

No. 24-1129 (and consolidated cases)

**UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

STATE OF NEBRASKA, et al.,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, et al.,

Respondents,

ALLIANCE OF NURSES FOR HEALTHY ENVIRONMENTS, et al.,

Intervenors.

On Petition for Review from the United States
Environmental Protection Agency
(No. EPA-HQ-OAR-2022-0985)

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CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

Pursuant to Circuit Rule 28, petitioners respectfully submit this Certificate as to Parties, Rulings, and Related Cases.

A. Parties

Petitioners in Case No. 24-1129 are the State of Nebraska; State of Alabama; State of Alaska; State of Arkansas; State of Florida; State of Georgia; State of Idaho; State of Indiana; State of Iowa; State of Kansas; Commonwealth of Kentucky; State of Louisiana; State of Mississippi; State of Missouri; State of Montana; State of Oklahoma; State of South Carolina; State of South Dakota; State of Tennessee; State of Texas; State of Utah; Commonwealth of Virginia; State of West Virginia; and State of Wyoming.

Petitioners in Case No. 24-1133 are Warren Petersen, President of the Arizona State Senate; Ben Toma, Speaker of the Arizona House of Representatives; and Arizona Trucking Association.

Petitioners in Case No. 24-1157 are Western States Trucking Association, Inc. and Construction Industry Air Quality Coalition, Inc.

Petitioners in Case No. 24-1207 are American Fuel & Petrochemical Manufacturers; California Asphalt Pavement Association; California Manufacturers & Technology Association; Consumer Energy Alliance; Domestic Energy Producers Alliance; Energy Marketers of America; International Association of Machinists and

Aerospace Workers Lodge No. 823; Louisiana Mid-Continent Oil & Gas Association; National Association of Convenience Stores; The Petroleum Alliance of Oklahoma; Texas Oil & Gas Association; and Western States Petroleum Association.

Petitioners in Case No. 24-1208 are the American Petroleum Institute; American Farm Bureau Federation; National Corn Growers Association; and Owners-Operator Independent Drivers Association.

Petitioners in Case No. 24-1209 are American Free Enterprise Chamber of Commerce; Diamond Alternative Energy, LLC; ICM, Inc.; Indiana Soybean Alliance; Iowa Soybean Association; Minnesota Soybean Growers Association; North Dakota Soybean Growers Association; Ohio Soybean Association; and South Dakota Soybean Association.

Petitioner in Case No. 24-1210 is Clean Fuels Alliance America.

Petitioner in Case No. 24-1214 is The Transport Project, also known as The Natural Gas Vehicle Coalition.

Respondents are Environmental Protection Agency and Michael S. Regan, in his official capacity as Administrator of the United States Environmental Protection Agency.

Intervenors on behalf of respondents are Alliance of Nurses for Healthy Environments; American Lung Association; American Public Health Association;

Appalachian Mountain Club; CALSTART; Center for Community Action and Environmental Justice; City and County of Denver; City of Chicago; City of Los Angeles; City of New York; Clean Air Council; Commonwealth of Massachusetts; Commonwealth of Pennsylvania; District of Columbia; Environmental Defense Fund; Environmental Law & Policy Center; Ford Motor Company; Natural Resources Defense Council, Inc.; Public Citizen; Rio Grande International Study Center; Sierra Club; State of Arizona; State of California; State of Colorado; State of Connecticut; State of Delaware; State of Hawaii; State of Illinois; State of Maine; State of Maryland; State of Michigan; State of Minnesota; State of New Jersey; State of New Mexico; State of New York; State of North Carolina; State of Oregon; State of Rhode Island; State of Vermont; State of Washington; State of Wisconsin; and Zero Emission Transportation Association.

B. Ruling Under Review.

Under review is the final action of the Administrator of the United States Environmental Protection Agency, entitled “Greenhouse Gas Emissions Standards for Heavy-Duty Vehicles—Phase 3,” published in the Federal Register at 89 Fed. Reg. 29,440 (Apr. 22, 2024).

C. Related Cases.

Seven consolidated cases in the United States Court of Appeals for the District of Columbia Circuit involve challenges to the agency action challenged here:

Petersen v. EPA, No. 24-1133; *Western States Trucking Ass’n, Inc. v. EPA*, No. 24-1157; *American Fuel & Petrochemical Manufacturers v. EPA*, No. 24-1207; *American Petroleum Institute v. EPA*, No. 24-1208; *American Free Enterprise Chamber of Commerce v. EPA*, No. 24-1209; *Clean Fuels Alliance America v. EPA*, No. 24-1210; and *The Transport Project v. EPA*, No. 24-1214.

CORPORATE DISCLOSURE STATEMENT

Pursuant to Federal Rule of Appellate Procedure 26.1 and D.C. Circuit Rule 26.1, petitioners make the following disclosures:

American Farm Bureau Federation (AFBF) was formed in 1919 and is the largest nonprofit general farm organization in the United States. Representing about six million member families in all fifty States and Puerto Rico, AFBF's members grow and raise every type of agricultural crop and commodity produced in the United States. AFBF's mission is to protect, promote, and represent the business, economic, social, and educational interests of American farmers and ranchers. To that end, AFBF regularly participates in litigation. AFBF has no parent entity, and no publicly held corporation has a 10% or greater ownership stake in AFBF.

American Free Enterprise Chamber of Commerce (AmFree) is a business league organization established in a manner consistent with Section 501(c)(6) of the Internal Revenue Code. It has no parent corporation, and no publicly held corporation has a 10% or greater ownership interest in AmFree.

American Fuel & Petrochemical Manufacturers (AFPM) is a national trade association that represents American refining and petrochemical companies. AFPM has no parent corporation, and no publicly held corporation has a 10% or greater ownership interest in AFPM.

American Petroleum Institute (API) is a national trade association that represents all segments of America's natural gas and oil industry, which supports more than 11 million U.S. jobs and is backed by a growing grassroots movement of millions of Americans. API's nearly 600 members produce, process, and distribute most of the Nation's energy, and participate in API Energy Excellence, which is accelerating environmental and safety progress by fostering new technologies and transparent reporting. API has no parent entity, and no publicly held corporation has a 10% or greater ownership stake in API.

Arizona Trucking Association is a trade association that represents its members before legislative, regulatory, and enforcement agencies as the trucking industry's primary voice in Arizona on transportation and other public policy and legal issues. The Arizona Trucking Association has no parent corporation, and no publicly held corporation has a 10% or greater ownership interest in the Arizona Trucking Association.

Ben Toma, Speaker of the Arizona House of Representatives is an elected official acting in his official capacity on behalf of the Arizona House of Representatives. Neither Speaker Toma nor the Arizona House of Representatives is a corporate entity, and thus a corporate disclosure statement is not required.

California Asphalt Pavement Association (CalAPA) is a nonprofit trade association established in 1953 that represents the asphalt pavement industry in

California, including asphalt producers, refiners, paving contractors, consultants, equipment manufacturers, and other companies that comprise the industry. CalAPA has no parent corporation, and no publicly held corporation owns 10% or more of its stock.

California Manufacturers & Technology Association (CMTA) is a nonprofit statewide trade association. Its members are companies engaged in the manufacturing and technology sectors in California who focus on improving and enhancing a strong business climate for California's manufacturing, processing, and technology-based companies. CMTA has no parent company, and no other entities have an ownership in, or voting control over CMTA.

Clean Fuels Alliance America (Clean Fuels) is the national trade association for the biomass-based diesel industry, and its mission is to advance the interests of its members by creating sustainable biodiesel and renewable diesel industry growth. Clean Fuels has no parent corporation, and no publicly held corporation has a 10% or greater ownership interest. It has not issued shares or debt securities to the public.

Construction Industry Air Quality Coalition, Inc. (CIAQC) is a nonprofit California trade association representing the interests of other California nonprofit trade associations and their members whose air emissions are regulated by California state, regional, and local regulations, as well as federal regulations. CIAQC has no

parent corporation, and no publicly held corporation has 10% or greater ownership in CIAQC.

Consumer Energy Alliance (CEA) is a nonpartisan, nonprofit organization advocating for balanced energy and environmental policies and responsible access to resources. CEA has no parent corporation, and no publicly held corporation has a 10% or greater ownership in CEA.

Diamond Alternative Energy, LLC is a wholly owned direct subsidiary of Valero Energy Corporation (Valero), a Delaware corporation whose common stock is publicly traded on the New York Stock Exchange under the ticker symbol VLO.

Domestic Energy Producers Alliance (DEPA) is a nonprofit, nonstock corporation organized under the laws of the state of Oklahoma. DEPA has no parent corporation, and no publicly held corporation owns 10 percent or more of its stock.

Energy Marketers of America (EMA) is a federation of 47 state and regional trade associations representing energy marketers throughout the United States. EMA, which is incorporated under the laws of the Commonwealth of Virginia, has no parent corporation, and no publicly held corporation has a 10% or greater ownership in EMA.

ICM, Inc. is a Kansas corporation that is a global leader in developing bio-refining capabilities, especially for the production of ethanol. It is a wholly owned

subsidiary of ICM Holdings, Inc., and no publicly held corporation has a 10% or greater ownership interest in ICM Holdings, Inc.

Indiana Soybean Alliance is an agricultural organization. It has no parent corporation, and no publicly held corporation has a 10% or greater ownership interest in it.

International Association of Machinists and Aerospace Workers Lodge No. 823 (IAMAW) is an unincorporated association and is a labor organization. IAMAW has no parent corporation, and no publicly held corporation has a 10% or greater ownership in IAMAW.

Iowa Soybean Association is an agricultural organization. It has no parent corporation, and no publicly held corporation has a 10% or greater ownership interest in it.

Louisiana Mid-Continent Oil & Gas Association (LMOGA) is a business association representing the interests of the oil and gas industry of the second largest oil producing and fourth largest gas producing state in the nation, Louisiana. The state ranks second in the nation in crude oil refining capacity. LMOGA has no parent company, and no publicly held corporation has a 10% or greater ownership in it.

Minnesota Soybean Growers Association is an agricultural organization. It has no parent corporation, and no publicly held corporation has a 10% or greater ownership interest in it.

National Association of Convenience Stores (NACS) is an international trade association that represents both the convenience and fuel retailing industries with more than 1,300 retail and 1,600 supplier company members. The United States convenience industry has more than 152,000 stores across the country, employs 2.74 million people, and had more than \$859 billion in sales in 2023, of which more than \$532 billion were fuel sales. NACS has no parent corporation, and no publicly held corporation has a 10% or greater ownership in NACS.

National Corn Growers Association (NCGA) is a national trade association that represents nearly 40,000 dues-paying corn growers and the interests of more than 300,000 farmers who contribute through corn checkoff programs in their states. NCGA and its 50 affiliated state associations and checkoff organizations work together to sustainably feed and fuel a growing world by creating and increasing opportunities for corn growers. NCGA has no parent entity, and no publicly held corporation has a 10% or greater ownership stake in NCGA.

North Dakota Soybean Growers Association is an agricultural organization. It has no parent corporation, and no publicly held corporation has a 10% or greater ownership interest in it.

Ohio Soybean Association is an agricultural organization. It has no parent corporation, and no publicly held corporation has a 10% or greater ownership interest in it.

Owners-Operator Independent Drivers Association (OOIDA) is the largest trade association representing the views of small-business truckers and professional truck drivers. OOIDA has more than 150,000 members located in all fifty states that collectively own and operate more than 240,000 individual heavy-duty trucks. OOIDA's mission is to promote and protect the interests of its members on any issues that might impact their economic well-being, working conditions, and the safe operation of commercial motor vehicles on our nation's highways. OOIDA has no parent entity, and no publicly held corporation has a 10% or greater ownership stake in OOIDA.

South Dakota Soybean Association is an agricultural organization. It has no parent corporation, and no publicly held corporation has a 10% or greater ownership interest in it.

Texas Oil & Gas Association (TXOGA) is a statewide trade association representing every facet of the Texas oil and gas industry including small independents and major producers. Collectively, the membership of TXOGA produces approximately 90 percent of Texas' crude oil and natural gas and operates the vast majority of the state's refineries and pipelines. In fiscal year 2023, the Texas oil and natural gas industry supported over 480,000 direct jobs and paid \$26.3 billion in state and local taxes and state royalties, funding our state's schools, roads and first

responders. TXOGA has no parent corporation, and no publicly held corporation owns 10 percent or more of its stock.

The Petroleum Alliance of Oklahoma is a not-for-profit trade organization representing more than 1,400 individuals and member companies and their tens of thousands of employees in the upstream, midstream, and downstream sectors and ventures ranging from small, family-owned businesses to large, publicly traded corporations working in the MidContinent and other oil and gas producing regions nationwide. Members of The Petroleum Alliance produce, transport, process, and refine the bulk of Oklahoma's crude oil and natural gas. In 2023, the industry was responsible for almost \$56 billion in state economic activity, 22% of the total statewide. The Petroleum Alliance of Oklahoma has no parent corporation, and no company has a 10% or greater ownership in the organization.

The Transport Project (also known as The Natural Gas Vehicle Coalition, or TTP) is a national coalition of heavy-duty truck fleets, vehicle and engine manufacturers, servicers and suppliers, and fuel producers and providers dedicated to decarbonization of North America's transportation sector through increased use of gaseous motor fuels including renewable natural gas and hydrogen. TTP has no parent corporation, and no company has a 10% or greater ownership stake in the organization.

Warren Petersen, President of the Arizona State Senate is an elected official acting in his official capacity on behalf of the Arizona State Senate. Neither President Petersen nor the Arizona State Senate is a corporate entity, and thus a corporate disclosure statement is not required.

Western States Petroleum Association (WSPA) is a nonprofit trade association that represents companies engaged in petroleum exploration, production, refining, transportation and marketing in Arizona, California, Nevada, Oregon, and Washington. The association has no parent company, and no publicly held corporation has a 10% or greater ownership in it.

Western States Trucking Association, Inc. (WSTA) is a nonprofit California trade association representing the interests of thousands of members in a variety of businesses which own and operate on-road and non-road vehicles, engines, and equipment. WSTA has no parent company, and no publicly held corporation has a 10% or greater ownership in WSTA.

