another country.¹⁷⁴

As with withdrawing type-approval, there is both economic and political pressure on Germany not to file a civil claim against a vehicle manufacturer. VW employs 750,000 people in Germany,¹⁷⁵ and its sales make up a large percentage of the country's revenue.¹⁷⁶ The states of Germany are themselves

"accompanies recall actions by manufacturers of vehicles and vehicle parts."); Recalls, Kraftfahrt-Bundesamt (KBA)—Federal Motor Transport Authority, KRAFTFAHRT-BUNDESAMT, https://www.kba.de/EN/Marktueberwachung_en/Rueckrufe_en/rueckrufe_node_en.html (last visited April 3, 2019) ("Recalls are carried out by manufacturers to be able to eliminate product faults.")

¹⁶⁹ *Due to Lack of Retrofitting: First Diesel Forcibly Shut Down*, Automobilwoche (June 6, 2018), <https://www.automobilwoche.de/article/20180606/AGENTURMELDUNGEN/306069939/wegen-fehlender-nachruistung-erste-diesel-zwangsweise-stillgelegt> (last visited April 3, 2019) (Google translate). *See also*, David Jolley, *VW owners in Germany Risk De-Registration If They Don't Fix Cheat Vehicles*, Automotive News Europe (Aug. 16, 2018), <https://europe.autonews.com/article/20180816/ANE/180819891/vw-owners-in-germany-risk-de-registration-if-they-don-t-fix-cheat-diesels> (last visited April 3, 2019).

¹⁷⁰ *Due to Lack of Retrofitting: First Diesel Forcibly Shut Down*, Automobilwoche (June 6, 2018), <https://www.automobilwoche.de/article/20180606/AGENTURMELDUNGEN/306069939/wegen-fehlender-nachruistung-erste-diesel-zwangsweise-stillgelegt> (last visited April 3, 2019) (Google translate). *See also*, David Jolley, *VW owners in Germany Risk De-Registration If They Don't Fix Cheat Vehicles*, Automotive News Europe (Aug. 16, 2018), <https://europe.autonews.com/article/20180816/ANE/180819891/vw-owners-in-germany-risk-de-registration-if-they-don-t-fix-cheat-diesels> (last visited April 3, 2019).

¹⁷¹ Lewis & Ridley, *supra* note 60.

¹⁷² *Id.*

¹⁷³ *German States of Hesse, Baden-Wuerttemberg Sue VW over Dieselgate*, REUTERS (Sept. 16, 2016) <https://www.reuters.com/article/us-volkswagen-emissions-litigation/german-states-of-hesse-baden-wuerttemberg-sue-vw-over-dieselgate> [hereinafter *German States Sue*]; Patrick McGee, *German Court Clears Way for Investors to Sue Volkswagen*, FINANCIAL TIMES (Aug. 8, 2016), <https://www.ft.com/content/30f9f0d2-5d86-11e6-a72a-bd4bf1198c63>.

¹⁷⁴ *See, e.g., German States Sue*, *supra* note 174; McGee, *supra* note 174.

¹⁷⁵ Lewis & Ridley, *supra* note 60.

¹⁷⁶ Alanna Petroff, *What Volkswagen Means to the German Economy*, CNN MONEY (Sept. 23, 2015, 8:00 AM), <http://money.cnn.com/2015/09/22/news/economy/volkswagen-germany-cars-economy/index.html>.

large shareholders in the company, and many of the country's top political leaders have business ties to the manufacturer as well.¹⁷⁷ Given these strong incentives towards maintaining VW's viability and profitability, one of the few legal recourses available in Germany is for one of its states to sue a manufacturer for misrepresentation, fraud, or conspiracy.¹⁷⁸

There is little oversight on the part of the EU to ensure states are enforcing environmental law, but the EU may commence infringement procedures against Germany itself for failing to uphold environmental law.¹⁷⁹ This is rare and can be defended easily due to broad language in the EU Environmental Policy Directives.¹⁸⁰ For example, VW has argued that it is not guilty in Europe for the same emissions violations to which it pleaded guilty in the United States because the language in EU policy directives is much more ambiguous.¹⁸¹