TABLE OF CONTENTS

CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES.....	i
CORPORATE DISCLOSURE STATEMENT	v
TABLE OF AUTHORITIES.....	xvii
GLOSSARY OF ABBREVIATIONS	xxiv
INTRODUCTION	1
JURISDICTIONAL STATEMENT	3
STATEMENT OF THE ISSUES	4
STATUTES AND REGULATIONS	4
STATEMENT OF THE CASE.....	5
I. Statutory Background.....	5
A. EPA’s Standard-Setting Authority	5
B. Compliance, Enforcement, and Remediation.....	5
II. Regulatory Background.....	6
A. Heavy-Duty Vehicles.....	6
B. Greenhouse-Gas Standards	7
C. The Rule at Issue	9
1. Averaging, banking, and trading.....	10
2. Mandating electric vehicles	13
SUMMARY OF ARGUMENT.....	15
STANDING.....	18
STANDARD OF REVIEW	19
ARGUMENT	20

I.	Under The Major-Questions Doctrine, EPA Lacks Statutory Authority To Effectively Mandate Electric Vehicles.....	20
A.	Mandating Electric Heavy-Duty Vehicles Is a Major Question.....	20
1.	EPA claims a power of vast economic significance	21
2.	EPA claims a power of vast political significance.....	25
3.	EPA claims an unheralded and transformative power	28
B.	EPA Has No Clear Congressional Authorization Here	31
II.	EPA Lacks Statutory Authority To Set Standards That Can Be Met Only By Averaging In Electric Vehicles.....	32
A.	EPA May Not Set Standards That Can Be Met Only by Averaging Emissions Across Fleets	32
1.	Title II’s compliance and enforcement provisions foreclose EPA’s reliance on averaging.....	33
2.	Other provisions in Section 202 confirm that emission standards may not be based on averaging.....	37
3.	The broader text and history of Title II confirm that the rule exceeds EPA’s authority.....	38
B.	At a Minimum, EPA May Not Incorporate Electric Vehicles Into Its Fleetwide-Average Standards	40
1.	The statutory text focuses on vehicles that emit the relevant pollutant.....	41
2.	The statutory structure and history confirm Congress’ focus on technologically achievable emission controls.....	44
3.	Other statutes underscore that Section 202(a) does not authorize averaging of non-emitting electric vehicles.....	46
4.	EPA’s counterarguments lack merit	47
III.	EPA’s Rule Is Arbitrary And Capricious.....	51

A. EPA’s Zero-Emissions Assumption Is Unreasonable 51

B. EPA’s Feasibility Assessment Is Unreasonable 53

 1. EPA’s payback schedule is arbitrary 53

 2. EPA’s payback modeling is arbitrary 58

C. EPA Failed to Adequately Consider Biofuels 62

CONCLUSION 65

CERTIFICATE OF COMPLIANCE

CERTIFICATE OF SERVICE

TABLE OF AUTHORITIES

Cases

<i>Ala. Ass’n of Realtors v. HHS</i> , 594 U.S. 758 (2021).....	20, 21
<i>Am. Fuel & Petrochemical Mfrs. v. EPA</i> , 3 F.4th 373 (D.C. Cir. 2021)	18
<i>ANR Storage Co. v. FERC</i> , 904 F.3d 1020 (D.C. Cir. 2018)	58
<i>Barnhart v. Thomas</i> , 540 U.S. 20 (2003).....	42, 43
<i>Bartenwerfer v. Buckley</i> , 598 U.S. 69 (2023).....	48
<i>Biden v. Nebraska</i> , 143 S.Ct. 2355 (2023).....	23, 26
<i>Delta Constr. Co. v. EPA</i> , 783 F.3d 1291 (D.C. Cir. 2015)	8
<i>Energy Future Coal. v. EPA</i> , 793 F.3d 141 (D.C. Cir. 2015)	18, 49
<i>Epic Sys. Corp. v. Lewis</i> , 584 U.S. 497 (2018).....	39
<i>Hunt v. Wash. State Apple Advert. Comm’n</i> , 432 U.S. 333 (1977).....	19
<i>Loper Bright Enters. v. Raimondo</i> , 144 S.Ct. 2244 (2024).....	28
<i>Massachusetts v. EPA</i> , 549 U.S. 497 (2007).....	7, 44
<i>Mississippi v. EPA</i> , 744 F.3d 1334 (D.C. Cir. 2013)	56

<i>Motor & Equip. Mfrs. Ass’n, Inc. v. EPA</i> , 627 F.2d 1095 (D.C. Cir. 1979)	53
<i>Nat’l Petrochemical & Refiner Ass’n v. EPA</i> , 287 F.3d 1130 (D.C. Cir. 2002).....	20
<i>Nat’l Shooting Sports Found., Inc. v. Jones</i> , 716 F.3d 200 (D.C. Cir. 2013)	62
<i>Nat. Res. Def. Council v. Thomas</i> , 805 F.2d 410 (D.C. Cir. 1986)	40
<i>NRDC v. EPA</i> , 655 F.2d 318 (D.C. Cir. 1981)	44
<i>NRDC v. EPA</i> , 954 F.3d 150 (2d Cir. 2020).....	42
<i>Paroline v. United States</i> , 572 U.S. 434 (2014).....	38
<i>Robinson v. Shell Oil Co.</i> , 519 U.S. 337 (1997).....	33
<i>Rotkiske v. Klemm</i> , 589 U.S. 8 (2019).....	37
<i>SAS Inst., Inc. v. Iancu</i> , 584 U.S. 357 (2018).....	39
<i>Truck Trailer Mfrs. Ass’n v. EPA</i> , 17 F.4th 1198 (D.C. Cir. 2021)	42, 50
<i>Util. Air Regul. Grp. v. EPA</i> , 573 U.S. 302 (2014).....	23, 28, 33, 35
<i>West Virginia v. EPA</i> , 597 U.S. 697 (2022).....	2, 15, 20, 21, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 50
Statutes	
23 U.S.C. §127(d)(4).....	58

42 U.S.C. §7521(a)	16
42 U.S.C. §7521(a)(1).....	5, 15, 31, 41, 42, 47, 49
42 U.S.C. §7521(a)(2).....	5, 44, 53
42 U.S.C. §7521(a)(3).....	37
42 U.S.C. §7521(b)(1).....	38
42 U.S.C. §7521(b)(3).....	38
42 U.S.C. §7521(m)(1)	45
42 U.S.C. §7522(a)(1).....	6, 34
42 U.S.C. §7524(a)	36
42 U.S.C. §7524(a)-(b)	6
42 U.S.C. §7525(a)(1).....	5, 33, 34, 35
42 U.S.C. §7525(b)(1).....	6
42 U.S.C. §7525(b)(2).....	6, 34
42 U.S.C. §7541(a)(1).....	6, 35
42 U.S.C. §7541(c)(1).....	6, 36
42 U.S.C. §7541(c)(2).....	36
42 U.S.C. §7541(c)(3).....	6
42 U.S.C. §7541(h)(1).....	36
42 U.S.C. §7545(k)(1).....	38
42 U.S.C. §7545(o)(2).....	26
42 U.S.C. §7581(2)	46
42 U.S.C. §7582(a)	46
42 U.S.C. §7586.....	46

42 U.S.C. §7602(g)	4, 44
42 U.S.C. §7607(b)(1)	4
42 U.S.C. §7607(d)(9).....	20
49 U.S.C. §32902(a)	39
49 U.S.C. §32905(a)	26
49 U.S.C. §32905(c)-(d)	26
Pub. L. No. 91-604, 84 Stat. 1676 (1970).....	39
Pub. L. No. 101-549, 104 Stat. 2399 (1990).....	46
Pub. L. No. 117-58, 135 Stat. 429 (2021).....	26

Regulations

40 C.F.R. §600.510-12(c)(2)	64
40 C.F.R. §1036.140	7
40 C.F.R. §1036.510(e).....	9
40 C.F.R. §1036.545(o)(3).....	9
40 C.F.R. §1037.101(b)(2)	7
40 C.F.R. §1037.105(a)-(b).....	7
40 C.F.R. §1037.105(d).....	10
40 C.F.R. §1037.105(h).....	10
40 C.F.R. §1037.106(b)(1).....	7
40 C.F.R. §1037.106(b)(2).....	10
40 C.F.R. §1037.120(a).....	36
40 C.F.R. §1037.140(g).....	7

40 C.F.R. §1037.150(f)	40, 47
40 C.F.R. §1037.150(p)(1)	12
40 C.F.R. §1037.150(z)(1)	11
40 C.F.R. §1037.241(a)(2)	11
40 C.F.R. §1037.615(d).....	9
40 C.F.R. §1037.615(f)	9, 11, 40, 47, 51
40 C.F.R. §1037.701(a).....	10
40 C.F.R. §1037.705(b).....	10, 11
40 C.F.R. §1037.710(a).....	11
40 C.F.R. §1037.720	12
40 C.F.R. §1037.725	12, 36
40 C.F.R. §1037.725(b)(1).....	35
40 C.F.R. §1037.730	36
40 C.F.R. §1037.730(a).....	35
40 C.F.R. §1037.730(b).....	12
40 C.F.R. §1037.730(b)(4).....	35
40 C.F.R. §1037.730(b)(7).....	36
40 C.F.R. §1037.730(c)(1).....	35
40 C.F.R. §1037.740(a).....	11
40 C.F.R. §1037.740(c).....	12
40 C.F.R. §1037.745(a).....	12
40 C.F.R. §1037.801	6, 10
13 Cal. Code Reg. §§1963-1963.5.....	26

45 Fed. Reg. 14,496 (Mar. 5, 1980).....	33, 35
71 Fed. Reg. 2,810 (Jan. 17, 2006).....	34
74 Fed. Reg. 66,496 (Dec. 15, 2009).....	8, 47
75 Fed. Reg. 14,670 (Mar. 26, 2010).....	63
76 Fed. Reg. 57,106 (Sept. 15, 2011)	8, 9
77 Fed. Reg. 62,624 (Oct. 15, 2012).....	29
81 Fed. Reg. 73,478 (Oct. 25, 2016).....	9, 52
83 Fed. Reg. 37,735 (Aug. 2, 2018).....	63
86 Fed. Reg. 49,602 (Sept. 3, 2021)	28
88 Fed. Reg. 25,926 (Apr. 27, 2023)	9, 21
88 Fed. Reg. 44,468 (July 12, 2023).....	63
89 Fed. Reg. 27,842 (Apr. 18, 2024)	22
89 Fed. Reg. 29,440 (Apr. 22, 2024)	1, 3, 7, 9, 10, 11, 13, 14, 18, 21, 22, 24, 28, 29, 30, 31, 40, 41, 43, 45, 46, 47, 48, 49, 51, 53, 54, 56, 57, 58, 60, 61, 62, 64

Other Authorities

<i>American Heritage Dictionary of the English Language</i> (1st ed. 1969).....	50
Hoyu Chong & Edward Rightor, <i>Closing the Trucking Gaps</i> (June 2023), https://perma.cc/773E-VVDR	59, 60
Jameson Dow, <i>WattEV Opens US' First Megawatt Charge Station with 1.2MW Speeds and Solar</i> , <i>electrek</i> (May 6, 2024), https://tinyurl.com/4ubsued5	60
Fed. Highway Admin., <i>Charging and Fueling Infrastructure Discretionary Grant Program</i> (Aug. 26, 2024), https://tinyurl.com/mr2ptnxt	27

Fed. Highway Admin., <i>National Electric Vehicle Infrastructure (NEVI) Program</i> (June 13, 2024), https://tinyurl.com/tsf926a2	27
Jennifer Hiller, <i>Electric Big Rigs Hit the Streets, but Chargers Are Scarce</i> , Wall St. J. (July 16, 2023), https://tinyurl.com/ysy8p4xp	52
H.R. Rep. No. 91-1146 (1970).....	39
Catherine Ledna et al., <i>Decarbonizing Medium- & Heavy-Duty On-Road Vehicles: Zero-Emission Vehicles Cost Analysis</i> (March 2022), EPA-HQ-OAR-2022-0985-0771	54, 55, 56
Memorandum of Understanding on Zero-Emission Medium and Heavy-Duty Vehicles (Nov. 15, 2022), https://tinyurl.com/4mrr4uxw	8
Nat’l Infrastructure Advisory Council, <i>Addressing the Critical Shortage of Power Transformers</i> (June 2024), https://tinyurl.com/sdsz2hn9	61
U.S. Dep’t of Energy, <i>Alternative Fueling Station Locator</i> , https://tinyurl.com/4d585d4v (last visited Oct. 14, 2024).....	62
U.S. Dep’t of Energy, <i>GREET</i> , https://www.energy.gov/eere/greet (last visited Oct. 14, 2024).....	53
U.S. Energy Info. Admin., <i>Use of Electricity</i> (Dec. 18, 2023), https://tinyurl.com/nhfzw97r	23
<i>Webster’s New International Dictionary</i> (2d ed. 1949).....	44
White House, <i>Biden-Harris Administration Proposes New Standards</i> (Apr. 12, 2023), https://tinyurl.com/wjvu3975	1, 8

GLOSSARY OF ABBREVIATIONS

Abbreviation	Definition
EPA	U.S. Environmental Protection Agency
NHTSA	National Highway Traffic Safety Administration
RIA	Regulatory Impact Analysis
RTC	Response to Comments
TEMPO	Transportation Energy and Mobility Pathway Options

INTRODUCTION

American industries and consumers depend on heavy-duty vehicles to transport freight across the Nation. Today, those heavy-duty vehicles are “primarily powered by diesel-fueled ... engines,” with hardly any electric vehicles at all. 89 Fed. Reg. 29,440, 29,444 (Apr. 22, 2024). That market reality bears no resemblance to the current Administration’s ambitious goal that “100 percent of all new ... heavy-duty vehicles sold in 2040 be zero-emission vehicles,” White House, *Biden-Harris Administration Proposes New Standards* (Apr. 12, 2023), <https://tinyurl.com/wjvu3975>, and so the Administration has turned to mandates to reshape the Nation’s heavy-duty fleet.

No law authorizes the federal government, let alone the Environmental Protection Agency (EPA), to mandate electric vehicles. Despite that lack of congressional authorization, EPA has announced a *de facto* electric heavy-duty-vehicle mandate that, like its light-duty-vehicle mandate, *see Kentucky v. EPA*, No. 24-1087 (D.C. Cir.), sets greenhouse-gas emission standards that manufacturers can meet only by decreasing production of internal-combustion-engine vehicles and dedicating an increasing percentage of their fleets to electric vehicles or subsidizing the electric-vehicle production of their competitors through credit purchases. These new standards are so stringent that EPA projects some 45% of America’s new heavy-duty vehicles will be electric by 2032 to comply—up from practically zero today.

If this attempt to transform a critical industry without congressional authorization seems familiar, it should. In *West Virginia v. EPA*, EPA “announc[ed] what the market share of coal, natural gas, wind, and solar must be, and then require[d] plants to reduce operations or subsidize their competitors to get there.” 597 U.S. 697, 731 n.4 (2022). Here, EPA has similarly “announc[ed] what the market share of” heavy-duty electric vehicles “must be, and then require[d]” manufacturers to meet that target for their fleets “or subsidize their competitors to get there.” *Id.* In both cases, EPA reached its desired result by setting standards beyond what could be achieved with its disfavored power source (there, coal-fired power generation; here, internal-combustion engines). And in both cases, EPA pushed regulated parties to phase out disfavored technology.

As in *West Virginia*, EPA cannot unilaterally reshape the energy and transportation sectors by reimagining its statutory authority. Heavy-duty vehicles transport city commuters, move consumer goods across the country, remove refuse, and harvest our food. The question of whether and how internal-combustion-engine heavy-duty vehicles should be phased out in favor of electric vehicles is hugely consequential: It involves millions of jobs, the restructuring of entire industries, and the Nation’s energy independence. If the federal government is going to require that major shift, then a Congress accountable to the American public must say so. It has not.

Indeed, Congress has not authorized any of the steps EPA has taken here. The Clean Air Act does not allow EPA to set emission standards for heavy-duty vehicles based on fleetwide averaging. And even if EPA could set emission standards based on averaging, it cannot manipulate the averages by treating electric vehicles as having zero emissions and “averaging” in zeros for all the electric vehicles EPA wants manufactured. EPA is again straining statutory text to force a seismic shift in the Nation’s energy policy, only this time for heavy-duty vehicles rather than power plants. Here as in *West Virginia*, EPA’s rule is unlawful.

Even setting aside these clear statutory hurdles, EPA’s standards are arbitrary and capricious. They rest on the irrational premise that electric vehicles have zero greenhouse-gas emissions, when in reality those vehicles simply push emissions upstream. EPA also based its standards on unreasonable assumptions about the feasibility of long-range electric trucks while ignoring congressionally preferred alternatives, especially biofuels. Each of these errors independently warrants reversing EPA’s rule.

JURISDICTIONAL STATEMENT

This Court has jurisdiction to review EPA’s “Greenhouse Gas Emissions Standards for Heavy-Duty Vehicles—Phase 3,” 89 Fed. Reg. 29,440 (Apr. 22, 2024), under 42 U.S.C. §7607(b)(1). The rule is a “standard under section 7521,” and

petitioners timely sought review “within sixty days” after it “appear[ed] in the Federal Register.” §7607(b)(1).¹

STATEMENT OF THE ISSUES

1. Whether, under the major questions doctrine, EPA lacks statutory authority to effectively mandate a nationwide transition from internal-combustion-engine heavy-duty vehicles to electric ones.

2. Whether Section 202 of the Clean Air Act prohibits EPA from (a) setting emission standards based on fleetwide averaging, and (b) including electric vehicles in calculating those averages.

3. Whether EPA’s rule is arbitrary and capricious because EPA failed to (a) adequately consider electric vehicles’ lifecycle emissions, (b) conduct a proper feasibility analysis, and (c) consider reasonable alternatives to electrification, particularly biofuels.

4. Whether EPA’s rule exceeds its authority to regulate an “air pollution agent or combination of such agents.” §7602(g).

STATUTES AND REGULATIONS

Pertinent statutes appear in the Addendum.

¹ Unless noted, all statutory citations are to U.S. Code Title 42.

STATEMENT OF THE CASE

I. Statutory Background.

A. EPA's Standard-Setting Authority.

Title II of the Clean Air Act sets forth a comprehensive scheme for regulating motor-vehicle emissions. Its central provision, Section 202, directs EPA to

by regulation prescribe (and from time to time revise) ... standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

§7521(a)(1). “Such standards shall be applicable to such vehicles and engines for their useful life[.]” *Id.* The standards may not take effect until “after such period as [EPA] finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period.” §7521(a)(2).

B. Compliance, Enforcement, and Remediation.

To determine compliance with these standards, EPA “shall test, or require to be tested in such manner as [it] deems appropriate, any new motor vehicle or new motor vehicle engine submitted by a manufacturer.” §7525(a)(1). “If such vehicle or engine” complies with the standards, EPA “shall issue a certificate of conformity.” *Id.* The manufacturer must “permanently affix[.]” a label or tag to each new vehicle

or engine indicating that the vehicle or engine is covered by a certificate of conformity. §7541(c)(3)(C).

EPA may also test or require that the manufacturer test new motor vehicles or engines to determine if they “do in fact conform with the regulations.” §7525(b)(1). If EPA determines that “such vehicle or engine” is not in compliance, EPA may “suspend or revoke” a certificate of conformity. §7525(b)(2)(A)(ii).

Manufacturers “shall warrant” that “each new motor vehicle and new motor vehicle engine” is “designed, built, and equipped so as to conform at the time of sale with applicable regulations under” Section 202. §7541(a)(1). EPA has several remedies when vehicles fail to conform. One is to seek civil penalties from manufacturers for each individual vehicle they distribute, sell, or offer in commerce without an effective certificate of conformity. §§7522(a)(1), 7524(a)-(b). In addition, where “a substantial number of any class or category of vehicles or engines” fail to conform, EPA must notify the manufacturer and require it “to submit a plan for remedying the nonconformity of the vehicles or engines.” §7541(c)(1).

II. Regulatory Background.

A. Heavy-Duty Vehicles.

As used here, the term “heavy-duty vehicle” refers to vehicles weighing more than 8,500 pounds, based on gross vehicle weight rating. 40 C.F.R. §1037.801. The regulated class of “heavy-duty vehicles” “range[s] from commercial pickup trucks;

to vocational vehicles that support local and regional transportation, construction, refuse collection, and delivery work; to line-haul tractors (semi-trucks) that move freight cross-country.” 89 Fed. Reg. at 29,444. Heavy-duty vehicles have long relied on liquid fuel rather than other fuel sources, to an even greater extent than the rest of the Nation’s vehicle fleet. *See id.*

EPA generally sets standards for heavy-duty vehicles based on the vehicle’s weight, whether it has a compression-ignition or spark-ignition engine, and whether its emissions are modeled on an urban, multi-purpose, or regional duty cycle. *See* 40 C.F.R. §1037.105(a)-(b).² There are three weight-based categories: light heavy-duty vehicles, which weigh 19,500 pounds or less; medium heavy-duty vehicles, which weigh more than 19,500 pounds, with certain exceptions; and heavy heavy-duty vehicles, which are vehicles with certain types of compression-ignition engines, plus truck tractors and battery-powered vehicles weighing more than 33,000 pounds. *See id.* §§1036.140, 1037.140(g). A separate table governs combination tractors weighing more than 26,000 pounds. *Id.* §1037.106(b)(1).

B. Greenhouse-Gas Standards.

EPA did not regulate motor-vehicle greenhouse-gas emissions until 2010. Following *Massachusetts v. EPA*, 549 U.S. 497 (2007), EPA first issued an

² EPA includes electric vehicles within the compression-ignition standards “for the purpose of calculating emission credits.” 40 C.F.R §1037.101(b)(2).

endangerment finding under Section 202(a) for “well-mixed greenhouse gases,” including carbon dioxide. 74 Fed. Reg. 66,496 (Dec. 15, 2009).

EPA promulgated its first heavy-duty-vehicle carbon-dioxide emission standards in a joint rulemaking with the National Highway Traffic Safety Administration (NHTSA), which sets fuel-efficiency standards for heavy-duty vehicles. As the agencies explained, when it comes to conventional fuels, carbon-dioxide emissions are “essentially constant per gallon for a given fuel type that is consumed,” so carbon-dioxide emission standards and fuel-efficiency standards are two sides of the same coin. 76 Fed. Reg. 57,106, 57,110 (Sept. 15, 2011); *Delta Constr. Co. v. EPA*, 783 F.3d 1291, 1294 (D.C. Cir. 2015) (“[A]ny rule that limits tailpipe [carbon-dioxide] emissions is effectively identical to a rule that limits fuel consumption.”).

In November 2022, the Biden Administration’s Secretary of Energy signed an international accord pledging that “100 percent of all new medium- and heavy-duty vehicles sold in 2040 [will] be zero-emission vehicles, with an interim 30 percent sales target for these vehicles in 2030.” *Biden-Harris Administration Proposes New Standards*, *supra*; see Memorandum of Understanding on Zero-Emission Medium and Heavy-Duty Vehicles (Nov. 15, 2022), <https://tinyurl.com/4mrr4uxw>. Meeting these targets, however, required a significant change in EPA’s regulatory approach. Historically, EPA promulgated greenhouse-gas emission standards for heavy-duty

vehicles jointly with NHTSA and set standards that could be achieved without electric vehicles. *See* 81 Fed. Reg. 73,478 (Oct. 25, 2016); 76 Fed. Reg. 57,106.³ But in April 2023, after the Administration signed its international accord, EPA proposed its first-ever solo greenhouse-gas emission standards for heavy-duty vehicles. 88 Fed. Reg. 25,926 (Apr. 27, 2023). Finalized on April 22, 2024, those standards—at issue in this case—are “more stringent than” any prior standards, and are projected to rapidly increase the production of electric heavy-duty vehicles to 45% of new vehicles in model year 2032. 89 Fed. Reg. at 29,443, 29,567-68.

C. The Rule at Issue.

Two aspects of EPA’s new heavy-duty emission standards are key to EPA’s effort to force electrification of the Nation’s heavy-duty vehicle fleet. First, EPA promulgated standards that manufacturers can meet only on a fleet-average basis, rather than an individual-vehicle basis. Second, EPA decreed that in determining a manufacturer’s compliance with the standards, electric vehicles will be treated as producing zero emissions.

³ For simplicity, petitioners use “electric vehicles” to encompass battery-electric, fuel-cell-electric, and plug-in hybrid vehicles when they run on electricity from outside sources (*i.e.*, in “charge-depleting mode”). While EPA does not explicitly assign zero emissions to plug-in hybrids (unlike battery-electric and fuel-cell-electric vehicles), *see* 40 C.F.R. §1037.615(d), (f), the rule’s examples show zero exhaust emissions for plug-in hybrids in charge-depleting mode, *see id.* §§1036.510(e), 1036.545(o)(3).

1. Averaging, banking, and trading.

Though EPA nominally adopted vehicle-specific standards, its rule effectively applies to manufacturers' *fleets* on average, by allowing manufacturers to "choose to demonstrate compliance" through an averaging, banking, and trading program. 89 Fed. Reg. at 29,600; 40 C.F.R. §§1037.105(d), (h)(2), 1037.106(b)(2), 1037.701(a). EPA expects virtually every eligible manufacturer to comply by averaging. *See* 89 Fed. Reg. at 29,484, 29,613; Regulatory Impact Analysis (RIA) 405-06. Indeed, EPA acknowledges that the standards are feasible only with widespread averaging, *see* 89 Fed. Reg. at 29,590, 29,600 (EPA's feasibility assessment "is premised upon the availability of averaging"), and considers the rule's averaging provisions inseverable from its standards, *id.* at 29,600, 29,737; Response to Comments (RTC) 1342 & n.676.

Under the averaging program, each manufacturer divides its fleet into subfamilies with comparable emissions and selects a "family emission limit" for each subfamily, which then "serve[s] as the emission standards for the vehicle subfamily instead of the [otherwise applicable] standards." 40 C.F.R. §1037.105(d), (h); *see id.* §1037.801. If a given subfamily's emission limit is less than the corresponding standard, the manufacturer receives positive credits. *Id.* §§1037.105(d), (h)(2), 1037.705(b). If a given subfamily's emission limit exceeds

the corresponding standard, the manufacturer receives negative credits, or “deficits.”

Id. §1037.705(b).

Whether a manufacturer complies with the standards depends on whether its positive credits in a given category exceed its negative ones. *Id.* §1037.241(a)(2).

EPA calls this exchange of emission credits “averaging” over “averaging sets,” because it determines whether the relevant fleet, on average, meets EPA’s targets.

Id. §§1037.241(a)(2), 1037.710(a), 1037.740(a). For model years 2027 to 2032, manufacturers may exchange credits from one averaging set with those from another.

Id. §1037.150(z)(1).

EPA also allows manufacturers to generate credits for producing electric vehicles—and indeed, “anticipates most if not all manufacturers will include credits generated by [electric vehicles] as part of their compliance strategies.” 89 Fed. Reg. at 29,613. EPA regulations stipulate that, for battery-electric and fuel-cell-electric vehicles, manufacturers should “calculate CO₂ credits using [a family emission limit] of 0 g/ton-mile”—even though battery-electric vehicles run on electricity generated by carbon-emitting sources. 40 C.F.R. §1037.615(f); *see* 89 Fed. Reg. at 29,454 (projecting an increase in “CO₂-equivalent emissions from [power plants] as a result of the increased demand for electricity associated with the rule”). EPA further incentivizes electric-vehicle production by multiplying credits awarded to

electric-vehicle manufacturers under certain conditions. *See* 40 C.F.R. §1037.150(p)(1)(iii).

Credits also play an important role in EPA's compliance regime. Manufacturers can carry forward a deficit for up to three years before facing penalties. *Id.* §1037.745(a). Manufacturers can also apply surplus credits to any of the five model years after the credits were generated, *id.* §1037.740(c), or they can trade surplus credits to other manufacturers, *id.* §1037.720, through which manufacturers that produce comparatively few electric vehicles subsidize their rivals' production of those vehicles.

Compliance under the averaging program depends on production for the entire model year, and thus can be determined only once the year ends. When manufacturers apply for certification, they attest that "to the best of [their] belief," they will not have a "negative balance of emission credits ... at the end of the year." *Id.* §1037.725(b). But whether a manufacturer has actually complied can be determined only after the total credits have been calculated, based on "actual production volumes," whether the family emission limits have been adjusted in either direction, and whether the manufacturer has purchased or sold credits. *Id.* §1037.730(b); *see* RTC.1354.