Individuals are also left with little recourse for environmental and personal harms. Unlike in the United States, there is no citizen-suit provision in German environmental law to allow a private person to bring a federal environmental claim.¹⁸² Individual plaintiffs cannot form a class action for personal tort claims against a vehicle manufacturer either.¹⁸³ This results in far fewer claims against alleged violators of environmental harms because the litigation costs of bringing a claim as an individual consumer plaintiff is so high.¹⁸⁴

¹⁷⁷ Ewing, *supra* note 11; Jack Ewing, *Volkswagen Avoids Effort to Beef Up Oversight in German State Election*, N.Y. TIMES (Oct. 15, 2017), <https://www.nytimes.com/2017/10/15/business/volkswagen-germany-election.html?rref=collection%2Fbyline%2Fjack-ewing> (“The state of Lower Saxony owns a [twenty] percent stake in Volkswagen, and the party in power has a strong say over company strategy.”).

¹⁷⁸ Ewing, *Ex-Volkswagen Chief Investigated by Germany in Emissions Cheating Scandal*, *supra* note 61. While a criminal prosecution can happen, the action cannot be brought for violations of environmental law. *Comparative Study*, *supra* note 78, at 70–71.

¹⁷⁹ *Infringement Procedure*, *supra* note 105; Infringement Procedures Press Release, *supra* note 64.

¹⁸⁰ Tarsa, *supra* note 11, at 338.

¹⁸¹ *Id.*

¹⁸² Ewing, *supra* note 5.

¹⁸³ *Id.*

¹⁸⁴ Wright & Miller, *History and Purpose of the Class Action*, 7A Fed. Prac. & Proc. Civ. § 1751 (3d ed. 2018) (“The obvious advantage of the representative suit was that it was far cheaper and more convenient to maintain a single proceeding in equity than to adjudicate the controversy in piecemeal fashion by multiple actions at law.”). Such costs may be of obtaining multiple expert witnesses—on vehicle emissions devices, software programming of such devices, and vehicle emissions capture, retaining legal counsel for what may be years of legal battle, and to attain the resources it may take to mount a battle that could possibly meet the resources of the defendant, a massive worldwide corporation. *See, e.g.*, David Shepardson, *U.S. Lawyers Suing Volkswagen Get \$300 Million in Fees, Costs*, REUTERS (July 21, 2017), <https://www.reuters.com/article/us-volkswagen-emissions/u-s-lawyers-suing-volkswagen-get-300-million-in-fees-costs-idUSKBN1A62HE> (last visited April 3, 2019).

III. DON'T FIX IT: AN ARGUMENT FOR CONTINUING SUCCESSFUL VEHICLE EMISSION REGULATIONS IN THE UNITED STATES

The marked difference between U.S. and German responses to the VW emission cheating scandal illustrates the ineffectiveness of Germany's flexible environmental regulations. As it stands, the United States has a clear federal regulatory structure that both provides directives for industry to follow as well as administrative and individual means of recourse for violations of those directives. Because of this regulatory structure, both the U.S. government and classes of American consumers have been able not only to file claims against VW for its violations, but also to receive a significant settlement amount in response to those violations. Meanwhile, Germany has yet to initiate any meaningful response to VW's admitted violations due to its more flexible regulatory scheme.

Germany is in a race to the bottom with other EU Member States in which it must compete for vehicle manufacturer business by lowering its own approval standards. The United States is not in this race. This Comment proposes that (1) the United States has no reason to lower its standards to that of Germany when it is not in competition for vehicle manufacturer business, and (2) there are concrete examples of how the United States' vehicle emission regulations have proved robust and effective in its response to the VW emissions cheating scandal.

A. *A Race to the Bottom Is Not a Competition the United States Wants to Win*

Vehicle emissions regulation in the United States is so effective because the EPA does not have to compete with any other regulatory bodies for vehicle manufacturers' business.¹⁸⁵ Rather, it stands as the gatekeeper for manufacturers to bring new vehicles into the large U.S. market.¹⁸⁶ Congress intended the EPA to have the power to uniformly ban any new motor vehicles that are not in compliance with federal environmental law, so the EPA is granted deference in the realm of vehicle emissions regulation and new motor vehicle approval.¹⁸⁷

¹⁸⁵ See Testing and Issuance of Certificate of Conformity, Motor Vehicle and Motor Vehicle Engine Compliance Testing and Certification, CAA, 42 U.S.C. § 7525(a) (1977); Vlasic & Kessler, *supra* note 5. *Contra* Council Directive 2007/46, *supra* note 102.