2. Mandating electric vehicles.

The rule's stringent standards are designed to compel manufacturers to produce electric vehicles. To begin, EPA assumes the baseline penetration rate for battery-electric and fuel-cell-electric heavy-duty vehicles will grow from near-zero today to 7% in 2027 and 20% in 2032, relying primarily on California's Advanced Clean Trucks program, *see* 89 Fed. Reg. at 29,567-68—even though pending litigation in this Court challenges EPA's waiver of preemption for that program, *see Western States Trucking Ass'n v. EPA*, No. 23-1143 (D.C. Cir.), and new electric vehicles would remain less than 1% of the heavy-duty market through 2050 absent state intervention, *see* RIA.18-19.

EPA then predicts that its standards will lead manufacturers to dramatically increase the portion of electric vehicles in their heavy-duty fleets even further. Even as compared to EPA's artificially inflated baseline, EPA projects its standards will *more than double* the market share of new battery-electric and fuel-cell-electric vehicles by 2032, going from near-zero today to not just 20% (as in EPA's no-action scenario) but 45% of the market. 89 Fed. Reg. at 29,567-68; RIA.18.⁴ The change

⁴ All projections of future market penetration of electric vehicles are derived from EPA's "modeled potential compliance pathway," in which manufacturers comply with the standards at the "lowest cost" to themselves. 89 Fed. Reg. at 29,562. While EPA includes hydrogen-fueled internal-combustion-engine vehicles in its definition of zero-emission vehicles, it did not project adoption of that technology in its modeled potential compliance pathway. *Id.* at 29,580.

is even more drastic for truck tractors used for freight transportation: In the no-action scenario, EPA projects the share of electric “short-haul” tractors and “long-haul” tractors will grow from 1.0% and 0.0% today to 10.4% and 4.7% in 2032, respectively. 89 Fed. Reg. at 29,666. Under the rule, however, EPA projects that share will grow to *over 45%* of new short-haul trucks and *25%* of new long-haul trucks by 2032, radically altering the market. RIA.897, 899.

EPA’s assumptions that electric vehicles have zero emissions and that the Clean Air Act permits averaging enabled the agency to calculate standards by simply reverse-engineering the share of electric vehicles that it desired. EPA just multiplied the share of internal-combustion-engine vehicles it wanted in a given model year by its prior model year 2027 standards, reducing the share of internal-combustion-engine vehicles each year to phase them out of the fleet. *See* RIA.411-17. Unsurprisingly, EPA understood that to comply with its new rule while “seek[ing] to minimize costs and maximize profits,” manufacturers would have to produce far more electric vehicles than they otherwise would, 89 Fed. Reg. at 29,562—in sharp contrast with its prior Phase 2 standards, where EPA acknowledged that electric heavy-duty vehicles would not be feasible by 2027 and set standards that internal-combustion-engine vehicles could meet through continued efficiency improvements. *Id.* at 29,531.

SUMMARY OF ARGUMENT

I. Under the major-questions doctrine, EPA's unprecedented attempt to phase out internal-combustion-engine vehicles requires clear congressional authorization. EPA has nothing of the sort.

A. EPA has claimed a novel authority of "vast economic and political significance." *West Virginia*, 597 U.S. at 716. Forcing electrification of the Nation's heavy-duty vehicles will reverberate across numerous industries, threatening businesses nationwide in countless economic sectors. And as in *West Virginia*, the rule preempts active political debate about the future of internal-combustion-engine vehicles. *Id.* at 731-32. Worse, EPA is not merely substituting for but *overruling* Congress, which has charted a different path. Finally, just as in *West Virginia*, EPA claims to have "'discover[ed] in a long-extant statute an unheralded power' representing a 'transformative expansion in its regulatory authority.'" *Id.* at 724 (brackets omitted). That novel discovery warrants extreme skepticism.

B. Given the novelty and vast significance of EPA's rule, the agency "must point to 'clear congressional authorization' for the power it claims." *Id.* at 723. It cannot. EPA has statutory authority to prescribe "standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles." §7521(a)(1). That decades-old, general standard-setting provision is not "clear congressional authorization" to force a market-wide transition to electric vehicles.

II. Regardless, EPA's interpretation of the Clean Air Act is wrong. Section 202(a) does not permit EPA to phase out heavy-duty internal-combustion-engine vehicles. Consistent with that ambitious fleetwide goal, EPA has set emission standards that can be met only through fleetwide averaging. But in accordance with its more traditional and modest role, the Clean Air Act requires that emission standards under Section 202(a) be designed for and achievable by vehicles *individually*, not manufacturers' fleets on *average*.

Even if fleetwide averaging were generally permissible under Section 202(a), the statute forecloses EPA from using fleetwide averaging to effectively mandate electrification. Section 202(a) authorizes EPA to set "standards" for "emission[s]" from "any class or classes of new motor vehicles or new motor vehicle engines, which ... cause, or contribute to," potentially harmful air pollution. §7521(a). But according to EPA, electric vehicles do not "emi[t]" carbon dioxide or "cause, or contribute to" air pollution at all. Thus, EPA has no statutory authority to include non-contributing electric vehicles—effectively, a set of artificial zeros—in the class of vehicles subject to emission standards.

III. Even if EPA had the necessary statutory authority, its rule must still be reversed, because the rule is arbitrary and capricious in at least three ways.

A. First, EPA erroneously treated electric vehicles as contributing zero emissions. As noted, that should have deprived EPA of Section 202(a) authority to

regulate them. But if EPA is going to include them, it cannot arbitrarily focus only on tailpipe emissions while disregarding other lifecycle emissions. EPA claims to be treating like vehicles alike, but conventional vehicles are not like electric vehicles because electric vehicles shift emissions upstream to other sources. EPA once claimed that upstream emissions will be small because adoption of electric-vehicle technologies will be minimal, but that excuse no longer holds in light of EPA's own projections about the effect of its new standards, and EPA's further excuse that considering upstream emissions would be difficult is belied by the record.

B. Second, EPA's feasibility assessment is neither reasonable nor reasonably explained. Its "payback schedule"—which drives its projected adoption rates for electric heavy-duty vehicles—uses an inappropriate payback metric and model. EPA then compounded that error by subjecting most adoption rates to arbitrary "caps" regardless of market realities. EPA's heavy-duty payback periods also unreasonably assume that all manufacturers will be able to take advantage of tax credits, that fleet purchasers will replace certain trucks with more expensive and less capable ones, and that an enormous public-charging infrastructure will appear from nowhere.

C. Finally, EPA irrationally refused to consider the known—and congressionally preferred—alternative of biofuels. Numerous commenters pointed out that biofuels can achieve the same or higher greenhouse-gas reductions as

compared to electric vehicles, with more rapid implementation and lower costs, but EPA arbitrarily ignored that option on its drive toward electrification. That arbitrary choice cannot stand.

STANDING

Petitioners include entities that produce or sell liquid fuels, including biofuels, and the raw materials used to produce them, along with associations whose members include such entities. By design, EPA's emission standards reduce demand for liquid fuels and their raw materials by displacing internal-combustion-engine vehicles with electric vehicles, as well as discouraging engines that can use higher blends of biofuels. EPA itself projects its rule will "result in a reduction of 135 billion gallons of diesel and gasoline consumption" through 2055. 89 Fed. Reg. at 29,735. As the accompanying declarations explain, depressing demand for liquid fuels (including congressionally preferred biofuels) financially injures petitioners and their members. This economic injury constitutes Article III injury-in-fact caused by the challenged regulatory action. *See, e.g., Am. Fuel & Petrochemical Mfrs. v. EPA*, 3 F.4th 373, 379-80 (D.C. Cir. 2021). Because reversal of the rule would "remove a regulatory hurdle" to the sale of petitioners' products and predictably result in at least one vehicle that consumes more liquid fuel, redressability is satisfied. *Energy Future Coal. v. EPA*, 793 F.3d 141, 144 (D.C. Cir. 2015); *see* App.181a-183a.

Petitioners also include trucking and construction-contracting associations whose members own and operate heavy-duty vehicles. As explained in those petitioners' declarations, the new standards will limit the vehicles available to conduct their members' businesses and increase their costs of doing business, including by significantly and artificially altering the market for heavy-duty vehicles.

Petitioners further include the Arizona Legislature's leaders. EPA's emission standards will reduce state road maintenance funds and increase road maintenance costs, harming Arizona's Legislature by forcing it to adjust taxes and/or fees.

The petitioners that are membership associations have associational standing to challenge EPA's decision. *See Hunt v. Wash. State Apple Advert. Comm'n*, 432 U.S. 333, 342-43 (1977). Their members have standing to sue in their own right, for the reasons described; the interests petitioners seek to protect are germane to their organizational purposes, which include safeguarding the viability of their members' businesses; and neither the claims asserted nor the relief requested require the participation of individual members.

STANDARD OF REVIEW

Under the Clean Air Act, this Court shall "reverse" a final rule that is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law," or "in excess of statutory jurisdiction, authority, or limitations, or short of

statutory right.” §7607(d)(9)(A), (C). This standard “is indistinguishable from the Administrative Procedure Act equivalent.” *Nat’l Petrochemical & Refiner Ass’n v. EPA*, 287 F.3d 1130, 1135 (D.C. Cir. 2002).

ARGUMENT

I. Under The Major-Questions Doctrine, EPA Lacks Statutory Authority To Effectively Mandate Electric Vehicles.

EPA seeks to radically transform the Nation’s heavy-duty vehicle fleet by effectively mandating a dramatic nationwide transition from internal-combustion-engine vehicles to electric vehicles. That vastly exceeds EPA’s statutory authority. The Supreme Court has recently and repeatedly emphasized that courts may not construe a statute to “authoriz[e] an agency to exercise powers of vast economic and political significance” unless it does so “clearly.” *Ala. Ass’n of Realtors v. HHS*, 594 U.S. 758, 764 (2021). The Clean Air Act does not authorize EPA to revolutionize the American trucking industry by forcing its transition to electric vehicles, let alone do so clearly.

A. Mandating Electric Heavy-Duty Vehicles Is a Major Question.

This case follows *a fortiori* from *West Virginia v. EPA*. There, EPA asserted the “highly consequential power” to “announc[e] what the market share of coal, natural gas, wind, and solar must be, and then requir[e] plants to reduce operations or subsidize their competitors” to shift generation from coal to other sources. 597

U.S. at 724, 731 n.4. That claim of “unprecedented power over American industry” required “clear congressional authorization.” *Id.* at 728, 732.

Once again, EPA claims a sweeping authority to transform national policy via generation-shifting—this time not by shifting power plants from coal to renewables, but by shifting heavy-duty vehicles from liquid fuel to electricity. And once again, the authority EPA asserts is indisputably of vast economic and political significance, with tremendous consequences for American freight transportation and fuel industries. EPA needs “clear congressional authorization” before it can assert that transformative power. *Id.* at 732. It has nothing of the sort.

1. EPA claims a power of vast economic significance.

The economic significance of EPA’s rule is immense. By EPA’s own projection, the rule will cost vehicle manufacturers well over \$20 billion through 2055. *See* 89 Fed. Reg. at 29,457. And EPA reaches that projection only by assigning much of the relevant cost (which its rule would independently impose) to California’s Advanced Clean Trucks program, which faces pending litigation. *See Western States Trucking Ass’n v. EPA*, No. 23-1143 (D.C. Cir.). Absent that sleight-of-hand, the projected costs to manufacturers alone would be well over \$50 billion, which will be passed on to businesses and consumers. *See* 89 Fed. Reg. at 29,455 (EPA “lowered the overall costs” by making “updates to our reference scenario”); 88 Fed. Reg. 25,937 (proposed rule); *cf. Ala. Ass’n of Realtors*, 594 U.S. at 764

(finding major-questions doctrine implicated by eviction moratorium with projected \$50 billion cost). Together with EPA's related standards for light-duty and medium-duty vehicles, EPA's crusade against the internal combustion engine will cost manufacturers more than *\$900 billion* through 2055, putting aside EPA's attempt to claw back supposed "negative costs" from its rule. *See* 89 Fed. Reg. 27,842, 28,105, 28,108 (Apr. 18, 2024).

The economic impacts go well beyond truck manufacturers themselves, as EPA's rule would have dramatic effects on the fuel and energy markets. EPA projects that its standards "will result in a reduction of *135 billion gallons* of diesel and gasoline consumption and an increase of *2,300 TWh* [terawatt-hours] of electricity consumption" through 2055. 89 Fed. Reg. at 29,735 (emphasis added). That forced shift will have significant impacts on the petroleum industry, which "supports nearly 11 million U.S. jobs and accounts for approximately 8 percent of U.S. GDP." API Cmt.1 (June 16, 2023). Likewise for the biofuel industry and the farmers who support it, which will face equally dramatic declines in demand. *See, e.g.*, App.65a-96a. Likewise for gas stations, asphalt and chemical manufacturers, and countless other industries that rely on petroleum-based products. *See, e.g.*, Valero Cmt.44-47 (June 16, 2023). And EPA's rule would impose an enormous new strain on the electric grid, *see infra* pp.60-61, as each new charging station with the capacity to charge a fleet of battery-electric long-haul tractors would require enough power for

a small town, API Cmt.6, and the electricity that EPA projects its rule demands through 2055 is enough to power the entire United States for six months, *see* U.S. Energy Info. Admin., *Use of Electricity* (Dec. 18, 2023), <https://tinyurl.com/nhfzw97r>.

Given the projected impacts of the rule, there can be “no serious dispute” that EPA is claiming “authority to exercise control over ‘a significant portion of the American economy.’” *Biden v. Nebraska*, 143 S.Ct. 2355, 2373 (2023) (quoting *Util. Air Regul. Grp. v. EPA*, 573 U.S. 302, 324 (2014)). Heavy-duty trucks carry nearly two-thirds of all freight moved in the United States—over *12 billion tons* of freight, worth an estimated *\$11 trillion*, in 2021—and their share is expected to continue growing. RIA.5-6. Countless businesses across all industry sectors depend on heavy-duty trucks to bring them the inputs they need for their products and to carry those products to their customers, allowing the American economy to function. Yet EPA now claims the authority to fundamentally restructure the trucking industry, asserting that the Clean Air Act empowers it to force a shift from internal-combustion-engine vehicles to electric vehicles—up to and including banning new internal-combustion-engine vehicles entirely. RTC.102-03.