¹⁸⁶ See Testing and Issuance of Certificate of Conformity, Motor Vehicle and Motor Vehicle Engine Compliance Testing and Certification, CAA, 42 U.S.C. § 7525(a) (1977).

¹⁸⁷ S. Rpt. 89-192, at 1-2 (1965); *Clean Air and Solid Waste Amendments of 1965: Hearings before a Special Subcommittee on Air and Water Pollution of the Committee on Public Works Senate*, 89 Cong. 1-10 (1965) (letter from Anthony J. Calabrezze, Secretary of HEW to Hon. Pat McNamara, Chairman, Committee on Public Works, Senate), at 9-12; *Clean Air and Solid Waste Amendments of 1965: Hearings before a Special*

The EPA's exclusive authority created a long-standing relationship between the EPA and manufacturers and has established a clear separation between regulator and regulated.¹⁸⁸ Both manufacturers and the EPA generally know what is expected of them in the emissions certification process, so there is little room for ambiguity or arguments over loopholes in permissible emissions controls.¹⁸⁹ This relationship not only has fostered consistent standards, but also has created accountability for manufacturers that wish to conduct business within the United States.¹⁹⁰

In the United States, manufacturers have no choice but to comply with the clear regulations set by the EPA so that they may sell their vehicles in the U.S. market.¹⁹¹ It is this single regulatory pathway that provided the EPA enough strength not only to obtain compliance with VW in investigating the emissions cheating scandal, but even to obtain an admission of guilt.¹⁹² The EPA utilized its powerful position to threaten to withhold certification of model year 2016 VW eco-diesel vehicles unless the company complied in providing further information on the allegedly affected vehicles.¹⁹³ Not only did VW provide that information and open itself up to further investigation, but it also admitted to being guilty of cheating on the federal emissions tests and putting eleven million over-emitting vehicles on the road world-wide.¹⁹⁴

Subcommittee on Air and Water Pollution of the Committee on Public Works Senate, 89 Cong. 1-10 (1965) (letter from Anthony J. Calabrezze, Secretary of HEW to Hon. Edmund S. Muskie, Chairman of the Subcommittee on Air and Water Pollution, Public Works Committee, Senate), at 13.

¹⁸⁸ See generally EPA Mission, *supra* note 75; *Certification for Light-Duty Trucks*, *supra* note 113.

¹⁸⁹ See Prohibited Acts, Clean Air Act, 42 U.S.C. § 7522 (2013). Even if there is still some room for ambiguity, the U.S. EPA releases advisory-circulars to help fill-in the gaps. See U.S. EPA, Advisory Circular 24-3: Implementation of Requirements Prohibiting Defeat Devices for On-Highway Heavy-Duty Diesel Engines (Jan. 19, 2001); Danny Hakim & Claire Barthelemy, *VW's Emissions-Test Trickery May Not Be Illegal in Europe*, N.Y. TIMES (Nov. 11, 2015), http://www.nytimes.com/2015/11/12/business/international/vw-scandal-eu-emissions-tests.html?_r=0 (“[T]he settings of the engine and the engine controls shall be those prescribed by the manufacturer.”).

¹⁹⁰ Testing and Issuance of Certificate of Conformity, Motor Vehicle and Motor Vehicle Engine Compliance Testing and Certification, Clean Air Act, 42 U.S.C. § 7525(a) (1977); Actions to Restrain Violations, Clean Air Act, 42 U.S.C. § 7523 (2013). See Ewing, *Engineering a Deception: What Led to Volkswagen's Diesel Scandal*, *supra* note 43; Vlastic & Kessler, *supra* note 5 (“VW made the admission only when the [EPA] took the extraordinary action of threatening to withhold approval for the company's 2016 Volkswagen and Audi diesel models . . .”).

¹⁹¹ Actions to Restrain Violations, Clean Air Act, 42 U.S.C. § 7523 (2013); see Vlastic & Kessler, *supra* note 5.

¹⁹² Vlastic & Kessler, *supra* note 5.

¹⁹³ *Id.*; Ewing, *supra* note 43.

¹⁹⁴ Ewing, *supra* note 43; Hakim & Barthelemy, *supra* note 190; Vlastic & Kessler, *supra* note 5.

Meanwhile, in the EU, forum-shopping for a Member State's approval resulted in a race to the bottom that Germany has won.¹⁹⁵ Manufacturers can shop around for a regulatory body that is most amenable to their needs.¹⁹⁶ Because state regulators are competing to gain a manufacturer's business, there is far less emphasis on maintaining strict rules and regulations; instead, Member States have become so amenable to industry that the regulators cannot truly regulate.¹⁹⁷

The purpose of this structure is primarily to protect the common market¹⁹⁸—not to protect the environment or public health, as in the United States.¹⁹⁹ The state agencies are purposefully placed in competition with one another to protect a manufacturer's ability to sell vehicles in all EU Member States.²⁰⁰ Instead of developing regulations that will better air quality, the KBA develops regulations that will help it attract industry.²⁰¹ Consequently, Germany has garnered a reputation as one of the most lenient Member States from which to obtain emissions approval.²⁰²

The prize for reaching the bottom is a state regulator that is so dependent on a domestic manufacturer's business²⁰³ that it cannot hold it accountable for clear and obvious harms to human health and the environment.²⁰⁴ The KBA must attract manufacturers, and a major way to do so is to leave regulations ambiguous and to defer to manufacturers to set the standard rather than the agency itself.²⁰⁵ This leaves the KBA subject to the interests of manufacturers—especially domestic manufacturers like VW.²⁰⁶ VW is one of the country's

¹⁹⁵ *Comparative Study*, *supra* note 78, at 34.

¹⁹⁶ Council Directive 2007/46, *supra* note 102, at 1, 2, 7, 19.

¹⁹⁷ Hakim & Barthelemy, *supra* note 190; Lewis & Ridley, *supra* note 60.

¹⁹⁸ *Comparative Study*, *supra* note 78, at 14, 23, 32, 62; Council Directive 70/220/EEC, *supra* note 79, at 171.

¹⁹⁹ EPA Mission, *supra* note 75.

²⁰⁰ *Comparative Study*, *supra* note 78, at 69, 70, 81.

²⁰¹ Elshorst & Fuder, *supra* note 107; *Type-Approval Issuing*, KRAFTFAHRT-BUNDESAMT, https://www.kba.de/EN/Typgenehmigung_en/Typgenehmigung_en/Typgenehmigungserteilung_en/typgenehmigungserteilung_node_en.html (last visited Sept. 17, 2017).

²⁰² *Comparative Study*, *supra* note 78, at 34.

²⁰³ Lewis & Ridley, *supra* note 60; Petroff, *supra* note 177.

²⁰⁴ See Anenberg et al., *supra* note 17; Chossiere et al., *supra* note 10; *Nitrogen Oxides (NOx), Why and How They Are Controlled*, *supra* note 21, at 1, 5, 8, 34.

²⁰⁵ *Type Approval*, KRAFTFAHRT-BUNDESAMT, https://www.kba.de/EN/Typgenehmigung_en/Zum_Herunterladen_en/zum_Herunterladen_node_en.html (last visited Oct. 27, 2017); Council Directive 2007/26, 2007 O.J. (L 263) (EC); *Comparative Study*, *supra* note 78, at 33–34; Lewis & Ridley, *supra* note 60.

²⁰⁶ See, e.g., Tarsa, *supra* note 11; see Lewis & Ridley, *supra* note 60; *Comparative Study*, *supra* note 78, at 61.

largest companies.²⁰⁷ Any sort of loss to VW—like the drop-in stock prices following the revelation of the emissions cheating crisis—is a loss to the German economy.²⁰⁸ This presents a conflict of interest for the KBA or German government as holding VW accountable—through any attempts at further regulation of the manufacturer—will result in harm to the country itself.²⁰⁹

In the United States, however, the EPA and U.S. government do not face this race to the bottom, thus have no real incentive to weaken the vehicle emissions regulations in place.²¹⁰ It is unsurprising that the United States could adequately respond to the VW emissions cheating scandal while Germany has yet to act.²¹¹ There is no need to change the regulatory approach that has proven effective in the United States to mimic that of countries, like Germany and other EU Member States, that are fighting a battle in which we are not competing. As further information surfaces regarding other automakers that may be cheating on emissions testing,²¹² the United States needs to remain a strong enforcer. The United States should not seek out the bottom—as Germany already has—for the sake of finding it, and it is not an enviable position when faced with a major scandal that has caused world-wide harm to both the environment and public health.²¹³

B. Already on Top: Two Examples of Regulatory Tools that the United States Used to Prevail in the VW Emissions Scandal

The United States' vehicle emission regulations provide effective tools for the EPA to respond to unprecedented violations such as the VW emissions cheating scandal. Meanwhile Germany's KBA has few means to ensure vehicles are not over-emitting nor to hold manufacturers that may violate environmental law accountable. The United States could adequately respond to VW because of two key regulatory tools: (1) post-approval compliance assurance measures to root out problems in vehicles on the road and (2) enforcement mechanisms upon the finding of a violation.