West Virginia confirms that this expansive claim of agency authority presents a major question. In *West Virginia*, EPA sought to “substantially restructure the American energy market” by shifting power generation from coal to renewables

through standards that it expected would decrease the coal market share from 38% to 27% coal by 2030. 597 U.S. at 720, 724. Here, EPA seeks to restructure the American trucking industry by shifting powertrains from internal combustion to electricity, through standards that the agency projects will increase the market share of new electric heavy-duty vehicles from *near-zero* today to 45% by 2032 (while reducing liquid-fuel consumption by hundreds of billions of gallons). *See* 89 Fed. Reg. at 29,667, 29,735; RIA.17-18, 573-74.

That would transform the Nation's heavy-duty vehicle fleet—not only compared to today's reality, but also compared to a future without government intervention. According to the U.S. Energy Information Administration, absent government intervention, electric vehicles would make up *less than 1%* of long-haul tractor sales for the foreseeable future, all the way through 2050. RIA.18-19. Rather than accepting that realistic estimate, EPA relies primarily on California's Advanced Clean Trucks program—which faces pending litigation, *see supra* p.13—to increase the baseline of electric vehicles to some 4.7% of new long-haul tractors and 20% of new electric heavy-duty vehicles generally by 2032. 89 Fed. Reg. at 29,567-68, 29,666; RIA.899. But even compared to that artificial baseline, EPA predicts a major increase in electrification due to its standards, to 25% of new long-haul tractors and 45% of heavy-duty vehicles generally. 89 Fed. Reg. at 29,568; RIA.899. EPA's standards are thus designed to deliberately accelerate the transition to electric

vehicles, requiring far higher levels of electrification than the market would otherwise demand.

That overhaul of the heavy-duty vehicle market will create cascading economic harms, raising major questions distinct from those presented by EPA's parallel attempt to force electrification of light- and medium-duty vehicles, *see Kentucky v. EPA*, No. 24-1087 (D.C. Cir.). Battery-electric heavy-duty vehicles typically have shorter mileage ranges than internal-combustion-engine vehicles, take longer to refuel (*i.e.*, charge), and are substantially heavier—meaning that each trip takes longer and carries less freight. *See infra* pp.59-60; Valero Cmt.31-32. Forcing a shift from nearly zero new electric heavy-duty vehicles today to 45% by 2032 will cause major logistical challenges and increase transportation costs nationwide, affecting some two-thirds of all freight moved in the United States and countless businesses. *See* RIA.5. Those effects collectively make the major economic significance of EPA's rule indisputable.

2. EPA claims a power of vast political significance.

The political significance of EPA's rule is equally staggering. Whether to require greater electrification of the vehicle market by government mandate is “the subject of an earnest and profound debate across the country,” and around the world. *West Virginia*, 597 U.S. at 732. Some States have taken aggressive (and legally dubious) regulatory measures to mandate vehicle electrification, *see, e.g.*, 13 Cal.

Code Reg. §§1963-1963.5 (Advanced Clean Trucks regulations), while others have opposed those efforts, *see, e.g., Iowa v. EPA*, No. 23-1144 (D.C. Cir.) (challenging preemption waiver for those regulations). And Congress is still considering the matter, including by instructing various agencies—though not EPA—to study and report on the implications of electrifying the Nation’s fleet. *See* Infrastructure Investment and Jobs Act of 2021, Pub. L. No. 117-58, §§25006, 40435, 40436, 135 Stat. 429, 845-49, 1050 (2021). That makes EPA’s “claimed delegation” to effectively mandate electrification “all the more suspect.” *West Virginia*, 597 U.S. at 732. The Clean Air Act cannot be read to authorize EPA to “enact a program that Congress has chosen not to enact itself,” and has instead asked *different* agencies to study. *Nebraska*, 143 S.Ct. at 2373.

EPA’s rule is also inconsistent with Congress’ broader statutory scheme for addressing vehicle emissions through renewable fuels. Rather than mandate vehicle electrification, Congress has consistently focused on promoting biofuels, which (unlike electric-vehicle components) are in abundant domestic supply. *See, e.g.,* §7545(o)(2); 49 U.S.C. §32905(a), (c)-(d) (encouraging ethanol and other alternative fuels); *infra* pp.64-65. To the extent Congress has sought to promote electrification, it has used incentives and investment in needed infrastructure, not mandates requiring electrification before that infrastructure exists. *See, e.g.,* Fed. Highway Admin., *Charging and Fueling Infrastructure Discretionary Grant Program* (Aug.

26, 2024), <https://tinyurl.com/mr2ptnxt>; Fed. Highway Admin., *National Electric Vehicle Infrastructure (NEVI) Program* (June 13, 2024), <https://tinyurl.com/tsf926a2>. EPA's rule thus contravenes Congress' judgment on a fundamental strategic question about how to reduce emissions, by forcing the adoption of electric vehicles rather than leveraging incentives and favoring biofuels.

The national policy implications of EPA's rule confirm that the major-questions doctrine applies. In *West Virginia*, the Clean Power Plan raised a major question in part because it required EPA to “balanc[e] the many vital considerations of national policy implicated in deciding how Americans will get their energy.” 597 U.S. at 729. As the State petitioners (whose arguments are incorporated by reference here) explain in further detail, EPA is again claiming the power to decide major policy issues beyond its “comparative expertise,” including “how much of a switch” to heavy-duty-vehicle electrification the power grid can be forced to tolerate and how high freight transportation prices can climb as a result. *Id.*; see *State.Petrs.Br.9-25*. The “basic and consequential tradeoffs” involved in those choices “are ones that Congress would likely have intended for itself,” and they are not choices that an agency empowered to consider only one side of the balance can rationally make. *West Virginia*, 597 U.S. at 730.

So too for the substantial national-security issues that EPA's rule implicates. As NHTSA has recognized, the United States “has very little capacity in mining and

refining any of the key raw materials” needed for electric vehicles. 86 Fed. Reg. 49,602, 49,797 (Sept. 3, 2021). Electrifying the vehicle fleet will accordingly make American trucking dependent on China and other “countries with which the U.S. has fragile trade relations or significant policy differences.” 89 Fed. Reg. at 29,509. EPA’s “assessment” that “the increase in [electric vehicle] production projected to result from the proposed standards could be accommodated without causing harm to national security,” *id.* at 29,510, only underscores how far outside its lane the agency has strayed, and how unlikely it is that Congress would have left that national-security determination to EPA.

3. EPA claims an unheralded and transformative power.

In asserting the power to effectively mandate electrification of heavy-duty vehicles, EPA claims to have “‘discover[ed] in a long-extant statute an unheralded power’ representing a ‘transformative expansion in its regulatory authority.’” *West Virginia*, 597 U.S. at 724 (brackets omitted). Both the novelty of EPA’s approach and its massive expansion of EPA’s reach undermine that claim.

When an agency relies on decades-old statutory text to assert newfound regulatory authority, courts “typically greet its announcement with a measure of skepticism.” *Util. Air*, 573 U.S. at 324; *cf. Loper Bright Enters. v. Raimondo*, 144 S.Ct. 2244, 2258 (2024). That skepticism is fully warranted here. In the decades following the enactment of the Clean Air Act, EPA consistently treated electric

vehicles as—at most—a compliance “option” or “flexibility.” *See, e.g.*, 89 Fed. Reg. at 29,483 (previous heavy-duty emission standards “were not premised on the application of [electric vehicle] technologies”); 77 Fed. Reg. 62,624, 62,917 (Oct. 15, 2012) (“[E]lectrification is an option for compliance but is not required under this rule.”). EPA never claimed the authority to use emission standards to phase out internal-combustion-engine vehicles.

That changed only three years ago, when EPA first sought to set light-duty vehicle emission standards that would effectively require electrification. *See Texas v. EPA*, No. 22-1031 (D.C. Cir.) (pending challenge). This rule represents EPA’s first foray into applying that novel approach to the heavy-duty sector. That sudden assertion of newfound power in the wake of announcing an international accord, *see supra* p.8—claiming the authority not just to “reduce pollution by causing the regulated source to operate more cleanly,” but to “shift[]” the “polluting activity” from internal-combustion-engine vehicles to electric vehicles, *West Virginia*, 597 U.S. at 725—is a strong clue that EPA is going far beyond any congressional authorization.

EPA’s novel approach also represents a transformative expansion of its asserted regulatory domain. By setting standards that effectively require increasing the market share of electric vehicles (and reducing that of internal-combustion-engine vehicles) after the Energy Secretary (not the EPA Administrator) announced

an international accord to do just that, EPA has asserted the power to decide whether to allow new internal-combustion-engine vehicles on the roads at all. Indeed, EPA has openly claimed the authority to “completely prevent[] motor vehicle tailpipe pollution,” even if that means a flat ban on “vehicles that emit pollutants”—prohibiting new internal-combustion-engine vehicles entirely. RTC.102-03. It is hard to imagine a more striking example of regulatory overreach. *See West Virginia*, 597 U.S. at 728 (rejecting the view that EPA could “forc[e] coal plants to ‘shift’ away virtually all of their generation—*i.e.*, to cease making power altogether”).

EPA understandably attempts to downplay the transformative nature of its rule. It says that manufacturers “are not required to use particular technologies to meet [its] standards,” and that it is technically possible for manufacturers to comply without relying on electric vehicles. 89 Fed. Reg. at 29,452. Yet even EPA does not think that is how manufacturers will respond, which is why its “modeled compliance pathway”—which it deems the “lowest cost” option for manufacturers—projects that its standards will cause the share of new electric long-haul tractors to increase from nearly *zero* today to 25% by 2032, and of new electric heavy-duty vehicles generally from nearly *zero* to 45%. *Id.* at 29,562, 29,567-68, 29,666; RIA.18, 899. And all of EPA’s projected compliance pathways demand enormous increases in the production and sale of battery-electric vehicles, fuel-cell-electric vehicles, plug-in hybrid vehicles, or hydrogen-fueled vehicles—which *together* make up less than 1%

of the heavy-duty vehicle market today, and (as EPA recognizes) would still make up less than 2% of the market in 2050 absent government intervention. *See* 89 Fed. Reg. at 29,567-68, 29,583-84; RIA.18-19, 450-53.

Ultimately, what matters under the major-questions doctrine is not just what any particular rule accomplishes, but the full scope of the authority that the agency claims. *See West Virginia*, 597 U.S. at 728-29. Here, that is astonishing. EPA believes it can use its standard-setting authority to “require the complete elimination of tailpipe pollution from motor vehicles.” RTC.102-03. The “breadth of the authority that [EPA] has asserted” thus provides all the more “reason to hesitate before concluding that Congress meant to confer such authority.” *West Virginia*, 597 U.S. at 721.

B. EPA Has No Clear Congressional Authorization Here.

Because of the significance and novelty of EPA’s claimed authority, the major-questions doctrine requires EPA to “point to ‘clear congressional authorization.’” *West Virginia*, 597 U.S. at 732. EPA cannot come close. The statutory authority on which EPA relies merely authorizes the agency to prescribe “standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles.” §7521(a)(1). That standard-setting authority does not afford EPA clear authorization to force a market-wide transition from internal-combustion-engine vehicles to electric vehicles, any more than EPA’s parallel authority to set emission standards

for power plants afforded it clear congressional authorization to force a transition from coal to renewable energy.

That should end the matter. As explained below, EPA does not have the best reading of the statutory text. But even if the Clean Air Act could be read to give EPA a “colorable textual basis” for the sweeping power it claims, the major-questions doctrine demands far more. *West Virginia*, 597 U.S. at 721-23. EPA’s rule therefore exceeds its statutory authority and must be reversed.

II. EPA Lacks Statutory Authority To Set Standards That Can Be Met Only By Averaging In Electric Vehicles.

EPA’s rule is also unlawful under the plain statutory text. To achieve its electrification goal, EPA takes two steps. First, it sets standards that are feasible only if manufacturers comply by averaging emissions across their fleets. Second, it artificially inflates those standards by “averaging” in more and more zeros to represent the electric vehicles it wants to see in future years. The Clean Air Act authorizes neither step.

A. EPA May Not Set Standards That Can Be Met Only by Averaging Emissions Across Fleets.

To begin, EPA lacks authority to set vehicle-emission standards that can be met only through averaging. The statutory text and structure require that emission standards under Section 202(a) be achievable by vehicles individually, not only by fleets on average. On its face, Section 202(a) says nothing about averaging across

fleets. And the “broader context of the statute as a whole,” *Robinson v. Shell Oil Co.*, 519 U.S. 337, 341 (1997), makes clear that Section 202(a) does not permit averaging. As EPA admitted when it first considered the issue, the statute “assumes individual vehicle compliance with applicable standards.” 45 Fed. Reg. 14,496, 14,502 (Mar. 5, 1980). EPA must accordingly set standards that are achievable for individual vehicles.

1. Title II’s compliance and enforcement provisions foreclose EPA’s reliance on averaging.

Averaging clashes with “the design and structure of [Title II] as a whole.” *Util. Air*, 573 U.S. at 321. Title II sets forth a comprehensive, interlocking scheme for enforcing emission standards through testing, certification, warranties, remediation, and penalties. Averaging is incompatible with these provisions, which are “designed to apply to” individual vehicles and “cannot rationally be extended” to fleets. *Id.* at 322.

a. *Testing and certification.* Under Title II, EPA must “test, or require to be tested in such manner as [it] deems appropriate, any new motor vehicle or new motor vehicle engine submitted by a manufacturer to determine whether such vehicle or engine conforms with the regulations prescribed under [Section 202].” §7525(a)(1). If the “vehicle or engine conforms to such regulations,” EPA must issue a “certificate of conformity.” *Id.* EPA may also later test a vehicle or engine, and if “such vehicle or engine does not conform with such regulations and requirements, [EPA] may

suspend or revoke such certificate insofar as it applies to such vehicle or engine.” §7525(b)(2)(A)(ii). A manufacturer may not sell a vehicle or engine not “covered by a certificate of conformity.” §7522(a)(1).

Averaging is incompatible with these requirements in at least two respects. First, by using the singular terms “vehicle” and “engine,” along with “any” and “such,” the statute contemplates that *individual* vehicles will be tested for conformity. If an individual vehicle does “not conform” with the standards, the certificate of conformity may be suspended or revoked “as it applies to such vehicle.” §7525(b)(2)(A)(ii). In an averaging regime, testing an individual vehicle or engine cannot show whether it “conforms with the regulations prescribed under” Section 202, §7525(a)(1), because conformity turns on the relevant fleet’s (*i.e.*, the averaging set’s) average performance overall.

Second, averaging makes it impossible to determine compliance with applicable emission standards *before* a vehicle is sold to obtain the required certificate of conformity. *See* §7522(a)(1). As EPA has previously acknowledged, “[b]efore a manufacturer may introduce a new motor vehicle into commerce, the manufacturer must obtain an EPA certificate of conformity indicating compliance with all applicable emission standards.” 71 Fed. Reg. 2,810, 2,810 (Jan. 17, 2006). Yet under averaging, a vehicle’s “conform[ity] with the regulations prescribed under [Section 202],” §7525(a)(1), cannot be determined until the manufacturer calculates

its “net balance of emission credits” “following the end of the model year.” 40 C.F.R. §§1037.730(a), (b)(4), (c)(1).

Unable to issue certificates based on actual “conform[ity] with the regulations prescribed under [Section 202],” §7525(a)(1), as the Clean Air Act requires, EPA instead awards certificates if the manufacturer attests that “to the best of [its] belief,” it “will not have a negative balance of emission credits for any averaging set when all emission credits are calculated at the end of the year,” 40 C.F.R. §1037.725(b)(1). Such certificates are “conditioned on a manufacturer’s further demonstration of compliance based on its actual model year production,” RTC.1354, and paradoxically state that they will be “void *ab initio*” if, at the end of the year, the manufacturer fails to comply “with the averaging, banking and trading provisions,” RTC.1360. This “need to rewrite clear provisions of [Title II] should have alerted EPA that it had taken a wrong interpretive turn” in allowing averaging. *Util. Air*, 573 U.S. at 328.

b. *Warranties and remediation.* Averaging similarly clashes with Title II’s warranty provisions, which EPA has previously recognized “assume individual vehicle compliance with the applicable standards.” 45 Fed. Reg. at 14,502. Under Section 207, a manufacturer must “warrant to the ultimate purchaser and each subsequent purchaser” “*at the time of sale*” that each new vehicle complies with “applicable regulations under [Section 202].” §7541(a)(1) (emphasis added). Yet,

as with certificates of conformity, manufacturers cannot warrant compliance at the time of sale because compliance using averaging can be determined only at year-end. *See* 40 C.F.R. §§1037.120(a), 1037.725, 1037.730.

Averaging is also inconsistent with Title II's remediation and notification provisions. If EPA "determines that a substantial number of any class or category of vehicles or engines ... do not conform to the regulations prescribed under [Section 202]," the manufacturer must remedy "the nonconformity of any such vehicles or engines." §7541(c)(1). If "a motor vehicle fails to conform," the manufacturer bears the cost. §7541(h)(1). "[D]ealers, ultimate purchasers, and subsequent purchasers" must be given notice of any nonconformity, §7541(c)(2), which requires identification of specific nonconforming vehicles. None of this is possible if the nonconformity depends on the end-of-year emissions from the entire averaging set. Instead, EPA has effectively rewritten the statute by instructing manufacturers to decide for themselves, at year-end, which vehicles in a nonconforming averaging set to "designate" as conforming and which to "designate" as nonconforming. 40 C.F.R. §1037.730(b)(7).

c. Penalties. Finally, EPA's averaging regime is inconsistent with the statute's penalty provision. Under Section 205, any violation "shall constitute a separate offense with respect to each motor vehicle or motor vehicle engine," with each offense subject to its own civil penalty of up to \$25,000. §7524(a). Under EPA's

approach, however, no individual vehicle or engine violates the applicable standard; only the averaging set as a whole does. But the statute provides no method for calculating penalties when an averaging set fails to meet its target standard—because the statute does not authorize averaging.

2. Other provisions in Section 202 confirm that emission standards may not be based on averaging.

A specific heavy-duty-vehicle emission standard prescribed by Section 202 itself confirms that the statute does not permit averaging. For model year 1998 and thereafter, Congress specified that the regulations governing nitrogen-oxide emissions “from gasoline and diesel-fueled heavy duty trucks shall contain standards which provide that such emissions may not exceed 4.0 grams per brake horsepower hour.” §7521(a)(3)(B)(ii). This provision requires that the standards apply to “heavy duty trucks,” not “heavy duty trucks *on an average basis across an ‘averaging set’*.” Construing this provision to allow averaging would, in effect, impermissibly add words to the statute. *See Rotkiske v. Klemm*, 589 U.S. 8, 14 (2019). And the extra words “on average” would have a significant substantive effect: “Roller coaster riders must be 48 inches tall” means something very different from “roller coaster riders must be 48 inches tall *on average*.”

Other parts of Section 202 further demonstrate that emission standards cannot be met through averaging. Section 202(b)(3), for example, authorizes EPA to grant waivers from certain nitrogen-oxide emission standards—which, again, are

standards “under” Section 202(a), *see* §7521(b)(1)(B)—for no “more than 5 percent of [a] manufacturer’s production or more than fifty thousand vehicles or engines, whichever is greater,” §7521(b)(3). That is nonsensical under an averaging regime, which could effectively grant a “waiver” to 50% or more of a manufacturer’s fleet if enough other vehicles outperform the standard.

EPA’s principal response is to assert that these provisions have “no bearing on the section 202(a) authority beyond the specific circumstances to which [they] appl[y].” RTC.1350. But EPA cannot wave away the significance of Congress’ dictates: Each time Congress directed EPA to issue specific emission standards, it mandated standards applicable to vehicles individually. Just as specific terms clarify the meaning of general ones, *see Paroline v. United States*, 572 U.S. 434, 447 (2014), the specific emission standards Congress required clarify EPA’s general Section 202(a) authority.

3. The broader text and history of Title II confirm that the rule exceeds EPA’s authority.

Finally, other indicia of statutory meaning demonstrate that the rule exceeds EPA’s statutory authority under Section 202(a). Elsewhere in Title II, Congress showed that it knew how to legislate with respect to “average annual aggregate emissions.” §7545(k)(1)(B)(v)(II) (directing EPA to take certain actions if “the reduction of the average annual aggregate emissions of toxic air pollutants in a [designated district] fails to meet” certain standards). Thus, “if Congress wanted to

adopt [an averaging] approach” for motor-vehicle standards under Section 202(a), “it knew exactly how to do so.” *SAS Inst., Inc. v. Iancu*, 584 U.S. 357, 365 (2018). It did not choose that approach.

The Energy Policy and Conservation Act reinforces that conclusion. There, Congress directed the Secretary of Transportation to issue “average fuel economy standards for automobiles manufactured by a manufacturer” in a given model year—that is, fleetwide-average fuel-economy standards. 49 U.S.C. §32902(a). That Congress has not used similar language in Section 202(a) of the Clean Air Act is a “telling clue” that the statute does not permit fleetwide averaging. *Epic Sys. Corp. v. Lewis*, 584 U.S. 497, 517 (2018).

The Clean Air Act’s history also reflects Congress’ understanding that emission standards would apply to vehicles individually. Before 1970, EPA relied on testing prototypes, rather than vehicles rolling off the assembly line. But in the 1970 amendments, Congress permitted EPA to test any individual vehicle coming off the assembly line. *See* Pub. L. No. 91-604, §8, 84 Stat 1676, 1694-96. The House Report explained that while some testing of prototypes “will continue,” “tests should require each prototype rather than the average of prototypes to comply with regulations establishing emission standards.” H.R. Rep. No. 91-1146 at 6 (1970). If Congress forbade averaging across *prototypes*, it certainly did not permit averaging across entire *fleets*.

* * *

For many of these reasons, this Court has previously cast substantial doubt on EPA's authority to set fleetwide-average emission standards, explaining in *Natural Resources Defense Council v. Thomas* that the “engine specific thrust” of Title II’s “testing and compliance provisions” is evident both in Congress’ choice to “spea[k] of ‘any,’ ‘a,’ or ‘such’ motor vehicle or engine” and in the “troubling” legislative history recounted above. 805 F.2d 410, 425 n.24 (D.C. Cir. 1986). The arguments were not dispositive in *Thomas* only because the parties there failed to present them. *Id.* They are squarely presented—and dispositive—here.

B. At a Minimum, EPA May Not Incorporate Electric Vehicles Into Its Fleetwide-Average Standards.

Even if the Clean Air Act permits fleetwide averaging in some circumstances, it at least requires that the vehicles included in that averaging actually emit the relevant pollutant. Here, EPA treats battery-electric and fuel-cell-electric vehicles as incapable of emitting greenhouse gases. 89 Fed. Reg. at 29,444 n.24, 29,604; *see* 40 C.F.R. §§1037.150(f), 1037.615(f). Yet it includes them in its “[a]veraging ... program,” counting them as zeros. 89 Fed. Reg. at 29,453. That allows the agency to set artificially low emission standards that effectively force manufacturers to make more electric vehicles (*i.e.*, to add more zeros). *See supra* pp.9-14; Valero Supp. Cmt.1 (Mar. 19, 2024). Congress did not authorize EPA to manipulate its standards in that way.

1. The statutory text focuses on vehicles that emit the relevant pollutant.

Section 202(a)(1) provides that EPA shall prescribe “standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in [its] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.” §7521(a)(1). The statute does not expressly specify which vehicles are to be included in any average emission standard—because it does not contemplate averaging in the first place. *Supra* pp.32-40. But to the extent averaging is permissible, the text makes clear that the vehicles included in that averaging must actually emit the relevant pollutant.

For starters, the statute authorizes standards for the “*emission*” of an air pollutant, which immediately indicates Congress’ focus on vehicles that actually “emi[t]” the relevant pollutant. §7521(a)(1) (emphasis added). EPA nevertheless asserts authority to rely on “vehicle technologies that result in no vehicle tailpipe emissions of [greenhouse gases],” including battery-electric and fuel-cell-electric vehicles. 89 Fed. Reg. at 29,444 n.24, 29,588. Given the textual focus on harmful emissions, it makes no sense for EPA to include vehicles it deems non-emitting in setting emission standards.

Next, the statute is explicit that the object of EPA’s standards must “in [EPA’s] judgment cause, or contribute to, air pollution which may reasonably be anticipated

to endanger public health or welfare.” §7521(a)(1). The only textual question is *what* exactly EPA must “judg[e]” to “cause, or contribute to,” potentially dangerous air pollution. There are only two options: the “new motor vehicles or new motor vehicle engines,” or the “classes” of those vehicles or engines. And the rule of the last antecedent suggests the former. That rule provides that a “limiting clause or phrase ... should ordinarily be read as modifying only the noun or phrase that it immediately follows.” *Barnhart v. Thomas*, 540 U.S. 20, 26 (2003). Here, the relevant limiting phrase is “which in [EPA’s] judgment cause, or contribute to, air pollution.” §7521(a)(1). The immediately antecedent phrase is “new motor vehicles or new motor vehicle engines.” *Id.* Thus, it is the “*vehicles*” in the class that must “cause, or contribute to,” the pollution, not the “class” as a whole.

This Court and others have adopted that natural reading. This Court has observed that Section 202(a) “requires the EPA to set emissions standards for new motor vehicles and their engines *if they emit harmful air pollutants.*” *Truck Trailer Mfrs. Ass’n v. EPA*, 17 F.4th 1198, 1201 (D.C. Cir. 2021) (emphasis added); *see NRDC v. EPA*, 954 F.3d 150, 152 (2d Cir. 2020) (Section 202(a) “requires EPA to regulate emissions from new motor vehicles if EPA determines that *the vehicles* ‘cause, or contribute to,’ [potentially dangerous] air pollution” (emphasis added)). On that correct view, the statute authorizes EPA to set standards *only* for “new motor vehicles or new motor vehicle engines” that EPA deems to cause or contribute to

harmful pollution. But electric vehicles, in EPA's tailpipe-focused judgment, do not emit pollutants. *See, e.g.*, 89 Fed. Reg. at 29,604.

EPA contends that the "class or classes" of vehicles, not individual vehicles, must "cause, or contribute to" air pollution. *Id.* at 29,472-73; RTC.1345. That is both wrong and irrelevant. It is wrong because, contrary to EPA's contention, the rule of the last antecedent applies even without a "list of terms." RTC.1365 n.787; *see Barnhart*, 540 U.S. at 26. EPA also argues that Congress must have focused on the class because "while an individual vehicle could possibly 'contribute' to dangerous air pollution," one vehicle alone "would not typically 'cause' such pollution." RTC.1365. But that proves too much: Even a class of vehicles does not solely "cause" the emissions here, which come from many sources (including other classes of vehicles). Instead, the "cause" and "contribute" terms capture both vehicles that emit substances that themselves qualify as harmful pollution and vehicles that emit substances that are components of or precursors to pollution (*e.g.*, emissions that combine to create smog).

In any event, even if the "class or classes" of vehicles must "cause, or contribute to" air pollution, that still would not justify including electric vehicles in the class. When English speakers refer to a class of objects that does something, they ordinarily mean that *all* members of the class do that thing. For example, when a doctor refers to a "class of medications that cause drowsiness," the class does not

include stimulants. So too here: A class that causes pollution is most naturally defined to include only those vehicles that cause pollution. EPA may have leeway to group those pollution-emitting vehicles into classes as it sees fit, *see NRDC v. EPA*, 655 F.2d 318, 338 (D.C. Cir. 1981), but it cannot sweep vehicles it deems non-emitting into the class.

Petitioners in No. 24-1157 also preserve the argument that *Massachusetts v. EPA* should be overruled on the ground that carbon dioxide is not an “air pollution agent or combination of such agents.” §7602(g); *see Massachusetts*, 549 U.S. at 559 (Scalia, J., dissenting). Carbon dioxide does not “make or render impure or unclean” the air. *Webster’s New International Dictionary* 1910 (2d ed. 1949). It is an abundant, naturally occurring gas that exists throughout the atmosphere and that is essential for life on Earth. Subsequent developments merely confirm that *Massachusetts* was wrong on both the facts and the law.

2. The statutory structure and history confirm Congress’ focus on technologically achievable emission controls.

Several other portions of Section 202 confirm that Congress focused on technologically feasible standards for vehicles that actually emit pollutants. Section 202(a)(2) requires EPA to provide manufacturers with lead time to comply with the standards, in order “to permit the development and application of the requisite technology.” §7521(a)(2). That language contemplates that technological feasibility will meaningfully constrain the emission standards that EPA sets. It also envisions

incremental steps to improve vehicles that actually emit the relevant pollutants, rather than wholesale shifts to different types of vehicles.