²⁰⁷ Lewis & Ridley, *supra* note 60.

²⁰⁸ Ewing, *supra* note 11; Lewis & Ridley, *supra* note 60.

²⁰⁹ Hakim, *supra* note 50; Lewis & Ridley, *supra* note 60.

²¹⁰ See *Certification for Light-Duty Trucks*, U.S. EPA, *supra* note 113; *Comparative Study*, *supra* note 78, at 36.

²¹¹ Hakim, *supra* note 50; Lewis & Ridley, *supra* note 60.

²¹² See DOJ Press Release, *supra* note 28.

²¹³ Chossiere et al., *supra* note 10; *Nitrogen Oxides (NOx), Why and How They Are Controlled*, *supra* note 21; Anenberg et al., *supra* note 17.

1. *Compliance Assurance Requirements in the United States Helped to Catch VW*

Compliance assurance requirements, like post-approval testing of vehicles by both the EPA and the manufacturer itself, continue to hold manufacturers accountable in the United States after the vehicles are sold.²¹⁴ Although there is always room for improvement in motor vehicle compliance assurance,²¹⁵ the tools that the United States employs to ensure continued emission compliance made it possible to catch VW.²¹⁶ Outside researchers, like the CAFEE scientists at WVU, may test vehicles on the market and provide their data to both bodies.²¹⁷ This functions as a safeguard so that possible violations that did not appear in standard federal emissions testing, like the modifications to the affected VW eco-diesel vehicles that cheated on federal emissions tests, may be found in real-world driving conditions.²¹⁸ State required tests and systems—like the required Onboard Diagnostic System for vehicles sold in California—are additional safeguards in the United States that continue monitoring vehicles on a consumer-level as well.²¹⁹ All these combined measures serve to make it extremely difficult to “cheat the system.”

This also maintains a strong line of communication between the EPA and manufacturers such that if potential violations are noticed, the two bodies may work together to determine not only the cause but also a solution. For example, in the VW emissions cheating scandal, the EPA received data from WVU

²¹⁴ *Certification for Light-Duty Trucks*, *supra* note 113; Motor vehicle and motor vehicle engine compliance testing and certification, Clean Air Act, 42 U.S.C. §7525(a) (1977). *See also Comparative Study*, *supra* note 78, at 36–37.

²¹⁵ *Supra* Introduction Subpart C.

²¹⁶ Motor vehicle and motor vehicle engine compliance testing and certification, Clean Air Act, 42 U.S.C. §7525(a) (1977).

²¹⁷ *Comparative Study*, *supra* note 78, at 39. *See generally*, THOMPSON ET AL., *supra* note 44.

²¹⁸ *Comparative Study*, *supra* note 78, at 39. *See generally* THOMPSON ET AL., *supra* note 44. There is a potential risk of third-party researching facilities conducting post-approval emissions testing for the benefit of manufacturers. For example, the New York Times recently reported that a study on the health effects of breathing in the emissions from a Volkswagen Golf was not only sponsored by Volkswagen itself, but also used a vehicle provided by Volkswagen that had a different emissions control device that performed far better than the actual vehicles Volkswagen went on to sell to consumers. Ewing, *supra* note 14. But, the vehicle used in that study was not a car that had been sold on the market but rather a separate test vehicle provided by the manufacturer. *Id.* The compliance assurance testing done by West Virginia University that first noticed the emissions problem utilized Volkswagen “eco-diesel” vehicles that were already on the market in the United States. THOMPSON ET AL., *supra* note 44.