Other provisions show the type of “technology” that Congress contemplated manufacturers would develop to meet those standards. Section 202(m) requires EPA to require on “all” new light-duty vehicles and trucks “diagnostic systems” that identify “emission-related systems deterioration or malfunction ... which could ... result in failure of the vehicles to comply with emission standards established under this section.” §7521(m)(1). The required diagnostic systems must monitor, “at a minimum, the catalytic converter and oxygen sensor.” *Id.* In other words, to ensure compliance with emission standards under Section 202(a), Congress required “emissions-related systems” and accompanying “diagnostic systems” on each vehicle—underscoring Congress’ view that vehicles subject to an emission standard emit the relevant pollutant.

EPA contends that the legislative history demonstrates Congress’ commitment to pollution reduction using “unconventional” power sources, including electric vehicles. 89 Fed. Reg. at 29,465. Those examples, however, do not suggest that EPA has authority to *require* manufacturers to shift to novel technologies. Instead, EPA’s examples demonstrate that Congress has taken a cautious approach to alternative technologies, holding “hearings,” instituting pilot programs, and “encourag[ing] Federal purchases” of novel types of vehicles. *Id.* None of that

shows congressional authorization to effectively mandate a nationwide shift away from internal-combustion-engine vehicles.

3. Other statutes underscore that Section 202(a) does not authorize averaging of non-emitting electric vehicles.

Other parts of the Clean Air Act and other statutes confirm EPA's lack of statutory authorization to effectively force electrification by including non-tailpipe-emitting electric vehicles in calculating a fleet's average emissions. In the Clean Air Act Amendments of 1990, for example, Congress spoke directly to the phase-in of electric vehicles on America's roads, instructing EPA to establish standards for "clean-fuel vehicles" operating on "clean alternative fuel," including "electricity." Pub. L. No. 101-549, §229, 104 Stat. 2399, 2513 (codified at §§7581(2), (7), 7582(a)). And Congress required that certain areas with the worst pollution "phase-in" a "specified percentage" of "clean-fuel vehicles" using "clean alternative fuels"—including "electricity"—in certain fleets. §§7581(2), 7586. EPA tries to use the 1990 amendments as evidence that Congress supports electrification. 89 Fed. Reg. at 29,466. In reality, those amendments show Congress knows how to establish standards that apply to electric vehicles and to require that such vehicles be phased into a particular fleet—but chose to do so only on a targeted, regional basis.

Congress' broader approach to addressing vehicle emissions confirms that Section 202 does not silently authorize EPA to mandate electrification through a two-step process of fleetwide standards and averaging with artificial zeros. Again,

Congress has promoted the use of biofuels to reduce emissions—perhaps because biofuel feedstocks, unlike electric-vehicle components, are domestically abundant. *Supra* p.26; *see* Valero Cmt.57. And when Congress *has* addressed electric vehicles, it has used carrots, not sticks, providing incentives and investments in the needed infrastructure. *Supra* pp.26-27. EPA’s claimed authority to force the electrification of the Nation’s heavy-duty fleets works at cross-purposes with these programs, which show Congress’ preference for incremental steps within the capacity of existing technologies.

4. EPA’s counterarguments lack merit.

EPA has offered several justifications for averaging electric-vehicle “zeros” into its fleetwide standards. None has merit.

a. EPA asserts petitioners’ argument is “factually flawed” because electric vehicles “*do* in fact produce vehicle emissions.” 89 Fed. Reg. at 29,473 (emphasis added); *see* 74 Fed. Reg. at 66,496 (finding air-conditioning emissions contribute to harmful air pollution). But that is not how EPA treats electric vehicles in its rule. Instead, in setting its standards, EPA has deemed battery-electric and fuel-cell-electric vehicles to have zero emissions. *See* 40 C.F.R. §§1037.150(f), 1037.615(f). Accordingly, EPA’s standards reflect the agency’s “judgment” that these types of vehicles do not “cause, or contribute to” the relevant pollution. §7521(a)(1). If EPA now recognizes that treating electric vehicles as “zero-emission” is artificial and

counterfactual, then its rule premised on that treatment is arbitrary and capricious. *See infra* pp.51-53. But if EPA stands by its zero-emission designation, it must abide by the statutory consequences.

For similar reasons, EPA's insistence that there is no real distinction between internal-combustion-engine vehicles and electric vehicles fails. EPA labels the distinction artificial because "all new motor vehicles manufactured in the United States today have some degree of electrification." 89 Fed. Reg. at 29,463. But again, EPA itself has chosen to treat electric vehicles as different in kind from other vehicles based on their supposed lack of emissions. EPA's assertion that all vehicles "have some degree of electrification" only underscores that its categorically different approach to electric vehicles is irrational. *Id.*

b. EPA contends that excluding electric vehicles from its averaging would be nonsensical. It questions why, "given Congress's directive to reduce air pollution," it would "have authorized EPA to consider technologies that achieve 99 percent pollution reduction" but "not 100 percent." *Id.* at 29,464. Setting aside that Congress did not authorize fleetwide averaging and that electric vehicles shift pollution to upstream power sources, the answer is simple: "No statute pursues a single policy at all costs." *Bartenwerfer v. Buckley*, 598 U.S. 69, 81 (2023). As long as the EPA focuses on individual vehicles, there is no anomaly, as a zero-emission vehicle necessarily satisfies any vehicle-specific emission standard. But if EPA has

the authority to use averages for an entire class of vehicles, it can neither distort those averages by including vehicles that it deems to have no emissions at all, nor ignore that in the Clean Air Act, Congress was concerned not only with emission reduction but also with technological feasibility and “allowing some productive economic activity.” *Energy Future Coal.*, 793 F.3d at 145 (Kavanaugh, J.).

EPA continues that it would be “unworkable” to exclude electric vehicles from its averages because it does not know “[e]x ante” which specific vehicles a manufacturer will choose to make. 89 Fed. Reg. at 29,472. That makes no sense. How manufacturers choose to comply with standards—whether by manufacturing electric vehicles or otherwise—has nothing to do with EPA’s authority in setting those standards.

c. Finally, EPA argues that the Clean Air Act authorizes it to mandate the production of electric vehicles because it may prescribe pollution-emission controls regardless of whether vehicles are “designed as complete systems or incorporate devices to prevent or control such pollution.” §7521(a)(1); 89 Fed. Reg. at 29,462. That is, under EPA’s view of the statute, the agency could declare tomorrow that 100% of vehicles manufactured must be battery-powered—without any express word from Congress about electrification.

The statute does not countenance that extraordinary result. Electric vehicles are not “designed as complete systems” to prevent or control air pollution because

they do not have “built-in pollution control” or prevention. *Truck Trailer Mfrs.*, 17 F.4th at 1202. To “prevent” something means to “keep [it] from happening” or “impede” it. *American Heritage Dictionary of the English Language* 1038 (1st ed. 1969). To “control” means to “hold in restraint” or “check.” *Id.* at 290. Thus, a vehicle with “built-in pollution control” or prevention is one that has a self-contained mechanism to block or capture pollution that would otherwise be emitted. Electric vehicles, by contrast, run on an entirely different power system. To analogize, an iPod is not a system that prevents or controls record skips; it is not a record player with some built-in method of preventing record skips, but a different technology altogether. *Cf. West Virginia*, 597 U.S. at 734 (suggesting that EPA’s authority to design a “system of emission reduction” did not encompass a cap-and-trade “system,” because “system of emission reduction” refers to measures that “improve the pollution performance” of existing sources).

Nor do electric vehicles incorporate “add-in devices for pollution control” or prevention. *Truck Trailer Mfrs.*, 17 F.4th at 1202; *contra* RTC.138. The component parts of an electric vehicle, such as its batteries, are not add-in devices that block or minimize pollution that would otherwise occur. They are integral to the basic functioning of the vehicle, which EPA deems not to emit the relevant pollutant in the first place.

III. EPA's Rule Is Arbitrary And Capricious.

EPA's rule is arbitrary and capricious. First, EPA's standards rest on the false premise that electric vehicles have "zero emissions," when in reality they simply push substantial emissions to other sectors. Second, EPA's feasibility determination is unreasonable and unreasonably explained. Third, EPA repeatedly ignores the benefits of biofuels as a reasonable alternative to forced electrification. The rule must therefore be reversed.

A. EPA's Zero-Emissions Assumption Is Unreasonable.

EPA's rule unreasonably assumes that electric vehicles have zero carbon-dioxide emissions as a necessary step in its fleetwide-standards/artificial-zeros two-step. In reality, electric vehicles simply shift emissions elsewhere. Ignoring that reality is unsupportable.

EPA counts only emissions from a vehicle's tailpipe, and so allows manufacturers to use "0 g/ton-mile" as the compliance value for battery-electric and fuel-cell-electric vehicles, enabling those vehicles to generate substantial credits as part of EPA's averaging program. 40 C.F.R. §1037.615(f). EPA claims its approach is "technology neutral," 89 Fed. Reg. at 29,452, but it is not "technology neutral" to myopically focus on the one source of emissions—the tailpipe—that advantages electric vehicles.

Electric vehicles generate emissions in multiple ways. Raw-material extraction, production, and disposal of batteries produce significant emissions. *See* RTC.1590. Generating grid electricity or making hydrogen also produces very significant carbon-dioxide emissions. *See* American Council for an Energy Efficient Economy Cmt.11-14 (June 16, 2023); RIA.579. Moreover, because grid connections can be scarce, some truck fleets use diesel generators to power their batteries. *See* Jennifer Hiller, *Electric Big Rigs Hit the Streets, but Chargers Are Scarce*, Wall St. J. (July 16, 2023), <https://tinyurl.com/ysy8p4xp>. EPA's rule nevertheless treats electric vehicles powered by diesel generators as producing "zero" emissions, just because they store the diesel-generated energy in a battery. That is not a rational approach, much less a technology-neutral one.

EPA previously recognized that it could adjust electric-vehicle credits to account for their greater upstream emissions, but decided it could ignore those upstream emissions "because of the small likelihood of significant production of EV technologies in the Phase 2 timeframe." 81 Fed. Reg. at 73,500. Now that EPA is artificially forcing an enormous transition to electric vehicles in the name of emission reduction, it can no longer ignore the reality that it is just shifting emissions elsewhere. *See* Natural Gas Vehicles for America (NGVA) Cmt.7-8 (June 16, 2023).

EPA claims that accounting for upstream emissions would be difficult. RTC.1591. Not so; EPA could, for example, simply use the Department of Energy's

GREET Model, which has long been used to estimate upstream emissions of fuels and transportation technologies. See U.S. Dep't of Energy, *GREET*, <https://www.energy.gov/eere/greet> (last visited Oct. 14, 2024). Regardless, even if accounting for upstream emissions were too “fraught,” RTC.1592, the solution is not to create an enormous compliance bias *in favor* of electric vehicles, but to *exclude* electric vehicles from the regulated class altogether.

B. EPA’s Feasibility Assessment Is Unreasonable.

1. EPA’s payback schedule is arbitrary.

EPA’s unreasonable feasibility assessment likewise makes its standards arbitrary. Emission standards under Section 202(a) must be technologically and economically “feasible.” *Motor & Equip. Mfrs. Ass’n, Inc. v. EPA*, 627 F.2d 1095, 1118 (D.C. Cir. 1979); see §7521(a)(2) (standards may take effect only after the time necessary “to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance”). To determine that its standards here are feasible, EPA relied on projections about how quickly electric heavy-duty vehicles will be adopted by the market. And to develop those projected adoption rates, EPA relied on a “payback” metric, asking how many years of operational savings it would take for a purchaser to recoup an upfront investment in a more expensive electric vehicle. 89 Fed. Reg. at 29,558, 29,563-64.

EPA's payback analysis, however, suffered from numerous flaws. To begin, EPA's exclusive focus on payback ignores numerous relevant factors that influence technology adoption, like vehicle performance, refueling convenience, and resale value. *See id.* at 29,564; RTC.243-45; AmFree Cmt.24-27 (June 16, 2023). As a result, even EPA's otherwise-sympathetic peer reviewers criticized the agency's payback-only approach. *See* HD TRUCS Peer Review, EPA-HQ-OAR-2022-0985-3856, Bradley 3 (the "payback period to adoption calculation is pretty naïve"); Al-Alawi 7 (adoption model must "include other parameters that simulate the purchasers' decision-making process"); de Ojeda 5 (EPA's "prescribed schedules of adoption rate are ... a 'guess[ing]' game").

EPA arbitrarily ignored these criticisms and relied on a payback-only model anyway. Its proposed rule used a payback equation developed by ACT Research. 89 Fed. Reg. at 29,564. But after ACT Research explained that EPA "misapplied the equation by leaving out various factors, including a consideration of total cost of ownership," EPA embraced a different payback approach based on data from the Transportation Energy and Mobility Pathway Options (TEMPO) model built by the National Renewable Energy Laboratory. *Id.* at 29,564 & n.753; RIA.335-43; Catherine Ledna et al., *Decarbonizing Medium- & Heavy-Duty On-Road Vehicles: Zero-Emission Vehicles Cost Analysis* 10 (March 2022), EPA-HQ-OAR-2022-0985-0771 (NREL Study). That switch, however, did not solve EPA's problems.

First, TEMPO calculates technology adoption based on a vehicle's "total cost of driving," which includes purchase, fuel, and maintenance costs, but ignores resale value and other commercially relevant factors, such as payload and towing capacity. NREL Study 12, 42. So like EPA's original model, TEMPO leaves out multiple critical factors.

Second, because TEMPO does not calculate payback, EPA matched TEMPO's cost inputs and sales outputs to estimate a correlation between payback and adoption. EPA then treated this *correlation* as *causation*, as if the payback period itself motivated fleet purchasing decisions. RIA.337-40. That is inconsistent with TEMPO's determination that "total cost of driving," not payback, drives adoption. And although EPA attempts to defend its reliance on TEMPO and payback, *see* RIA.336 n.1221, the huge range of adoption rates EPA calculated from TEMPO's data shows that payback does not reliably predict adoption. RIA.340; *see, e.g.*, RIA.337 ("[W]hile the payback may be the same, adoption rates may vary.... A 4-year payback, for example, may yield 7-40% adoption rates[.]").

Third, TEMPO recognizes that vehicle adoption decisions occur over a limited time-horizon that varies by vehicle category. NREL Study 10, 14. The study EPA used assumes a time-horizon ranging from three to five years, depending on the vehicle. *Id.* at 51. EPA, however, used the data to estimate payback costs—and therefore the purported feasibility of adopting electric vehicles—for *ten years* out,

well beyond TEMPO's horizon, and arbitrarily ignored real-world variation in purchase considerations across vehicle classes (which TEMPO incorporates). *See* 89 Fed. Reg. at 29,566; NREL Study 51.

Unsurprisingly, EPA's final payback-adoption model predicts unrealistic adoption rates, which yield unrealistic predictions about the feasibility of EPA's standards. *See Mississippi v. EPA*, 744 F.3d 1334, 1352 (D.C. Cir. 2013) (per curiam) (recognizing "the inviolable law of data analysis, 'garbage in; garbage out'"). Indeed, EPA's model implies that a 100% electric-vehicle mandate is *immediately* feasible for many categories of heavy-duty vehicles, a projection even EPA admits has no basis "in the real-world." 89 Fed. Reg. at 29,565; RIA.344.

Instead of discarding a model that generates unrealistic predictions—as a reasonable agency would—EPA arbitrarily tinkered with the results. It constrained the predicted technology-adoption rates by applying "caps," limiting the share of battery-electric and fuel-cell-electric vehicles to 20% in early model years and 70% in later model years, and setting 2030 adoption rates to 33% of the increase between the 2027 and 2032 rates. 89 Fed. Reg. at 29,565; RIA.344-45. EPA provides no meaningful explanation for these "caps," citing only its unexplained "technical judgment." 89 Fed. Reg. at 29,565.

Applying these arbitrary constraints, EPA invented a 10-year “payback schedule” of technology-adoption rates based on the number of years to achieve payback:

Table II-28 Payback Schedule in HD TRUCS

Payback (year)	MY 2027 for BEVs	MY 2030 for BEVs and FCEVs	MY 2032 for BEVs and FCEVs
<0	20%	37%	70%
0-1	20%	37%	70%
1-2	20%	37%	70%
2-4	20%	26%	39%
4-7	14%	14%	14%
7-10	5%	5%	5%
>10	0%	0%	0%

89 Fed. Reg. at 29,566. Of the 21 entries in the payback schedule, only five come directly from EPA’s payback-adoption model. The rest merely reflect the arbitrary caps that EPA imposed on its admittedly unrealistic modeling—making EPA’s resulting feasibility determination equally arbitrary.

EPA also never adequately explains how to reconcile its payback schedule with its cost-benefit analysis. EPA’s cost-benefit analysis claims the rule’s mandates counteract an “energy efficiency gap”—caused by an unexplained market failure—in which market participants do not “adopt technologies that are expected to reduce operating costs,” even though those technologies would “repay buyers’ initial investments rapidly.” RIA.730-31. EPA’s payback schedule, by contrast, assumes market participants consider operating costs out to ten years in the future. Those

“internally inconsistent” assumptions are a hallmark of arbitrary decisionmaking. *ANR Storage Co. v. FERC*, 904 F.3d 1020, 1024 (D.C. Cir. 2018).

2. EPA’s payback modeling is arbitrary.

EPA’s determination that electric vehicles would have short payback periods, and so that the standards would be feasible, was also unreasonable. In reaching that result, EPA relied on another round of unjustifiable assumptions, including with respect to tax-credit availability, fleet purchasing behavior, infrastructure deployment, and technology readiness.

To determine vehicle payback, EPA used an Excel spreadsheet it calls the “HD TRUCS” model. That spreadsheet relies on multiple unreasonable premises. For instance, EPA significantly accelerated payback for all vehicles by assuming full availability of Inflation Reduction Act tax credits by 2030. *See* 89 Fed. Reg. at 29,551-53. But that would require manufacturing all the required batteries and modules in the United States by 2030, a prediction that “does not match any marketplace reality.” EMA Cmt.7 (June 16, 2023); AmFree Cmt.30-31.

EPA’s payback modeling for sleeper-cab tractors further exemplifies the agency’s arbitrary approach. Those tractors “generally haul trailers longer distances between cities and states with trips well over 1,000 miles in length,” and weigh 80,000 pounds fully loaded. RIA.8, 70, 388; 23 U.S.C. §127(d)(4). New sleeper-

cabs also run over 100,000 miles each year, and so require powerful engines that use energy-dense fuels to maximize cargo and minimize downtime. RIA.19-20, 824.

Battery-electric vehicles do not fit that description. Their batteries have low energy-densities, creating a tradeoff between vehicle range on the one hand and payload capacity and cost on the other. More range requires bigger batteries, but bigger batteries are heavy and expensive, so they lower payload and increase upfront cost. Hoyu Chong & Edward Rightor, *Closing the Trucking Gaps* 10-11 (June 2023), <https://perma.cc/773E-VVDR>.

Yet EPA predicts electric sleeper-cabs could go from practically 0% of the market today to 25% by model year 2032. RIA.408. To get there, EPA modeled four sleeper-cabs in HD TRUCS (Vehicles 32, 54, 78, 79). Vehicles 32, 54, and 78 are battery-electric sleeper-cabs accounting for 48% of the projected “zero-emission” vehicle sales in that category, while Vehicle 79, a fuel-cell-electric sleeper-cab, accounts for the remaining 52% of sales. RIA.217-18. Neither projection is reasonable.

As to the battery-electric trucks, EPA makes unreasonable and unexplained assumptions about their payload capacity. EPA recognizes that fleets will not buy battery-electric sleeper-cabs that haul far less than comparable diesel trucks, and so assigns Vehicle 54—which has a payload loss of 22%—a “sales allocation of 0 percent.” RIA.218, 389. But EPA arbitrarily assigns Vehicle 32, a nearly identical

sleeper-cab, a “20 percent” share, despite its similar payload challenges. RIA.217, 388 (payload loss of 16.9%). And to limit payload loss for the third modeled battery-electric sleeper-cab (Vehicle 78), EPA reduced the battery size, limiting the truck’s range to 300 miles—less than the 420-mile daily average travel for sleeper-cabs, meaning that the truck must refuel on the road and face increased transit times. RIA.192, 195.

EPA compounds its errors in addressing refueling. It imagines a network of public charging stations that are “assumed to have seventeen 1 MW ... ports and twenty 150 kW ... ports for a total peak power capacity of 20 MW.” RIA.296, 328. That “assumed” infrastructure, however, does not exist. Only *one* (experimental) station with 1-MW ports appears to be operational in the United States, and there are *no* 20-MW charging stations. See Jameson Dow, *WattEV Opens US’ First Megawatt Charge Station with 1.2MW Speeds and Solar*, *electrek* (May 6, 2024), <https://tinyurl.com/4ubsued5>. That is far from even the limited “freight corridor” network that EPA optimistically suggests would be adequate. 89 Fed. Reg. at 29,512-16.

Nor will the necessary public charging infrastructure exist in the timeframe EPA imagines. 20-MW stations are not easy to build and permit, and adding one is equivalent to adding a whole town to the electric grid. Chong & Rightor, *supra*, at 15. EPA is also overly optimistic about the grid upgrades needed; it assumes that

transformers can be installed in three to eight months, RIA.128, but transformers take two to four *years* to be delivered and installed, *see* Nat'l Infrastructure Advisory Council, *Addressing the Critical Shortage of Power Transformers* 3-4 (June 2024), <https://tinyurl.com/sdsz2hn9>.

EPA's assumptions about fuel-cell-electric vehicles are equally unreasonable. Vehicle 79, the fuel-cell-electric sleeper-cab, is nowhere near being commercially viable on the scale EPA assumes. *See* RIA.141 (admitting that "there were no" heavy-duty fuel-cell-electric vehicles "certified through [model year] 2021"). That is in part because hydrogen for fuel-cell-electric vehicles "must be compressed or liquified for use," but liquid-hydrogen storage is presently infeasible for transportation purposes. RIA.136-37. EPA claims that hydrogen could instead be compressed at enormous pressure in six expensive, heavy storage tanks on the back of the cab, but even that would provide barely enough range to meet the *average* daily travel distance for sleeper-cabs today. 89 Fed. Reg. at 29,527; RIA.192.

That means a robust public hydrogen fueling infrastructure is required. That infrastructure, however, faces further production, distribution, and refueling supply chain challenges. AmFree Cmt.47-48. Distributors would have to transport hydrogen in specially designed tank trucks and build a network of public refueling facilities from scratch in less than eight years. RIA.153; *see* U.S. Dep't of Energy, *Alternative Fueling Station Locator*, <https://tinyurl.com/4d585d4v> (last visited Oct.

14, 2024) (zero hydrogen refueling stations for class 6 through 8 vehicles). Fuel-cell-electric trucks also pose potential safety risks, *see* AmFree Cmt.51-53, which EPA does not meaningfully address, *see* 89 Fed. Reg. at 29,528. Hydrogen leaks easily and is extremely flammable, with flames that are “almost invisible.” RIA.138-39. And because fuel-cell-electric heavy-duty vehicles are not in commercial use, they have no safety record; for example, EPA cannot even say whether fuel-cell-electric trucks could safely use tunnels. RIA.140.

Finally, EPA claims its standards could theoretically be met without any electric vehicles by relying on hydrogen-fueled internal-combustion-engine vehicles. *See* 89 Fed. Reg. at 29,452-53. But no such vehicles are commercially available—and EPA admits that hydrogen internal-combustion-engine truck tractors would have a negative payback, meaning that by EPA’s logic they should not be adopted *at all*, let alone at the rates EPA needs to make its standards feasible. 89 Fed. Reg. at 29,575. That makes EPA’s alternative reliance on hydrogen-fueled internal-combustion-engine vehicles just as arbitrary as its reliance on electrification.

C. EPA Failed to Adequately Consider Biofuels.

EPA’s electric-vehicle bias also caused it to arbitrarily ignore biofuels as a “viable” and “obvious alternative” for reducing greenhouse-gas emissions. *Nat’l Shooting Sports Found., Inc. v. Jones*, 716 F.3d 200, 215 (D.C. Cir. 2013). Biofuels

significantly reduce the lifecycle greenhouse-gas emissions of heavy-duty vehicles, because the carbon dioxide biofuels emit when used is carbon dioxide their feedstocks absorbed. Those reductions are currently over 70% for biomass-based diesel and over 90% for renewable natural gas. Clean Fuels Cmt.1 (May 2, 2023); NGVA Cmt.3-5; Am. Soy Ass'n Cmt.2-3 (June 15, 2023). As a result, an electric truck and a truck running on 100% biomass-based diesel have roughly the same lifecycle greenhouse-gas emissions. *Compare* Clean Fuels Cmt.1 (70% emissions reduction for biomass-based diesel), *with* Moving Forward Network Cmt.44 (June 16, 2023) (“more than a two-thirds reduction” for electric trucks). But to promote electric vehicles, EPA arbitrarily assigned electric trucks *zero* greenhouse-gas emissions, while giving biomass-based diesel and other biofuels no credit relative to petroleum diesel.

EPA’s response—that conducting a lifecycle analysis for biofuels would be hard, RTC.1590-91—is no excuse. EPA knows that lifecycle analyses for biofuels are feasible; it routinely conducts them in other contexts. *See, e.g.*, 88 Fed. Reg. 44,468, 44,500 (July 12, 2023) (setting Renewable Fuel Standard volumes); 83 Fed. Reg. 37,735, 37,736 (Aug. 2, 2018) (lifecycle analysis for sorghum oil). And in the meantime, EPA could have accounted for the carbon uptake of biofuel feedstocks by assigning biofuels the same compliance value as electric vehicles—zero grams per mile. *Cf.* 75 Fed. Reg. 14,670, 14,787 (Mar. 26, 2010) (treating biofuels’ tailpipe

greenhouse-gas emissions as zero); NGVA Cmt.11-12. It also could have designed its regulations to encourage manufacturers to make engines compatible with higher blends of biofuels. *Cf.* 40 C.F.R. §600.510-12(c)(2)(v) (applying a “conversion factor” under which certain biofuel-capable vehicles are assumed to use only 15% petroleum fuels); NGVA Cmt.11-12. EPA also failed to consider other benefits of incentivizing biofuels, such as lower emissions of other pollutants, Clean Fuels Cmt.2 (June 16, 2023); NGVA Cmt.5, energy security benefits, and the jobs they provide—factors EPA considered in other areas, *see* 89 Fed. Reg. at 29,676-91, 29,705-06, 29,713.

Finally, in pursuing electrification at all costs without considering the viability of alternative fuels, EPA failed to recognize that its rule conflicts with Congress’ Renewable Fuel Standard program. In that program, Congress mandated that gasoline and diesel sold in the United States must contain a year-over-year increasing amount of renewable fuels, which then shifted to annual volume obligations set by EPA. §7545(o)(2)(A)(i). EPA’s efforts to minimize liquid fuel use thus conflict with Congress’ mandate to increase the Nation’s use of renewable fuel. EPA nevertheless concluded that its rule was somehow “complementary” with Congress’ renewable-fuel program, 89 Fed. Reg. at 29,715, and that the two cannot conflict because this rule applies to future model years whereas EPA’s latest renewable-fuel volume obligations apply only from 2023 through 2025, RTC.1898-99. But the fact that EPA

has not set renewable-fuel volume obligations beyond 2025 is irrelevant; the renewable-fuel program is not going away, and EPA's rule works at cross-purposes with that statutorily mandated program by phasing out vehicles that use those fuels. For that reason as well, EPA's rule cannot stand.

CONCLUSION

This Court should reverse EPA's rule.

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CERTIFICATE OF COMPLIANCE

I hereby certify that:

1. This brief complies with Fed. R. App. P. 32(f) and (g), along with the Court's September 3, 2024 Order, because it contains 13,997 words.

2. This brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the typestyle requirements of Fed. R. App. P. 32(a)(6) because it has been prepared in a proportionally spaced typeface using Microsoft Word 2016 in 14-point font.

October 16, 2024

s/Paul D. Clement
Paul D. Clement

CERTIFICATE OF SERVICE

I hereby certify that on October 16, 2024, I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the District of Columbia Circuit by using the CM/ECF system. I certify that service will be accomplished by the CM/ECF system for all participants in this case who are registered CM/ECF users.

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