²¹⁹ *See, e.g., On-Board Diagnostics (OBD) Program*, CALIFORNIA AIR RESOURCES BOARD, <https://www.arb.ca.gov/msprog/obdprog/obdprog.htm> (last visited Jan. 28, 2018); *see also* for an example of Georgia’s state emissions monitoring program, *An Overview of Emissions Testing*, GEORGIA’S CLEAN AIR FORCE, <http://www.cleanairforce.com/motorists/emissions-testing/> (last visited Oct. 27, 2017).

scientists that VW diesel vehicles were emitting higher than permissible levels.²²⁰ The EPA not only conducted its own testing of the vehicles, but also informed VW of the problem and began attempts at working together to determine the cause of the issue.²²¹ Although VW was not immediately forthcoming with information that may help EPA in remedying the environmental harm caused by the over-emitting vehicles,²²² EPA could use its post-approval testing power to determine that the vehicles were, in fact, in violation and to request further information from VW.²²³

In Germany, the communication between manufacturer and regulator is minimal and only lasts up until approval of the new vehicle in question.²²⁴ The minimal communication leaves a lot of ambiguity in what is expected of manufacturers and regulators when matters go awry and makes it nearly impossible to ensure compliance with existing regulations once the vehicle has been approved.²²⁵ This makes it far easier to let potentially illegal modifications to new vehicles fly under the radar.²²⁶ Although there is one required post-approval test,²²⁷ it does not have to be under any real-world driving conditions and the results do not have to be published.²²⁸ So, there is no accountability for either the manufacturers or the KBA to ensure that these tests are accurate and reflecting satisfactory emissions data.

The lack of communication results in the KBA deferring to the expertise of manufacturers and largely letting the manufacturer do what it wishes, creating a system in which there is only minimal work required on the part of the manufacturer to be approved and to also maintain approval from Germany.²²⁹ Thus, while in the United States researchers discovered over-emissions in the VW eco-diesel vehicles, and the EPA and CARB had initiated additional testing and solicited further information from VW, Germany had yet to uncover any evidence of over-emissions in the same vehicles sold within Europe.²³⁰

²²⁰ THOMPSON ET AL., *supra* note 45; Notice of Violation, *supra* note 7.

²²¹ Ewing, note 44.

²²² *Id.*

²²³ *Id.*

²²⁴ *Comparative Study*, *supra* note 78, at 32, 34.

²²⁵ *Id.*

²²⁶ *Id.*

²²⁷ Council Directive 715/2007, 2007 O.J. (L 171) (EC), Council Directive 692/2008, 2008 O.J. (L 199) (EC).

²²⁸ *Vehicle Emissions Testing in the European Union, Fact Sheet: Europe*, INTERNATIONAL COUNCIL ON CLEAN TRANSPORTATION (June 2016) at 2, https://www.theicct.org/sites/default/files/ICCT_facts_EU-emissions-testing_jun2016.pdf; *Comparative Study*, *supra* note 78, at 37.

²²⁹ *Comparative Study*, *supra* note 78, at 37.

²³⁰ Ewing, *supra* note 43.

The KBA most recently conducted post-market surveillance of VW eco-diesel vehicles only after the United States had already initiated enforcement proceedings against VW for emissions cheating.²³¹ This surveillance is rare—most of these programs have fallen to the way-side in Germany and other members of the EU.²³² Again, leaving the KBA and Germany ill-equipped to find any wrongdoing in the emergence of emission violations. The weak communication between manufacturer and regulator in Germany effectively nullifies the presence of a regulatory body—for an agency cannot regulate if it does not have the necessary information for which to do so.

2. *Enforcement Mechanisms Allowed Both the United States and Consumers to Hold VW Accountable*

Not only could the United States uncover the emissions cheating scandal, but it could also effectively hold VW accountable by utilizing enforcement mechanisms to reach a settlement agreement with the manufacturer.²³³ The United States and the EPA have a variety of enforcement tools at their disposal, such as filing claims for violating federal environmental law,²³⁴ initiating recalls of the affected vehicles,²³⁵ and holding individual actors responsible for criminal actions.²³⁶ Another enforcement mechanism lies with the consumers who can form a class action to file complaints against manufacturers for false advertising.²³⁷ These tools likely serve not only as a method of holding a manufacturer liable for its violations but also as a deterrent to all other vehicle manufacturers.²³⁸ It is high stakes to cheat on emissions in the United States—not only can sales in the United States be stopped,²³⁹ but there are also set penalties for violating the CAA.²⁴⁰ This creates an economic incentive to comply with environmental law in the United States because the cost of getting caught can outweigh any sort of benefits that cheating could provide.²⁴¹

²³¹ *Comparative Study*, *supra* note 78, at 38.

²³² *Id.*

²³³ Rule 11 Plea Agreement, *supra* note 13, at 7, 17–18.

²³⁴ *Comparative Study on the Differences Between the EU and US Legislation on Emissions in the Automotive Sector*, *supra* note 79, at 62; *Basic Information on Enforcement*, *supra* note 156.

²³⁵ 42 U.S.C. § 7523 (2013); 40 C.F.R. § 85.1803 (1974).

²³⁶ *Basic Information on Enforcement*, *supra* note 156.

²³⁷ *See e.g.*, Consumer Class Action Complaint, *supra* note 51, at 527.

²³⁸ *Comparative Study*, *supra* note 78, at 37.

²³⁹ *See e.g.*, Beene & Butters, *supra* note 151; Vlasic & Kessler, *supra* note 5.

²⁴⁰ 42 U.S.C. § 7523 (2013); 42 U.S.C. § 7524 (2013); 42 U.S.C. § 7525 (b)(2)(A)(i) (2013).

²⁴¹ *See e.g.*, Beene & Butters, *supra* note 151; Vlasic & Kessler, *supra* note 5.

In the VW matter, the EPA began by issuing a notice of violation to VW alleging that the manufacturer had cheated on federal emissions tests and threatened to withhold model year 16 approval unless VW cooperated.²⁴² The loss of sales even for one single model year in the United States is high and was enough to pressure VW to not only cooperate, but to fully admit guilt for over eleven million vehicles worldwide emitting far above threshold levels.²⁴³

Both the United States²⁴⁴ and U.S. consumers in class action lawsuits²⁴⁵ filed suit against VW for the environmental and public health harms caused by the additional nitrous oxide emitted by those vehicles as well as for leading American consumers to purchase the faulty “eco-diesel” vehicles believing that they were making a purchase that would emit less than other diesel vehicles on the market.²⁴⁶ In a groundbreaking settlement, VW agreed to pay nearly \$26 billion²⁴⁷ and to either buy-back or fix the vehicles owned by consumers in the class action.²⁴⁸

In Germany, VW has yet to face any serious consequences for its violations despite admitting guilt in the United States.²⁴⁹ So far, the only repercussions for the manufacturer in Germany have been some investor-suits for the loss in stock (an effect of the negative publicity for the scandal in the United States)²⁵⁰ and a diesel summit in which some broad promises have been made to fix some of the affected vehicles.²⁵¹ This is because Germany does little in the way of enforcement tools if a manufacturer has violated its emissions requirements.²⁵² The EU does not require Member States, like Germany, to impose any set penalties²⁵³ and in Germany, there are no class actions.²⁵⁴ Even if there were, it

²⁴² Notice of Violation, *supra* note 7, at 1, 4; Vlasic & Kessler, *supra* note 5.

²⁴³ Vlasic & Kessler, *supra* note 5; Whoriskey, et al., *supra* note 6.

²⁴⁴ United States’ Amended Complaint, *supra* note 21, at 8, 24.

²⁴⁵ Consumer Class Action Complaint, *supra* note 51, at 178–79.

²⁴⁶ Consumer Class Action Complaint, *supra* note 51, at 177; United States’ Amended Complaint, *supra* note 21, at 3.

²⁴⁷ Ewing, *supra* note 14 (“a global emissions scandal that has already forced Volkswagen to plead guilty to federal fraud and conspiracy charges in the United States and to pay more than \$26 billion in fines.”).

²⁴⁸ 2.0 L Settlement, *supra* note 52, at 5–6; *see also*; 3.0 L Settlement, *supra* note 54, at 6; 2.0 L Settlement Executive Summary, *supra* note 52; 3.0 L Settlement Executive Summary, *supra* note 54.

²⁴⁹ Tarsa, *supra* note 11, at 338; *see also* Lewis & Ridley, *supra* note 60.

²⁵⁰ *German States Sue*, *supra* note 174; McGee, *supra* note 174.

²⁵¹ Delcker & Posaner, *supra* note 63; Eddy & Ewing, *supra* note 63.

²⁵² Lewis & Ridley, *supra* note 60.

²⁵³ Tarsa, *supra* note 11, at 338. (“EU states are loath to penalize beleaguered companies, especially ones that embody vital national interests. There is a tacit EU rule that certain national interests are sacrosanct, and Germany’s auto industry historically has been considered one of them.”) (citing Lewis & Ridley, *supra* note 60).

²⁵⁴ Tarsa, *supra* note 11, at 318 (“German law does not permit class action lawsuits.”) (citing Patrick McGee, *VW Car Owners in EU Face Hard Quest for Compensation Over Scandal*, *Fin. Times* (Jan. 28, 2017),

is unlikely that Germany or the KBA would pursue any sort of action against VW because Germany depends so heavily on VW's business.²⁵⁵

Even in the face of such a clear-cut case of emissions cheating, Germany seems unwilling to act.²⁵⁶ This not only negatively affects the country and its citizens that have purchased the vehicles at issue in the past,²⁵⁷ but also further deepens the hole into which Germany has fallen in being an ineffective regulator of vehicle emissions.²⁵⁸ Its reputation as a country overly-deferential to major diesel manufacturers like VW will only continue to haunt it, especially as the European Union takes a stance against its inactivity.²⁵⁹ This is a reputation that the United States should not envy. The enforcement mechanisms in place serve to effectively deter manufacturers in the future from cheating and causing further environmental and public health harm from nitrous oxide. Preserving the already effective vehicle emission regulations will continue to set the stage for the United States to be a powerful actor in regulating air quality.

CONCLUSION

The threat to both human health and the environment from nitrous oxide emissions from both the VW "eco-diesel" vehicles as well as possibly other manufacturers is great and negative effects from the VW cheating scandal alone are serious. It is in the United States' best interest to continue to protect the public health and safety by ensuring vehicle emissions stay within their threshold limits. Germany's lack of response to the emissions cheating scandal serves as an example of a regulatory regime that the United States should not strive to achieve.

Not only are German regulators unable to hold VW accountable, but German consumers that have purchased the "eco-diesel" vehicles are left with little remedy other than a small software fix. Meanwhile, American owners of the same vehicles have received either a buy-back or a complete fix to their vehicles and the United States has obtained a large settlement agreement with the manufacturer. The United States has set the stage to not just hold VW accountable, but to send a message to all other manufacturers of light-duty diesel

<https://www.ft.com/content/0b9bffd2-e486-11e6-9645-c9357a75844a> (last visited April 3, 2019).

²⁵⁵ See discussion *supra* Part. IV. A. A Race to the Bottom is Not a Competition the U.S. Wants to Win.

²⁵⁶ Tarsa, *supra* note 11, at 326; see Lewis & Ridley, *supra* note 60.

²⁵⁷ Ewing, *supra* note 5.

²⁵⁸ See discussion *supra* Part. IV. A. A Race to the Bottom Is Not a Competition the U.S. Wants to Win.

²⁵⁹ Infringement Procedures Press Release, *supra* note 64.

vehicles to comply with United States vehicle emission regulations or else face massive economic losses and the public ire.

While there is no shortage of problems in U.S. environmental law, vehicle emissions regulations are not one of them. The United States should not seek out the poor position that Germany and the KBA hold. Germany has become completely deferential to its manufacturer because it must compete with other EU Member States for manufacturer business. This leaves the KBA weak and the German government unable to hold manufactures accountable without harming its own economy.

It is unsurprising, then, that the United States has a far more effective approach to regulating vehicle emissions and that it could be so successful in the fallout of the VW emissions cheating scandal while the German regulators have yet to act. The United States should continue its already effective approach to regulating vehicle emissions and should serve as an example to Germany and other Member States of the European Union of what a successful environmental regulator looks like. And, rather than weakening the current system in place, the United States should seek to improve other areas of environmental law to an extent that they may be as well-regulated as vehicle emissions are currently.

ALEXANDRIA E. PIERCE*

* J.D. Candidate 2019, Emory University School of Law; B.S.E. Chemical Engineering, 2016, The University of Michigan. The author would like to thank Professor Mindy Goldstein for her valuable insight and advice in the research and writing of this Comment. She would also like to thank Kathryn Pirrotta Caballero, Senior Attorney at the U.S. EPA Office of Civil Enforcement, Air Enforcement Division, for her mentorship and guidance.